YANKEE STADIUM PROJECT

Final Environmental Impact Statement

Prepared for:
New York City Department of
Parks and Recreation

February 10, 2006

Yankee Stadium Project
Final Environmental Impact Statement

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Foreword*

PUBLIC REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

This Final Environmental Impact Statement (FEIS) for the proposed Yankee Stadium project responds to all substantive comments made on the Draft Environmental Impact Statement (DEIS) that was prepared pursuant to the regulations and procedures of the City Environmental Quality Review (CEQR) and accepted as complete on September 23, 2005 by the New York City Department of Parks and Recreation (NYCDPR) as lead agency for the CEQR process. The DEIS was subject to public review by Bronx Community Board 4 and the Bronx Borough President, and in a DEIS CEQR hearing before the New York City Planning Commission on January 11, 2006. The review period ended on January 23, 2006. All substantive oral comments made at the CEQR hearing and written comments submitted by January 23 are summarized and responded to in Chapter 25, "Responses to Comments," which is new in this FEIS. In addition, changes to background conditions, the proposed project, and the addition of a new alternative necessitated changes in the EIS, as described below. Where appropriate, the FEIS text has been revised in response to comments or changes in the project. Unless otherwise specified, these revisions and changes are indicated by double underlines.

CHANGES TO BACKGROUND CONDITIONS

Subsequent to the issuance of the DEIS, several changes were made to the baseline condition—"the future without the proposed project" or "No Build condition." Specifically, the Gateway Center at Bronx Terminal Market project was modified to limit the area proposed for that development to the land east of Exterior Street and the Major Deegan Expressway. That change affected the EIS for the Yankee Stadium project, because it removed all geographic overlap between the two projects. The revised Gateway Center at Bronx Terminal Market proposal no longer includes the development of a public open space, waterfront esplanade, or retail building west of Exterior Street and the highway. With this change, Bronx Terminal Market Buildings G, H, and J would not be demolished by the Gateway Center project, and these buildings would remain standing in the Yankee Stadium project's No Build condition. However, as stated in the DEIS, the tenants would still be relocated by the City as part of the overall relocation plan for the Bronx Terminal Market tenants. In addition, the Gateway Center at Bronx Terminal Market would abandon the existing 30-inch diameter outfall that discharges into the Harlem River and replace it with two side-by-side 5- by 4-foot outfalls. Chapter 12, "Infrastructure," and Chapter 9, "Natural Resources," have been revised in the FEIS to reflect this change.

As a new No Build project, the City proposes to develop an approximately 2-acre waterfront public open space on Pier 4, south of the proposed project's waterfront park. It is anticipated that this public open space would be maintained by NYCDPR. The City is committed to developing this off-site public open space by the Gateway Center project's 2009 Build year. The

* The Foreword is new to the EIS.

programming of this open space and the actions required for its development are yet to be determined.

NEW ALTERNATIVE PLAN

The project received a number of comments on the plan for replacing recreational facilities and adding parkland in conjunction with development of a new Yankee Stadium in Macomb's Dam and John Mulally Parks. Specifically, the comments expressed a strong desire for contiguous park area, a concentration of ballfields close to East 161st Street, and a construction schedule that would minimize the time that recreational facilities would be unavailable. The comments also indicated a concern about the visual effect of the cold-weather bubble at the elevated tennis concession atop proposed Garage C. In response to these comments, an alternative park plan has been developed and considered in Chapter 22, "Alternatives." This alternative does not include any changes to the proposed stadium or parking facilities. This is the preferred park plan and it is anticipated to be adopted and approved by NYCDPR. As described in the FEIS, the "Alternative Park Plan" would not have any significant adverse impacts greater or different than those anticipated for the proposed project.

CHANGES TO THE PROPOSED PROJECT

Other substantive changes made between the DEIS and FEIS are as follows:

- The number of existing parking spaces has been revised to reconcile discrepancies cited by various sources.
- The capacities of the proposed parking garages have been reduced as a result of the advancement of design for the garages.
- Since the construction noise analysis in the DEIS concluded that there is a potential for significant adverse noise impacts at one or more locations in the study area, a detailed construction noise analysis is included in this FEIS in Chapter 19, "Construction Impacts."
- As part of the proposed project East 157th Street would be reopened to traffic, with a new intersection at East 153rd Street; this street would provide access to proposed Garage A. East 157th Street, a mapped street, is currently closed to traffic, and it functions as a pedestrian plaza, accommodating the flow of fans from Garage 8 to the stadium on game days. In the DEIS, the project proposed two entries to Garage A: one, near the western end of the block at the intersection with East 153rd Street, would handle cars coming from and going to the Major Deegan Expressway; the other, at the eastern end of the block, would accommodate traffic to and from River Avenue. The pedestrian analysis in the DEIS assumed that during game days the portion of the street between these two driveways would be closed to vehicular traffic and function as an auto-free pedestrian way to handle the flows from Garage 8 and points south across East 157th Street to the new Ruppert Plaza and the new stadium.

  In advancing the design efforts for proposed Parking Garage A, it was determined that moving the east driveway further to the west, adjacent to the west driveway, would be advantageous for space management and constructability. While Garage A access patterns and traffic circulation would remain the same as those described for the previous plan by maintaining a separation between the two driveways, the game-day pedestrian-only plaza connecting the northwestern portion of Garage 8 and Ruppert Plaza would be eliminated. To

facilitate game-day pedestrian flow, the existing pedestrian bridge over the Metro-North Railroad tracks would be extended to connect with the second level of Garage 8 and span over East 157th Street onto Ruppert Plaza. This existing bridge would have been replaced in kind as part of the plan presented in the DEIS, but it would now be expanded under the current plan in the FEIS. Chapter 16, "Transit and Pedestrians," has been revised to reflect this change.

- An analysis of a comprehensive game-day traffic management plan has been included in FEIS Chapter 21, "Mitigation." The game-day traffic management plan would include both standard traffic capacity improvements described in the DEIS and additional game-day traffic operations improvements, such as street closures, turn prohibitions, and traffic diversion strategies using variable message signs (VMS). These aspects of the traffic management plan were evaluated for their overall effectiveness in improving projected traffic and pedestrian conditions. These mitigation measures have been approved by the New York City Department of Transportation, New York State Department of Transportation, and New York City Police Department (see Appendix D, "Correspondence"). ✷

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A. PROJECT IDENTIFICATION[1]

The proposed project that is the subject of this Final Environmental Impact Statement (FEIS) consists of the following elements: (1) construction of a new Yankee Stadium one block north of its existing location at East 161st Street and River Avenue in The Bronx (the "proposed stadium"); (2) construction of four new parking garages containing approximately 4,735 spaces in the vicinity of the proposed stadium (the "proposed garages"); and (3) development of new and replacement recreational park facilities for a net increase of approximately 4.63 acres within the facility of the proposed stadium (referred to, as appropriate, as the "proposed parkland" or "replacement facilities;" collectively, these elements are the "proposed project").

The New York City Department of Parks and Recreation (NYCDPR) proposes to allow for the development of the proposed stadium by the New York Yankees on portions of Macomb's Dam and John Mullaly Parks adjacent to the existing stadium site, across East 161st Street at River Avenue (see Figures S-1 and S-2). The proposed open-air stadium which would have a capacity for 54,000 spectators (53,000 seats and 1,000 standing spaces), would replace the existing, approximately 56,928-seat, outdated 82-year-old Yankee Stadium with one that can effectively accommodate a modern baseball team and provide greatly improved spectator and parking facilities. Although the interior of the proposed stadium would contain state-of-the art facilities for players and spectators, the design would evoke both the 1923 and the existing stadiums, incorporating design elements of both.

Parking for the existing stadium is insufficient, widely scattered, and has spilled over into the surrounding neighborhood. There are only 6,995[2] dedicated parking spaces currently available for Yankee Stadium patrons in surface lots and garages within an approximate ½-mile radius of the existing stadium. The separate Gateway Center at Bronx Terminal Market project is anticipated to be completed by 2009 and 2014. If built, this project would result in development on areas currently used for parking by Yankee Stadium patrons, resulting in the loss of 766 spaces and reducing the net number of spaces available for Yankee Stadium patrons to 6,229.

In response to the proposed stadium's parking need, the proposed project would develop four new parking garages containing approximately 4,735 spaces and would add 376 spaces in existing and expanded surface parking lots. The proposed project would displace approximately 1,030 parking spaces in existing lots, bringing the total number of spaces available for Yankee Stadium patrons to

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[1] In response to comments received on the Draft EIS (DEIS), including comments from the community and the Bronx Borough President, an alternative plan for the parkland program and recreational facilities has been developed and is examined in the "Alternatives" section of the summary.

2 The number of existing parking spaces changed between the DEIS and FEIS to reconcile discrepancies cited by various sources. The capacities of the proposed parking garages have been reduced between the DEIS and FEIS as a result of advancing the design of the garages.

10,310, for a net increase of 3,315 off-street spaces[1]. This would support the parking need for the proposed stadium and reduce the spill-over conditions on local streets that presently exist. Street-level, non-destination retail would be developed in one of the parking garages for a total of approximately 12,000 gross square feet (gsf).

As described further below, the proposed project would require the alienation of certain areas of mapped parkland to allow for its disposition by NYCDPR through leases, for operation of the proposed stadium and several new parking garages. These areas would, however, remain mapped parkland. In addition, new areas of mapped parkland would be created to provide additional new open space and to accommodate park facilities displaced by the new stadium and garages. Overall, the proposed project would result in a net increase of approximately 4.63 acres of accessible recreational facilities within the project area.

In particular, the proposed stadium and three of the proposed garages would be built in portions of Macomb's Dam and John Mullaly Parks (both New York City parks). The fourth garage would be located on City-owned property at East 151st Street between River and Gerard Avenues, which is not parkland. To replace the recreational facilities displaced by these structures, the proposed project would include the following elements:

- A number of replacement recreational facilities would be developed atop two of the garages to be constructed as part of the proposed project within a portion of Macomb's Dam Park.
- New parkland would be created and recreational facilities would be developed: (1) at the site of the existing stadium; (2) on existing parking lots along River Avenue and East 157th Street; and (3) at the site of three warehouse buildings along Exterior Street within the Bronx Terminal Market.
- An esplanade connecting the new waterfront park to the existing ferry landing, would be developed on paved areas located along the Harlem River waterfront.

These latter two areas of replacement facilities would create new open space and ballfields along the Harlem River and would represent an important new community amenity that would serve the surrounding neighborhood and provide new public waterfront access.

In total, the proposed project would displace recreational facilities on approximately 22.42 acres (including the portion of Macomb's Dam Park at the corner of East 157th Street and Ruppert Place that is currently used for accessory parking for Yankee Stadium—i.e., Lot 14) of existing parkland. Replacement facilities would be developed on 10.22 acres of existing parkland, including the approximately 2.89 acres of Macomb's Dam Park currently used for accessory parking for Yankee Stadium. The proposed project would also create 15.82 acres of new parkland, including approximately 5.11 acres of recreational waterfront parkland, and 1.01 acres of new open spaces (not mapped as parkland). In total, the proposed project would result in the development of 27.05 acres of replacement facilities. This would be a net increase of 4.63 acres over existing conditions. (Approximately 15 acres of Macomb's Dam and John Mullaly Parks—the site of the proposed stadium and a parking garage—would remain as mapped parkland. The underwater land beneath Slips 2 and 4 of the Harlem River, and 0.4 acres south of Pier 1 along the

[1] The net increase would, in fact, be somewhat lower, because of the loss of more than 800 spaces used by Yankees fans on Exterior Street, Cromwell Avenue, and between the Bronx Terminal Market site and the Harlem River that would no longer be available in the future as the Bronx Terminal Market site is developed.

Harlem River that is proposed as new surface parking, would be also mapped as new parkland. However, these mapped parkland areas would contain no public recreational facilities and so are not counted in the tally of proposed parkland to be created by the proposed project.) The proposed project would create a unified 17.36-acre park area south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street.

The proposed stadium, all four proposed garages, and almost all of the proposed parkland would be completed by 2009. The full development of the replacement proposed parkland would be completed by 2010.

Public actions required to permit the proposed project to go forward include disposition of City-owned property in the form of long-term leases (including lease of existing parking facility); acquisitions by the City of interests in the proposed Yankee Stadium and garage sites; mapping actions to map new parks and demap portions of East 161st Street, Macomb's Dam Bridge Approach, and Jerome Avenue; administrative actions to demap portions of two streets (East 162nd Street and Ruppert Place), and a volume of space located above East 151st Street; approval of a concession to operate tennis courts; a special permit for a public parking garage (not located on parkland) and a special permit to allow modification of rear yard requirements for that garage; and State and City funding for the non-stadium portions of the proposed project. Certain State and Federal permits may be required for activities in connection with construction of the waterfront park. Further, the location of the proposed stadium is on the portion of Macomb's Dam Park that was improved with funds from the Federal Land and Water Conservation Fund (LWCF). As a result, the proposed project would trigger a parkland conversion under Section 6(f)(3) of the LWCF Act that requires federal review and approval by the Secretary of the Interior (delegated to the National Park Service).

The disposition and acquisitions, parkland mapping, approval of a concession, parking garage special permit actions, and realignment of boundaries of East 161st Street, Macomb's Dam Bridge Approach, and Jerome Avenue in the vicinity of the proposed stadium site are subject to the City's Uniform Land Use Review Procedure (ULURP), and all of the actions require environmental review. NYCDPR is the lead agency for the environmental review.

B. PROJECT PURPOSE AND NEED

BACKGROUND

Yankee Stadium was built at its present site in 1923, at East 157th Street, River Avenue, East 161st Street and Ruppert Place in the Bronx Borough of the City of New York. The original stadium's design consisted of triple-decked grandstands which extended from behind home plate and up to the first and third base lines, included a tin frieze that adorned the stadium's third tier deck, and had wood seating. In the years 1928, 1937, and 1938, the predominantly lower deck seating arrangement was expanded to extend the upper decks into the outfield, resulting in the short right field porch of today.

On August 8, 1972, after years of debate about the future of the aging ballpark, the Yankees signed a 30-year lease with the City which called for Yankee Stadium to be completely modernized in time for the 1976 season. After completing the Stadium's 50th-anniversary season in 1973, the Yankees moved to Shea Stadium for two seasons while their home was almost completely demolished and then rebuilt.

The modernization removed the numerous, obstructive steel columns that supported the second and third decks and blocked views. By "cantilevering" the upper decks and lowering the playing

field while increasing the slope of the lower stands, sight lines for fans were improved. The original roof was replaced with a smaller, more modern roof, and the decorative frieze at the upper deck was removed and a similar architectural element made of concrete was created at the top of a new 560-foot-long scoreboard which stretched across the rear of the bleachers. Yankee Stadium's exterior changed dramatically, too, as three escalator towers were added, one at each of the Stadium's three entrances. With 10 additional rows of seats added to the upper deck, the stadium also appeared larger. The monuments and plaques were removed from center field and placed behind the left center field wall between the Yankees and visiting team bullpens to create the existing "Monument Park." The renovated stadium opened for the 1976 season.

Notwithstanding the renovation, existing stadium operations have become severely constrained. Accordingly, other options for improving or modernizing stadium operations have been considered, including reconstruction of a stadium on the existing site and building a new stadium in a different location. Four candidate locations for a new stadium were previously assessed: Macomb's Dam/John Mullaly Parks (similar to the proposed project site), Van Cortlandt Park, and Pelham Bay Park, all in The Bronx, and the Caemmerer Yard (West-Side rail yard), on Midtown Manhattan's West Side. The sites in Van Cortlandt and Pelham Bay Parks were eliminated for several reasons: mass transit was not available; the highway access system could not support the traffic from the stadium; and each would disturb 12 acres of high-quality wetlands, as well as substantially more parkland than currently projected, and without similar opportunities for replacement. Moreover, the Van Cortlandt Park site has since become unavailable as it is the location of the Croton Filtration Plant currently under construction by the New York City Department of Environmental Protection. A stadium over Manhattan's West-Side rail yard (Caemmerer Yard) was found to be more feasible because of its central location and availability of mass transit, but was eliminated from consideration when Yankees management decided to remain in The Bronx. Reconstruction on the existing site was also considered, but was determined infeasible because of the physical limitations of the site and the consequent inability to provide a modern-day baseball facility. In addition, the reconstruction alternative would have required the use of portions of Macomb's Dam Park for parking, without the opportunity to provide replacement recreational facilities on the site of the existing stadium.

The option to move the stadium across East 161st Street from the existing Yankee Stadium continued to be considered and various concepts developed, including a plan by Borough President Adolfo, Carrion, Jr., leading up to the current proposal. The Bronx Borough President issued a Yankee Stadium Neighborhood Development Plan in 2004 supporting the development of a new stadium across East 161st Street, as well as the creation of more useable parkland in the area, reuse of the existing Yankee Stadium as a publicly accessible baseball field, and development of connections to new waterfront parks. The Borough President plan also called for several other separate components including the development of a hotel conference center, sports and fitness center, a high school for sports industry careers, and transportation improvements for subway, regional rail, and waterborne transport.

CURRENT CONDITIONS AT YANKEE STADIUM

PHYSICAL CONSTRAINTS

By any measure of a modern ballpark other than seating capacity, the existing Yankee Stadium is too small and functionally inadequate. Although its seating capacity is sufficient, there is not enough space to support the fans and players or to offer appropriate food and other services. The stadium sits on a site of just under 10 acres, compared to the more than 13.0 acres that a state-of-the-art facility

requires. The average acreage of the sites of the most recently constructed (since 2000) new stadiums (i.e., Petco Stadium in San Diego, Great American Ball Park in Cincinnati, PNC Park in Pittsburgh, Minute Maid Park in Houston, and SBC Park in San Francisco) is over 15.5 acres. Within this constrained area, space for entries and pedestrian walkways is very limited, and many of the facility's service and staging functions must take place outside the stadium, in public areas, where they compete for space with fans and local residents.

The footprint of the stadium, at 8.5 acres, is also too small. To supply the current requirements for comfortable seating and for circulation, food, shops, restrooms, and other support areas, the footprint for a modern stadium would have to be at least 12.5 acres. To expand the footprint to meet this standard on the existing site would mean substantially encroaching on and/or closing one or more of the streets that surround the stadium. Similarly, the overall building size, at 873,163 gross square feet, is inadequate. Each floor plate must be increased by approximately 45 percent in order to accommodate the seating and service demand of a modern stadium. As it stands now, Yankee Stadium cannot comfortably handle attendance greater than 35,000; at that point, the hallways are crowded, long lines form for the food concessions and bathrooms, further interfering with pedestrian flow, and the kitchens and other support facilities are inadequate to meet the demand. Many back-of-the-house functional areas simply do not exist. For the stadium to function properly and provide a comfortable experience for fans, players, and the press, a nearly 100 percent increase in public concourse and fan amenity areas is required.

Space for the players is equally constrained. Adequate practice space and batting cages are lacking. One weight room is shared by both the Yankees and visiting teams. The area for the press is inadequate as well; often, they overflow into seats intended for fans.

The existing stadium has 41 percent of its seats (23,607 seats) in the upper deck. Due to the large number of seats and constrained footprint, the existing upper deck is the steepest in major league baseball. And the seats themselves are too small: the existing seating tread widths are 29 to 30 inches accommodating 17-inch-wide chairs, compared to a state-of-the-art facility requiring widths of 33 to 36 inches to accommodate 19- to 22-inch-wide chairs. Also, because the seating areas have been altered during renovations, many of the seats are not oriented properly to face towards second base, making it uncomfortable for fans to watch a game.

PARKING

In 1923, most fans came to games at the then-new Yankee Stadium by public transportation. In the ensuing years, with the rise of the automobile and the spread of the suburbs, driving to the game became more and more popular. The number of parking spaces provided has increased steadily over the years, including in garages built in the 1973 renovation, but has not kept pace with demand. The current off-street parking space inventory is 6,995. Of these, approximately 3,500 are located within a ¼-mile (a 10-minute walk) of the stadium. These spaces are filled whenever game attendance reaches approximately 15,000. The remaining spaces are farther away and, clearly, much less convenient, especially for night games. All spaces are filled when game attendance reaches approximately 30,000, a level that has been exceeded regularly in recent years at Yankees home games. Overflow parking is accommodated, when possible, in the Bronx Terminal Market south of the stadium, and along public streets. The accumulation of mostly illegal on-street parking impairs traffic flow. Parking conditions at the existing stadium today are inadequate and contribute to the traffic congestion that accompanies most home games as fans circulate excessively on local streets in search of the hard-to-find parking spaces.

ATTENDANCE

The history of attendance at Yankee Stadium shows that, from the first, and with few exceptions, the Yankees have attracted more patrons than the American League average. For the past decade, Yankees' home game attendance has trended upward (see Table S-1). Average game attendance has exceeded 35,000 every year since 1999. The peak was last year, 2005, with an average game attendance of 50,499 and a season total of 4,090,440. Given the constraints and limitations of existing Yankee Stadium, each year that attendance has grown, the problems of accommodating that demand have become more frequent and more difficult.

Table S-1
Baseball Attendance History at Yankee Stadium

Year	Average Game	Season Total	League Average
1924	13,251	1,007,066	575,324
1930	12,470	960,148	582,809
1940	11,313	859,785	533,825
1950	29,467	2,283,676	1,341,331
1960	20,026	1,552,030	1,143,682
1970	13,185	1,067,996	1,011,227
1976	16,101	1,288,048	1,099,119
1980	31,772	2,537,765	1,597,999
1990	26,963	2,170,485	2,131,090
1995	29,656	1,675,556	1,728,728
1996	23,521	1,705,263	1,811,356
1997	27,789	2,250,877	2,122,721
1998	31,856	2,580,325	2,234,523
1999	36,484	2,955,193	2,298,169
2000	40,662	3,293,659	2,286,874
2001	37,956	3,227,657	2,262,557
2002	40,807	3,264,552	2,346,071
2003	42,736	3,461,644	2,207,891
2004	47,788	3,775,292	2,340,422
2005	50,499	4,090,440	2,360,452

Notes: Games were held in the renovated stadium beginning in 1976.
Sources: www.baseball-almanac.com.

CONCLUSION: PROJECT GOALS AND OBJECTIVES

The Yankees currently operate within the constraints of an outmoded ballpark. All aspects of the existing stadium are inadequate to properly and comfortably accommodate fans, players and the press with modern seating and services and adequate parking. The Yankees need a new stadium, preferably nearby and reminiscent of their traditional home. The following goals and objectives reflect the purpose and need for the proposed project.

PROVIDE A MODERN STADIUM THAT CAN ADEQUATELY SUPPORT BASEBALL AND STADIUM OPERATIONS, PLAYERS, AND THE MEDIA

- Provide enough land area to accommodate a modern stadium.
- Create a stadium of appropriate size to offer comfortable seating for all fans and ample room for circulation, food kiosks, and all services supporting fans and the media.
- Create state-of-the-art facilities for the Yankees and visiting teams.

- Provide adequate parking.
- Create efficient and attractive pedestrian circulation space.

LOCATE AND DESIGN THE PROPOSED STADIUM TO CLOSELY REFLECT THE TRADITIONAL HOME AND STYLE OF THE NEW YORK YANKEES

- Keep the Yankees in The Bronx, preferably near their traditional home.
- Design a modern stadium with an exterior style that is reminiscent of the original Yankee Stadium.
- Recreate Monument Park in the proposed stadium.
- Reuse the site of the existing stadium—for baseball and other public recreational uses and for other uses benefiting the neighborhood.
- Incorporate elements of the existing stadium into the new recreational space to be built on the existing stadium site.

MINIMIZE ADVERSE IMPACTS AND IMPROVE CONDITIONS IN THE SURROUNDING NEIGHBORHOOD

- Provide adequate off-street public parking and areas for pedestrian circulation.
- Replace displaced recreational facilities with equal or better facilities within the area.
- Reduce any adverse impacts of the proposed project to the extent practicable.

C. PROJECT DESCRIPTION

OVERVIEW

The New York Yankees are an important asset to The Bronx, New York City, and New York State. The plan for building a new stadium, long in the making, reflects the need to maintain and enhance facilities for the team in its traditional Bronx location, to ensure its continuing contribution.

The proposed project would develop a new stadium one block directly north of its current site, across East 161st Street at River Avenue (see Figures S-3 and S-4). The proposed stadium would be built on land currently in recreational use (portions of Macomb's Dam and John Mullaly Parks) and on one block of East 162nd Street, which would be closed and mapped as parkland. Ample space would be provided on site to accommodate all functions related to the team and game-day operations, including off-street loading, adequate areas for fans to congregate at entrances, which would be arranged along three sides of the building, and sufficient space for circulation within. State-of-the-art seating and amenities for fans and the media would be combined with modern facilities for the players, to make game going a comfortable and exciting experience for all.

The proposed project would also add to and better consolidate the off-street parking inventory in the area, by constructing four new parking garages, thus reducing the overflow of parkers scattered throughout the neighborhood in both legal and illegal parking spots. Three of the garages would occupy existing parkland in portions of Macomb's Dam and John Mullaly Parks. A garage with frontage on River Avenue at East 151st Street would offer retail space at street level, as well. The proposed garages, along with existing parking facilities in the area, are anticipated to be leased to private operators.

The recreational facilities to be displaced by the construction of the proposed stadium and garages would be replaced as part of the proposed project—with similar or improved facilities for active recreation (e.g., softball, baseball, tennis, basketball, handball) and for passive enjoyment of the park (e.g., seating, plantings, paths, food concessions, etc.). New parkland and public open space would be created along the Harlem River waterfront, providing new public waterfront access, as well (see Figure S-5). The site of the existing Yankee Stadium would be a major feature of the recreation plan, providing Heritage Field on the site of the existing Yankee Stadium playing field. Ruppert Place would also be demapped and reconfigured as part of the parkland provided south of the new stadium. Fuller descriptions of the project's elements, the proposed stadium, proposed garages, traffic and pedestrian circulation, and proposed parkland, and recreational facilities, are provided below.

PROPOSED STADIUM

SITE

The proposed stadium would be developed in portions of Macomb's Dam and John Mullaly Parks, and would require that East 162nd Street be closed and mapped as parkland between River and Jerome Avenues. The Home Plate Entry would be located at Jerome and East 161st Street, the First Base Entry on East 161st Street, the Third Base Entry on Jerome Avenue, and the Bleachers' Entry on River Avenue.

The proposed stadium's playing field would be positioned in an orientation similar to the existing stadium. The fan experience would be greatly enhanced by appropriate sidewalk widths, which allow enough space for queuing and a pedestrian-friendly environment. An efficient security screening system would be incorporated into the entry process.

The intent of the overall site development is to foster Yankees games as exciting events while reducing neighborhood congestion. In addition to providing adequate space around the stadium for fans, service vehicles would park off-street in a secured service drive between the north side of the proposed stadium and proposed parking Garage B, and River and Jerome Avenues. This would resolve some of the pedestrian and vehicular conflicts that currently occur at the existing stadium and would allow for security procedures in connection with servicing the stadium.

DESIGN

The proposed new home for the New York Yankees combines tradition and technology, in a structure of steel, concrete, glass, and stone. It is intended to be a facility for the future, with the soul of the past. The ballpark's façade would be highlighted by arched porticos, inspired by the façade of the 1923 stadium (see Figure S-6).

The new playing field would have the same geometry and orientation as the existing field. But the facility would also display a progressive vision. The design of the playing field and stands within the limestone and granite walls would adhere to the most modern standards of design. The interior structure would be of steel and concrete. The seating would be comfortable, with unobstructed views of the field.

The height of the proposed stadium, at its tallest point—the top of the canopy—would be on average approximately 138 feet above grade (since the grade changes around the site, all figures are approximate). (Field light towers would extend above this canopy.) This structure would be visible above the facade, which itself would range from 70 feet to 95 feet above the sidewalk

elevation at the main entrance. The upper deck of the stadium's interior seating bowl would be set back from the exterior façade by approximately 50 feet.

The stadium would also include an approximately 60,000-square-foot plaza along East 161st Street that would facilitate pedestrian movement into the stadium on game days and would be a public amenity at other times. This area would be open for public use on a year-round basis.

PROGRAM

The proposed stadium has been designed to provide ample and comfortable facilities for all those who use them: spectators, players, team management, the press, and a host of people who run the stadium, provide its services, and are responsible for its security and smooth operations. The program includes a wide variety of components, as discussed below. The total built floor area for the proposed stadium would comprise approximately 1.3 million square feet.

Monument Park would be recreated, and monuments and other features from the existing stadium would be moved to a new center field location outside the field wall. The area would be accessible to tour groups on non-game days and controlled public access would be provided on game days.

The main team store selling Yankees merchandise would be at two levels in a prominent location, allowing entry from within the stadium. Two smaller satellite stores selling Yankees merchandise would be located away from each other and from the main retail store to allow for better access to retail outlets for fans throughout the stadium.

An approximately 300-seat restaurant located at street level would provide year-round operation with direct entry from outside the stadium, as well as access to the stadium concourse.

PROPOSED GARAGES AND TRANSPORTATION ELEMENTS

The transportation components of the proposed project have been designed to ease access to the proposed stadium. Truck and bus loading and operation of service vehicles have been removed from public streets, entry areas have been designed with enough capacity to handle crowds entering and leaving the proposed stadium, a basic plan to manage traffic and pedestrian flows at game time has been developed, and parking capacity has been expanded to reduce overflow parking on local streets and help reduce the walk from parking facilities to the stadium, as discussed below. The existing ferry landing and service would be maintained at its current location and capacity.

LOADING AND ENTRY AREAS

The proposed stadium would have several loading docks for food service deliveries, team and other deliveries, and trash storage and pickup. They would be located at the northern edge of the proposed stadium in a dedicated area in the vicinity of former East 162nd Street, which would be used as a secured service driveway. Access to the secured driveway would be from River and Jerome Avenues. Team parking for private cars and buses would be located within the building and would have a designated access off River Avenue. In addition, the proposed stadium would provide space in the loading area for 10 large mobile media trucks with hookups.

Ticket windows and pedestrian entries to the proposed stadium would be on three sides: East 161st Street, River Avenue, and Jerome Avenue. This arrangement would help distribute

spectators entering and leaving the proposed stadium and thus take full advantage of its perimeter in providing access capacity.

TRAFFIC AND PEDESTRIAN IMPROVEMENTS

At the present time, the New York City Police Department (NYPD) operates a transportation management plan during game days at Yankee Stadium. This includes certain street closings, use of Traffic Enforcement Agents (TEAs) and other options to control the peak traffic conditions. It is anticipated that a comparable management plan would be implemented for the proposed stadium.

Some traffic and pedestrian improvements have been included as part of the proposed project where the need for such improvements is readily apparent to maintain the safe and efficient vehicular and pedestrian flows. These improvements include:

- Ruppert Place between East 161st Street and East 157th Street would be converted to passive parkland use as part of the proposed project's parkland replacement. It would be demapped as a street and function as a north-south pedestrian-way on game days directly across from the proposed main stadium entrances along East 161st Street. It would also create an important link between adjacent parklands.
- The pedestrian plazas currently connecting Parking Garage 8 (located between East 157th Street, East 153rd Street, and River Avenue) with the existing stadium is part of a mapped street (East 157th Street) that is closed to vehicular traffic. As part of the proposed project, this plaza would be eliminated and East 157th Street would reconnect to the street network. With Ruppert Place closed to vehicular traffic but with a major entrance to proposed Parking Garage A opened immediately west of it, a new intersection consisting of East 157th Street, East 153rd Street, and the Parking Garage A driveway would be created. Just east of this new intersection and along the reopened stretch of East 157th Street, another driveway to proposed Parking Garage A is also proposed.
- The existing covered pedestrian bridge over the Metro-North Railroad tracks would be improved and made ADA compliant. To facilitate game-day pedestrian flow, the proposed project would extend this bridge to connect to the second level of Parking Garage 8 and span over East 157th Street onto Ruppert Plaza. This pedestrian bridge would provide a connection to the existing waterfront parking lots, new parkland, and ferry landing.
- An at-grade, controlled crossing of East 161st Street at Ruppert Plaza would be created. The existing T-intersection would be reconfigured for a wide, mid-block crosswalk with signals controlling East 161st Street traffic. Since Ruppert Plaza would no longer accommodate vehicular traffic under the proposed project, this crossing would make possible a continuous pedestrian-way between the existing Garage 8 and points south and the proposed stadium.
- A game-day pedestrian crossing area would be maintained at Babe Ruth Plaza along East 161st Street immediately west of the subway entrance pillars in the roadway medians. TEAs would be stationed along its perimeters to ensure safety and separation of vehicular and pedestrian traffic. This crossing would only be available during game days.
- An improved crossing would be provided at the Macomb's Dam Bridge Approach intersections with the East 161st Street service roads. Specifically, a new signal would be provided at the eastbound service road intersection, and a new south crosswalk, a widened north crosswalk and a widened continuous east crosswalk would be incorporated.

- Under the traffic management plan for the existing stadium, River Avenue between East 153rd and East 161st Streets is either partially or fully closed during certain periods on game days. The transportation analyses assume that this stretch of roadway could remain open at all times with the proposed project. The comprehensive game-day traffic management plan developed for the proposed project would close River Avenue, post-game only, from the north side of East 161st Street to East 162nd Street.
- As necessary, TEAs would be deployed as they are today to facilitate vehicular and pedestrian traffic flow at the above and other strategic locations.

PUBLIC PARKING

Four new public parking garages would be developed on existing surface parking lots and parkland surrounding the proposed stadium and existing Yankee Stadium Lots 13A and 13B located along the Harlem River would be repaired, restriped, and extended south to replace the spaces lost to create the esplanade (see Figure S-7). Parking would be available at existing lots and garages (except for the two existing lots located at East 157th Street and River Avenue that would become new parkland) and the four proposed new garages (see Figure S-8), all of which are anticipated to be leased to private operators. In total, approximately 10,310 parking spaces would be available for stadium patrons. The City and Yankees are committed to making parking available to the public on a year-round basis to the extent possible. Stadium garages would be made available to the public during the off-season and on non-game days during the baseball season. Pedestrian circulation to the proposed stadium would originate from garage access points, from the existing ferry landing, and from the existing subway station at East 161st Street and River Avenue. The subway station is serviced by the B, D, and 4 subway lines.

Two of the proposed parking garages, Parking Garages A and C, would be connected at one level below-grade and designed to function as one efficient garage complex with separate access points. Parking spaces may shift from one garage to the other during detailed design, but access and egress points would remain the same, as described below. Both Parking Garages A and C would be set back 12 feet from the Macomb's Dam Bridge Approach viaduct.

Parking Garage A would be a two-level garage located partially below-grade between East 157th and East 161st Streets and the Macomb's Dam Bridge Approach and the site of the existing stadium. The garage would accommodate approximately 1,700 spaces; new recreational facilities that could be accessed from street-grade would be located above the structure. Two-way vehicular access would be available at two locations along at East 157th Street and at one location on the Macomb's Dam Bridge Approach. Parking Garage A would be located in the southern portion of Macomb's Dam Park, which currently contains recreational facilities and surface parking associated with the existing Yankee Stadium. Right-in, right-out only movements would be available at the garage's Macomb's Dam Bridge Approach access location. Elevators and stairs would direct pedestrian access onto Ruppert Plaza in several locations along its length and onto the Macomb's Dam Bridge Approach intersection with East 161st Street.

Parking Garage C would be a four-level garage located west of East 161st Street between Jerome Avenue, Macomb's Dam Bridge Approach, and the Major Deegan Expressway. Macomb's Dam Bridge Approach is an elevated roadway and approximately 16 feet higher in elevation than East 161st Street to its northeast, and 10 feet higher than Jerome Avenue to its northwest. The proposed site of Parking Garage C is currently located in a portion of Macomb's Dam Park and contains a surface parking lot with access from East 161st Street. Macomb's Dam

Bridge Approach is elevated above the existing parking lot. The proposed garage would accommodate approximately 1,120 spaces. Two-way access would be available from the street level (Level 1) of the garage at East 161st Street. Curb cuts would be provided at two locations along the Macomb's Dam Bridge Approach to access Level 3 and Level 4 (the top level) of the garage. Similar to the Garage A driveway, only right-in, right-out movement would be permitted at these locations. New public tennis facilities would cover the entire garage roof. However, the tennis facilities would appear to be two levels above the street along Macomb's Dam Bridge Approach. Pedestrian access for Garage C would be provided to the new roof-top recreational facilities, adjacent to the Macomb's Dam Bridge Approach intersection with East 161st Street.

Parking Garage B would contain five levels above-grade (including one level of roof parking) and one level below grade. The garage would be located south of East 164th Street at the northern end of the proposed stadium and north of the service road, and would accommodate approximately 966 spaces. Two-way vehicular access would be available at Jerome Avenue and River Avenue. Garage B would be located in the southern portion of John Mullaly Park, which currently contains tennis and handball courts.

Parking Garage D would be a five-level above-grade garage (including one level of roof parking) located south of the proposed stadium at East 151st Street between River and Gerard Avenues. The garage would accommodate approximately 949 spaces. Two-way access would be available at River and Gerard Avenues. Parking Garage D would extend over East 151st Street at the third, fourth, and roof levels.

Existing Yankee Stadium Parking Lots 13A and 13B are located west of Exterior Street between the Bronx Terminal Market and the Macombs Dam Bridge. The proposed project would repave and restripe these existing lots and create new surface parking, as a southern extension to existing Yankee Stadium Lot 13A. This new southern parking extension would be located on property that contains paved areas and an abandoned power house building associated with Bronx Terminal Market (Building J), which would be demolished. These surface parking changes would replace the spaces lost to create the new esplanade.

PROPOSED PARKLAND AND RECREATIONAL FACILITIES

EXISTING FACILITIES

The proposed project would occupy the portion of Macomb's Dam Park north and south of East 161st Street and east of Jerome Avenue (21.42 acres), plus the southern portion of John Mullaly Park between East 162nd and East 164th Streets (3.9 acres) (see Figures S-9 and S-10). Table S-2 describes the existing recreational facilities in the parks that would be eliminated by the proposed project. These areas contain a substantial number of active recreational facilities, including 16 tennis courts and 8 handball courts in John Mullaly Park; and two baseball fields with 90-foot infields, one little league baseball field with a 60-foot infield, a softball field, a soccer field surrounding by a 400-meter track and bleachers, 24 handball courts, and two basketball courts in Macomb's Dam Park. There are two ballfields, each on the portions of Macomb's Dam Park located north and south of East 161st Street, which have overlapping outfields. When games are held at the same time on adjacent fields, the outfield must be shared by each ballfield, hindering their use. The track in this portion of Macomb's Dam Park was resurfaced in 2004 and is in good condition. However, the baseball field (90-foot infield) is in fair to poor condition and in need of renovation—the center field is barren dirt. Besides the

Table S-2
Recreational Facilities Proposed to be Displaced

Ref. No.	Recreational Facility	No. of Facilities
1	Tennis Courts: all 16 courts are open air in summer and 14 are covered in winter	16
2	Little League Baseball Field: 90-foot infield, overlapping outfield*	1
3	Running Track with Soccer Field and Spectator Stands*	1
4	Softball Field: 60-foot infield, overlapping outfield	1
5	Little League Field: 90-foot infield, overlapping outfield	1
6	Little League Baseball Field: 60-foot infield, overlapping outfield	1
7	Basketball Courts	2
8	Handball Courts: Macomb's Dam Park (24 courts), John Mullaly Park (8 courts)	32

Note: * Facilities rehabilitated with LWCF grant funding.
Source: NYCDPR.

specified facilities, Macomb's Dam Park contains a NYCDPR District Office building, which also provides public restrooms and open areas, which are used for pick-up football games, ball tossing, etc. Surveys of all recreational facilities in 2001 and 2004 found them to be well-used. Although most of the land is occupied with active recreational uses, the parks also contain a number of mature trees of various species.

Several of the facilities in the portion of Macomb's Dam Park bounded by East 161st Street to the south, Jerome Avenue to the west, East 162nd Street to the north, and River Avenue to the east, were improved and rehabilitated with funds from the LWCF. As a result, this portion of Macomb's Dam Park is subject to the provisions of Section 6(f) of the LWCF Act. Section 6(f) requires that property improved or developed with LWCF assistance shall not be converted to any use other than public outdoor recreation use without the approval of the Secretary of the Interior (delegated to the Director of the National Park Service [NPS]). Therefore, NPS approval is required for the conversion of this portion of Macomb's Dam Park for the proposed stadium.

REPLACEMENT FACILITIES

A total of 27.05 acres of replacement recreational facilities, including new parkland, would be provided as part of the proposed project. As described below, these facilities would all be located within existing and new parkland and public open space (see Figures S-11 and S-12). The replacement acreage includes: 15.82 acres of new mapped parkland, 2.89 acres on currently mapped parkland that contains an existing surface parking lot, 7.33 acres on existing parkland, and 1.01 acres of new open space (not mapped as parkland). The proposed project would create a unified 17.36-acre park south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street. For purposes of the Federal LWCF conversion, the proposed Section 6(f) replacement parks would be developed on the existing stadium site, Ruppert Plaza, and along the Harlem River waterfront. As currently contemplated, NYCDPR would replace directly most of the existing facilities to be displaced by the proposed project. NYCDPR, in consultation with the local community may choose to vary the new facilities to provide replacements that are not exactly the same as those displaced, but are equal or greater in use and value. To this end, NYCDPR would undertake a broad community outreach program before deciding on a final plan for the new parkland and

recreational facilities. The anticipated new facilities, which may be modified, are presently anticipated to include the following elements:

- The proposed project would retain the playing field, dugouts, and locker rooms under the field seats of the existing stadium and adapt it to a public baseball field called "Heritage Field." It is anticipated that some of the field seats in the existing stadium would be retained for the replacement ball field (no more than 3,000 seats), while most of the existing stadium would be demolished. Also on the site of the existing Yankee Stadium would be areas of landscaped, passive recreational open space. In total, this area would comprise 8.9 acres of new parkland. A portion of the existing Yankee Stadium site, approximately 0.75 acres along East 157th Street, would not be mapped as parkland. This area would be reserved for future development that could accommodate other elements of the Borough President's plan for the neighborhood as they develop. This area would contain passive open space until such future plans are implemented. This acreage (0.75 acres) is not included in the 8.9 acres of replacement parkland and recreational facilities on the existing stadium site.
- A full-size, artificial turf soccer field would be located south of East 161st Street between Jerome Avenue and the existing stadium site in the southern portion of Macomb's Dam Park. A 400-meter athletic track would encircle the soccer field. A grandstand would overlook these two facilities. A comfort station with restrooms could be located beneath the grandstand. Adjacent to the track to its south would be an artificial turf little league field and nine handball courts, and to its west would be two basketball courts (one with stands) and two tennis courts. A tot-lot, with climbing and play equipment, drinking fountain, and benches would be located at the corner of Macomb's Dam Bridge Approach and East 161st Street. These facilities would be built atop a new subterranean garage (Parking Garage A) and would be accessible via a short set of stairs and ADA-compliant ramps from the new pedestrian-only Ruppert Plaza, described below, and accessible at-grade from the surrounding streets. In total, they would comprise 7.33 acres.
- Between Heritage Field and the soccer field and athletic track would be a passive park with an allee of trees on re-aligned Ruppert Place. Renamed "Ruppert Plaza," it would comprise 1.13 acres of new parkland. Ruppert Plaza would function as the main thoroughfare from the existing parking facilities, as well as proposed Parking Garage A, to the proposed stadium and would create an important link to adjacent parkland and new recreational facilities.
- Passive park/civic space is proposed east of River Avenue on either side of East 157th Street and would contain benches and unique paving landscapes. The northern park parcel would contain sculptured play elements. Together these parks would act as a gateway to Heritage Field. These facilities would constitute 0.68 acres of new parkland.
- Fourteen tennis courts would be built in Macomb's Dam Park atop Parking Garage C, south of East 161st Street, west of Jerome Avenue and north of a ramp from the Major Deegan Expressway. Adjacent to the tennis courts would be a pavilion building with restrooms and other amenities serving the tennis court program. The total area would be 2.89 acres.
- One little league baseball field and one softball field (both artificial turf) would be located along the waterfront, approximately ½-mile from the existing facilities, and would reclaim a currently degraded pier. New passive recreational open space and a pedestrian esplanade would surround these waterfront ballfields. A comfort station with restrooms would be constructed to the south of the ballfield. These ballfields and open space would be located on property currently associated with the Bronx Terminal Market. Currently, the site contains paved areas for parking, an abandoned power house (Bronx Terminal Market Building J),

and two low-scale, partially occupied warehouse buildings (Bronx Terminal Market Buildings G and H) that would be demolished. The fields would add 5.11 acres to the inventory of new parkland.

- In addition to the replacement recreational facilities, the proposed project would also create a new 0.71-acre esplanade that would extend from the northern end of the waterfront park, wrap around the waterfront to the existing ferry landing, and extend east to the pedestrian connection at Exterior Street beneath the Major Deegan Expressway. Although it would not be mapped as parkland, the esplanade would provide an important corridor between the recreational facilities of the Harlem River waterfront and the new recreational facilities in the eastern portion of the project area. In total, the proposed project would create more than 5.82 acres of new public open space along the Harlem River waterfront. The proposed waterfront park and esplanade would provide waterfront access and recreational opportunities that are currently not available in the surrounding community. The new park and esplanade would establish physical and visual public access to the Harlem River waterfront and result in waterfront uses that would attract the public and enliven a waterfront area that is currently composed of degraded piers.
- In addition to the active facilities cited above, public passive open space would surround Parking Garage B along East 164th Street (0.3 acres).

RETAIL DEVELOPMENT

Parking Garage D would be developed with a non-destination retail component of approximately 12,000 gsf along the street level of the garage.

PEDESTRIAN AND STREETSCAPE IMPROVEMENTS

The proposed project would also make improvements along River Avenue and in the area of the existing pedestrian bridge over the Metro-North Railroad tracks. The existing pedestrian bridge would be improved and made ADA compliant. It would also be extended to connect to the second level of Parking Garage 8 and span over East 157th Street onto Ruppert Plaza to facilitate game-day pedestrian flow. This pedestrian bridge would provide a connection to the waterfront parking lots, new parkland, and ferry landing. New urban design elements, such as unique paving, signage, and pedestrian lighting would be implemented at the western end of the pedestrian bridge. These new elements would direct pedestrians between the parking areas west of the Major Deegan Expressway and the existing bridge. In addition, Ruppert Place would be closed and mapped as passive parkland, and used as a pedestrian-way leading to the proposed stadium. Streetscape improvements would be made along River Avenue between proposed Parking Garage D and East 164th Street. Sidewalks currently in poor condition would be replaced, existing trees would be retained and supplemented with new trees, and pedestrian lighting would be improved. Streetscape improvements would also be made around the stadium on River and Jerome Avenues and on East 161st Street, where large pedestrian gathering areas would include decorative paving, landscaping, and other amenities such as seating areas and sculpture.

D. CONSTRUCTION SCHEDULE

If approved, the proposed stadium is expected to be completed by spring 2009 for opening day of the New York Yankees' 2009 season. The Yankees would continue to play at the existing stadium while the proposed stadium is under construction. All four proposed garages are also

Table S-3
Estimated Schedule for Parkland and Parking Garage Completion

Description	Estimated Completion Date
Parkland along Waterfront and Recreational Facilities	2007
Parkland along River Avenue and East 157th Street	2007
Parking Garage C	2008
Parking Garage D	2008
Tennis Courts Over Garage C	2008
Parking Garage A	2009
Parking Garage B	2009
Recreational Facilities Over Garage A	2009
Heritage Field	2010

Source: NYCDPR.

expected to be completed by 2009. It is expected that all proposed parkland development would occur by 2009, except for Heritage Field on the site of the existing stadium (see Table S-3).[1]

E. PUBLIC APPROVALS

The project will require approvals from the City, State, and Federal agencies. Several of these are discretionary actions requiring review under CEQR and SEQRA. Others are ministerial and do not require environmental review; nonetheless, they are subject to review under each relevant agency's public mandate, as discussed below.

New York State legislation enacted in June 2005[2] authorizes the alienation of certain areas of currently mapped parkland—portions of Macomb's Dam and John Mullaly Parks—to allow for its disposition by the City, through leases, for operation of the proposed stadium and several parking garages. The legislation also allows for stadium-related facilities, including parking facilities on existing and new parkland. Following that disposition, however, these areas would remain mapped parkland. The legislation allows the State to dispose of and the City to acquire two parcels of waterfront property owned by the State. The legislation also allows for the demapping of East 162nd Street and Ruppert Place as an administrative action by the Mayor and authorizes the disposition and use of a volume of air space over East 151st Street.

New York City–ULURP Actions

The following actions will require approval through ULURP under City Charter Section 197(c). Approval, as necessary, would also be required pursuant to the City Charter Section 384(b)(4) for the approval of the business terms associated with the parking garages.

[1] Since publication of the DEIS, NYCDPR and the Yankees have been working to develop a revised construction schedule that would allow for interim and permanent replacement recreational facilities to be available sooner. This new schedule is reflected in the Alternative Park Plan analyzed in Chapter 22, "Alternatives," of this FEIS. As applied to the proposed project, a similar construction schedule would result in additional interim recreational facilities and some permanent replacement facilities becoming available sooner. This new construction schedule would not result in any significant adverse impacts not already identified for the construction schedule analyzed in "Construction Impacts."

[2] Chapter 238 of the 2005 Laws of New York.

Disposition of City-Owned Property:

- Stadium/Stadium Site (Long-Term Lease).
- Parking Facilities/Parking Facilities Sites (Long-Term Lease).

Acquisition:

- Acquisition of property by the City to enable it to acquire leasehold and subleasehold interest in the new Yankee Stadium, and to assure clear title.

Amendments to City Map:

- Map as parkland: former East 162nd Street as part of John Mullaly Park.
- Map as parkland: Ruppert Place as part of Macomb's Dam Park.
- Map as parkland: proposed waterfront ballfields and open space on former Bronx Terminal Market property.
- Map as parkland: proposed passive recreational facilities at River Avenue and 157th Street.
- Map as parkland: existing Yankee Stadium, and adjacent City-owned property.
- Demap the portion of Jerome Avenue between the north side of East 161st Street and the south side of East 164th Street and the portion of East 161st Street between the east side Jerome Avenue and the Macomb's Dam Bridge Approach and the west side of River Avenue. The areas to be demapped would vary in width from approximately 10–20 feet, totaling approximately 0.3 acres. This area would be mapped as parkland and incorporated into the footprint of the proposed Yankee Stadium site.

Concessions:

- Approval of a major concession to operate a tennis facility.

Special Permit:

- A special permit pursuant to Zoning Resolution Section 74-512 to allow construction and operation of a public parking garage not located in parkland (Parking Garage D), to allow the parking garage to contain rooftop parking, and to permit the portion of the garage located above the adjusted base plane and below a height of 23 feet above curb level to be exempt from the definition of floor area.
- A special permit pursuant to Zoning Resolution Section 74-54 to allow for modification of rear yard requirements for Garage D.

New York State

- State funding of parking facilities within the proposed project.
- Tidal Wetlands permit from New York State Department of Environmental Conservation (NYSDEC).
- Possible Protection of Waters permit and water quality certification from NYSDEC.

ADDITIONAL CITY AND STATE ACTIONS

As described above, New York State legislation enacted in June 2005 authorizes the alienation of certain areas of currently mapped parkland, to allow for its disposition by the City, through leases, for operation of the proposed stadium and several parking garages, and the demapping of East 162nd Street and Ruppert Place as an administrative action. The State legislation also requires that the City dedicate the existing stadium site as parkland and acquire additional parklands and/or dedicate land for park and recreational purposes which are equal to or greater than the fair market value of the parkland being alienated.

New York City

- Administrative action to amend the City map to demap East 162nd Street, Ruppert Place, and a volume above East 151st Street as City streets.
- Possible New York City Department of Environmental Protection (NYCDEP) permits for de-watering activities associated with construction.
- Review and approval of the Art Commission of the City of New York for the design of landscaping and buildings/structures constructed on or over City Property.
- Coastal Zone consistency determination from the New York City Planning Commission.
- City funding and construction of the proposed park improvements.

New York State

- Authorization under the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for stormwater discharges associated with construction activities. A SPDES permit for operations is not required, because all wastewater would be discharged through the NYCDEP permitted sewer system.
- Coastal Zone consistency determination from the New York State Department of State.

FEDERAL ACTIONS

Under the LWCF, 16 U.S.C. § 460l-4 et seq., the National Park Service (NPS) provides matching grants to states, and through states to local governments, for the acquisition and development of public outdoor recreation areas and facilities. Section 6(f) of the LWCF requires that no property acquired or developed with LWCF assistance can be converted to other than public outdoor recreation use without the approval of the NPS and the substitution of other recreational properties of at least equal fair market value and of reasonably equivalent usefulness and location. Because prior improvements to a portion of Macomb's Dam Park within the project area were funded under the LWCF, the NPS is required to approve of the proposed conversion of that portion of Macomb's Dam Park to non-public recreational uses and the substitution of replacement facilities pursuant to Section 6(f). Consistent with the State's role under the LWCF, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) must first provide the NPS with its recommendation concerning the proposed Section 6(f) conversion.

The proposed project also requires authorization under Nationwide Permits from the U.S. Army Corps of Engineers (USACOE) for in- or above-water construction activities.

In addition, as described below, the OPRHP recently determined that several buildings in the project area are eligible for listing on the State and National Registers of Historic Places. The buildings determined eligible for listing on the Registers are the Bronx Terminal Market Buildings G, H, and J.

Because elements of the proposed project will involve discrete discretionary actions by Federal agencies (i.e., the NPS and the USACOE), there will be a review of those elements under Section 106 of the National Historic Preservation Act of 1966 (NHPA), as implemented by Federal regulations appearing at 36 Code of Federal Regulations (CFR) Part 800, the National Environmental Policy Act (NEPA) and its implementing regulation, as well as any applicable executive orders (e.g., Executive Order 12898 [relating to environmental justice] and Executive Orders 11988 and 11990 [relating to the protection of floodplains and wetlands]).

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The proposed reconfiguration of the locations of the parking, open space and stadium facilities and the net increase in overall open space would be consistent with land uses in the area under existing conditions and in the future without the proposed project. The proposed project would be consistent with zoning and other public policies affecting the project area and surrounding area. Overall, the proposed project would have no significant adverse impacts on land use, zoning, or public policy.

SOCIOECONOMICS CONDITIONS

The analysis concludes that the proposed project would not cause significant adverse impacts to the socioeconomic character of the project's study area. The proposed project would not directly displace any residential population, and it would not directly displace any businesses or institutional uses. The proposed project would not foster a change in residential market conditions that would lead to indirect residential displacement, nor would it significantly alter existing economic patterns in the study area. The proposed project would not significantly affect business conditions in any specific industry or category of business in The Bronx or the City as a whole. In addition, the proposed project would result in considerable economic and fiscal benefits to New York City and New York State during both the construction and operating periods.

OPEN SPACE AND RECREATION

The Federal Land & Water Conservation Fund Act (LWCF), 16 U.S.C. §§ 460*l*-4 to 460*l*-11 is commonly referred to as Section 6(f), as the provision was originally contained in Section 6(f)(3) of the LWCF, Public Law 88-578 of 1962, before codification. This statute regulates the future use of parklands or open spaces that have been improved with funds received through the LWCF, and is applicable in this case because LWCF funds were used for the improvement of portions of Macomb's Dam Park.

The United States Department of the Interior (DOI), through the National Park Service (NPS), provides funding under the LWCF for State and local efforts to plan, acquire, or develop land to advance outdoor recreational activities. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) serves as the New York State agency that administers LWCF

funds received from DOI. Using LWCF funds, however, creates certain limitations on future changes to LWCF-funded projects. Once LWCF funds are utilized for a particular recreation project, conversion of that park facility for any non-recreational purpose is prohibited unless alternatives are assessed and steps are taken to identify, evaluate, and supply replacement parkland. NPS must grant prior approval of the conversion and replacement parkland.

In particular, under the LWCF, a conversion of parkland may be approved if NPS finds that: (1) all practical alternatives to the proposed conversion have been evaluated; (2) the fair market value of the park property to be converted has been established and the property proposed for substitution is of at least equal fair market value, as established by an approved appraisal in accordance with the Uniform Appraisal Standards for Federal Land Acquisition, excluding the value of structures or facilities that will not serve recreational purposes; (3) the proposed replacement property is of reasonably equivalent usefulness and location as the converted property; and (4) the proposed conversion and substitution are in accordance with the applicable Statewide Comprehensive Outdoor Recreation Plan (SCORP). The LWCF regulations further require that the project comply with applicable Federal statutes, regulatory requirements, and policies, including the National Environmental Policy Act (NEPA). NPS must approve the conversion and consider the environmental evaluations in its review.

The location of the proposed stadium is on a portion of Macomb's Dam Park north of East 161st Street and east of Jerome Avenue that was improved with LWCF funds in the early 1980s. For purposes of the Federal LWCF conversion, the proposed Section 6(f) replacement parks would be developed on the existing stadium site, Ruppert Place, and along the Harlem River waterfront.

New York State legislation enacted in June 2005 authorizes the alienation of certain areas of currently mapped parkland to allow for its disposition by the City, through leases, for operation of the proposed stadium and three of the proposed parking garages. Following that disposition, however, these areas would remain mapped parkland. The State legislation also requires that the City dedicate the existing Yankee Stadium site as parkland and acquire additional parklands and/or dedicate land for park and recreational purposes which are equal to or greater than the fair market value of the parkland being alienated.

As the recreational facilities that would be displaced by the proposed project would be replaced with similar and new recreational facilities, the proposed project would not result in any significant adverse impacts to open space. Furthermore, as there would be a net increase in the area's open space, and older, and in some cases worn facilities, would be replaced with new, modern facilities, as well as new waterfront access, there would be a positive impact on the project area in terms of open space. The proposed project would also comply with the requirements of Section 6(f) and the State authorizing legislation.

SHADOWS

The proposed project would cast incremental shadows on portions of Macomb's Dam Park throughout the year. The triangular portion of the park bounded by East 161st Street, Jerome Avenue, and the Macomb's Dam Bridge Approach, which contains walkways and a large rock outcropping surrounded by trees, would be in the shadows of the proposed stadium for most of the morning throughout the year. Additional shadows would be cast on Macomb's Dam Park in the afternoon from fall through spring by Parking Garage C. The proposed project would also cast shadows on the proposed open space located in Macomb's Dam Park west of Ruppert Plaza atop new subterranean garage (Parking Garage A) and the proposed open space entrance plaza to Heritage Field (to be mapped as parkland as part of Macomb's Dam Park). John Mullaly Park

would also receive shadows from the proposed project. Incremental shadows from proposed Parking Garage B along East 164th Street would fall on the southern portion of the park in the afternoon for about three hours during the early spring and early fall months. During the winter months, proposed Parking Garage B as well as the proposed stadium would cast incremental shadows on the southern portion of John Mullaly Park throughout the entire analysis period. The portion of John Mullaly Park affected by shadows contains a skate park, a recreation center, a playground, and a passive park area.

No significant adverse impacts are expected to occur to any open spaces as the duration and coverage of shadows are not long enough or large enough to affect vegetation or park usage. Portions of the parks that would be in shadow contain mostly active recreation uses, which are less affected by shadow than passive uses. In addition, several other portions of these parks are available for recreational use during the times the incremental shadows from the proposed project would occur. New parklands would not experience significant shadows.

HISTORIC RESOURCES

The proposed project would result in the construction of a new park with ballfields, esplanade, and surface parking on the west side of Exterior Street at the Bronx Terminal Market in the area of Buildings G, H, and J (State/National Historic Register-eligible). The analysis concludes that the proposed project could result in significant adverse impacts on Buildings G, H, and J of the Bronx Terminal Market. The proposed project would undertake mitigation measures in consultation with the New York State Historic Preservation Officer (SHPO) to mitigate any significant adverse effects on architectural resources. The mitigation measures would include Historic American Building Survey (HABS)-level photographic documentation with an accompanying narrative, and interpretive design elements, such as a fence and plaques/historic markers. The mitigation measures would be set forth in an MOA to be entered into among NYCDPR, the National Park Service (NPS), and SHPO. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among the parties, is included in Appendix G.[1]

The analysis also found that the proposed stadium could result in adverse impacts to the Macomb's Dam Bridge Approach span between the Major Deegan Expressway and East 161st Street through the development of Parking Garages A and C. However, these impacts are not expected to be significantly adverse. As currently planned, these garages would be set back approximately 12 feet to the east and west of the Macomb's Dam Bridge Approach, essentially eliminating the visibility of this section of the landmarked structure within the project area. However, the most prominent features of the Macombs Dam Bridge roadway system—the Macombs Dam Bridge Pratt truss spanning the Harlem River and the camelback truss spanning the Metro-North Railroad right-of-way—would remain unaltered by proposed Parking Garages A and C. Changes to the approach structure itself include a widening at East 161st Street to provide a wider east crosswalk and constructing vehicular and pedestrian access between the approach and Parking Garages A and C. To avoid adverse impacts to these portions of the

[1] As set forth in the Foreword, because the Alternative Park Plan analyzed in "Alternatives," is the preferred park plan that is anticipated to be adopted and approved by NYCDPR, the Draft MOA applies to that alternative program. Bronx Terminal Market Building J, rather than being demolished by the proposed project, would be retained and adaptively reused in connection with the tennis facilities to be located at the waterfront park under this alternative.

Macomb's Dam Bridge Approach resulting from the widening of the east crosswalk at East 161st Street, these new elements would be designed in consultation with SHPO, pursuant to the MOA as well as the New York City Landmarks Preservation Commission (LPC).

Within the study area, it is not expected that the proposed project would have significant adverse impacts to any architectural resources. Where there is potential for a construction-related impact, a Construction Protection Plan would be developed in consultation with SHPO pursuant to the MOA, as well as LPC, and implemented prior to construction to protect resources within 90 feet of proposed construction activities, including architectural resources in the project area and study area; and to ensure that adverse impacts do not occur.

Apart from the anticipated, non-significant adverse impact to the section of the Macomb's Dam Bridge Approach identified above, the proposed project would not block significant views of any other known or potential historic resources, significantly alter the visual setting of any other resource, or introduce incompatible contextual elements to any other historic resource's setting in the project area or study area.

URBAN DESIGN AND VISUAL RESOURCES

The proposed project would develop buildings and recreational facilities of a comparable design as those presently found in the area. As such, the proposed project would have no adverse impacts on the urban design of the study area. In general, the proposed project would have a positive effect on visual resources; it would remove two segments of Macomb's Dam Park and one of John Mullaly Park that together constitute a visual resource for the area, but it would introduce new visual resources. These include new waterfront elements along the Harlem River, including the baseball fields, landscaped areas, and an esplanade, providing new public amenities and locations from which to view the river and its shorelines. The proposed stadium would constitute a new visual landmark in the area, and the proposed new green areas and public plazas to be developed at the former and new stadium sites would also generate new visual resources in the area.

However, it is expected that the removal of mature trees, which are approximately 40 feet tall, within of Macomb's Dam Park and John Mullaly Park could result in unavoidable adverse impacts. Some of these trees would have to be removed due to the scope of the construction. Although the replacement trees would not achieve comparable size for several decades, the number of replacement trees would be extremely large and equivalent in total mass to the trees that would be lost. The addition of a significantly expanded canopy of trees to the project area and surrounding neighborhoods, in addition to the mature trees that would be retained, would mean that the change would not be significantly adverse. In addition, the proposed project would remove green areas within portions of Macomb's Dam Park and John Mullaly Park, affecting views east from Jerome Avenue. However, since views on Jerome Avenue north of East 164th Street of the northern portions of John Mullaly Park would not be altered, and new visual resources would be created in the project area, this change is not expected to result in significant adverse impacts to visual resources.

It is also expected that the development of Parking Garages A and C would obscure the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street, resulting in adverse impacts to visual resources. Since the most prominent and distinguished portions of the bridge—namely, its two differently configured truss structures that are west of the project area—would remain unaffected, this change would not be expected to be

significantly adverse. The development of Parking Garages B and D is not expected to result in adverse impacts to visual resources.

It is anticipated that the proposed stadium would use the latest technology for lighting. It is anticipated that the lighting at the proposed stadium would control glare and light spill in a more efficient manner than currently exists, with light spill during night games anticipated to be an indirect glow. In addition to the programming of illumination for night games, the lighting system would also allow for a reduction in the illumination of the exterior of the stadium when there is no event, with lighting during non-game times anticipated to consist only of discrete downlighting and illumination of the stadium entrances. Therefore, it is not expected that the lighting at the proposed stadium, either for night games or non-event periods, would not significantly adversely impact the visual character of the study area.

NEIGHBORHOOD CHARACTER

The analysis concludes that as a result of the proposed project, there would be no change in the types of land uses or design and scale of development located in the study area; however, the location of the various uses would be reconfigured in different locations. The proposed project would not result in an increase in traffic and pedestrian trips over existing conditions. Rather, these trips would be redistributed within the transportation network, largely due to the future location of the proposed stadium, the addition of nearby parking facilities, and the provision of a dedicated pedestrian spine along Ruppert Plaza. This redistribution would result in increases in traffic and pedestrian congestion is some locations and improvements in others.

Due to the location of the proposed stadium and Parking Garages A, B, and C, several of the traffic and pedestrian impacts would occur along Jerome Avenue and the Macomb's Dam Bridge Approach near East 161st Street. However, the increase in traffic and pedestrian levels in this largely residential area would, for the most part, be similar to existing conditions and those in the future without the proposed project and be of limited duration, occurring only during Yankees games. A comprehensive game-day traffic management plan including TEA controls would address all impacts in the pre- and post-game peak periods in as effective a manner as possible. Therefore, these changes overall would not have significantly adverse impacts on neighborhood character. Similarly, noise levels would increase in locations closer to the proposed stadium and decrease in locations closer to the existing stadium, and overall would not result in a significant adverse noise-related impact on neighborhood character.

The proposed project would also have positive effects on the character of the area. The proposed project would improve the area's open space overall, and replace older, and in some cases worn recreational facilities, with new, modern facilities. It would create a unified, 17.36-acre park area, which would be larger than the total park area that would be displaced. It would also create new access to the waterfront, in a waterfront park and esplanade, beyond what would have been provided in the future without the proposed project. The proposed project would also increase and better organize parking and help eliminate existing parking shortfalls that cause fans driving to games to circulate excessively in search of hard-to-find parking spaces, often ending up parking illegally near the stadium, on local streets, and on the service road of the northbound Major Deegan Expressway. As a result of the proposed project, the New York Yankees, an important asset to the neighborhood and The Bronx, would remain in its historical Bronx location.

NATURAL RESOURCES

The proposed project would result in the displacement of recreational facilities and hence, limited wildlife habitat in the form of shade trees, lawn, and patches of successional woodland in portions of the parks inaccessible to park users, and street trees in Macomb's Dam and John Mullaly Parks. The existing weedy vegetation along the edge of the piers in the area of the proposed Harlem River waterfront park and esplanade, which is of limited wildlife value, would also be removed as part of shoreline improvement activities. Wildlife using the areas to be displaced would be limited to those tolerant of urban conditions. The loss of some individuals of these urban-tolerant species would not result in a significant adverse impact on the bird and wildlife community of the New York City region. Therefore, no significant adverse impacts to terrestrial resources are anticipated as a result of the proposed project.

All trees removed as a result of the proposed project would be replaced in accordance with NYCDPR requirements. To minimize potential adverse impacts resulting from the loss of 377 trees (includes street trees and trees lost from the recreational facilities that would be displaced), NYCDPR would require the replanting of trees in accordance with the NYCDPR basal area tree replacement formula. The removed trees, which total a basal area of approximately 592 square feet, would be replaced with trees of a size totaling an equal basal area. The number of replacement trees would be between 8,356 trees of a 3 ½-inch caliper to 29,248 trees of a 2-inch caliper. These replacement trees would create natural screening and areas of shade for relaxation and passive enjoyment for park visitors and habitat for wildlife. Because there is insufficient space to plant the calculated number of trees within the replacement recreational areas, the remaining replacement trees would be planted as street trees within the vicinity of the project area or as nearly as possible.

Areas of passive open space would be landscaped with trees, shrubs, and herbaceous plants consistent with NYCDPR's green park design of using native trees, shrubs, and groundcover to the extent possible. These landscaped passive recreational areas would benefit wildlife by providing improved habitat with a diversity at least equal to or greater than currently present within the displaced recreational facilities. The replacement recreational facilities that would be developed atop Parking Garages A and C would incorporate natural soil wells in open areas between the active recreational facilities that would support a sufficient depth of growing media to permit the planting of trees and other vegetation. The new open space areas developed within the recreational facilities on newly mapped parkland, such as the passive open space areas associated with the 5.11-acre Harlem River waterfront park and surrounding Heritage Field at the 8.90-acre site of the existing stadium, would provide even greater opportunity for the development of green park landscaping that would provide improved habitat for birds and other wildlife.

Significant adverse impacts would not occur to the floodplain, wetlands, water quality or aquatic biota of the Harlem River, or to the only endangered species with the potential to occur in the vicinity of the project area, the shortnose sturgeon. The proposed Harlem River waterfront park and esplanade, the new parking area north of the waterfront park, and the Yankee Stadium Parking Lots 13A and 13B that would be repaved and restriped are the only portions of the project area within the floodplain. The development of the waterfront park would result in an increase in pervious cover with stormwater retention, which would result in beneficial effects to the floodplain by decreasing stormwater discharges during rainfall events. Improvements to the shoreline stabilization as part of the Harlem River waterfront park design, such as replacement of existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall

system) that would increase the complexity of the shoreline habitat and establishment of tidal wetland vegetation at the shoreward portion of the coves, would improve wetland resources within the project area. Potential impacts to wetlands during construction of the shoreline improvements would be minimized through the implementation of measures identified during the permitting process for these shoreline enhancements by Federal and State agencies.

In addition, any effects on water quality resulting from shoreline improvement activities, such as increased suspended sediment and resuspension of contaminated sediment, would be temporary and localized and would not result in significant adverse impacts to aquatic biota. The temporary loss of some benthic habitat and of some macroinvertebrates during replacement of the concrete masonry bulkhead and timber crib bulkhead, and improvement of the riprapped areas, would not result in significant adverse impacts to populations of benthic macroinvertebrates using this portion of the Harlem River, nor would it significantly impact the food supply for fish foraging in the area. The proposed gabion wall system and creation of vegetated tidal wetland habitat as part of the waterfront park design would benefit aquatic resources by increasing the diversity of aquatic habitat for benthic macroinvertebrates and fish within the project area. Because water quality impacts would be limited to the immediate area of activity along the shoreline, which consists of shallow water habitat, adverse impacts would not occur to shortnose sturgeon that may occur in the deeper channel area of the Harlem River. Potential adverse effects to water quality resulting from the discharge of stormwater during construction and operation of the proposed project would be minimized through implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include stormwater detention facilities, and implementation of an Integrated Pest Management (IPM) strategy that would manage landscaped areas with minimal application of pesticides, herbicides and fertilizers. Therefore, the discharge of stormwater from the project area would not be expected to result in significant adverse impacts to Harlem River water quality.

HAZARDOUS MATERIALS

All on-site structures potentially contain asbestos-containing materials and lead-based paint. PCBs could be present in electrical equipment found throughout the project area. Known or suspected underground petroleum storage tanks are present at the existing stadium, the Macomb's Dam Park Field House, Parking Lot 6, and along the Harlem River waterfront, west of the Bronx Terminal Market warehouse buildings. Semi volatile organic compounds (SVOCs) and/metal concentrations exceeding NYSDEC standards were detected in soil samples from throughout the project area, and petroleum contamination was identified in soil and groundwater samples from beneath Parking Lots 5 and 6.

Any hazardous materials in structures to be demolished would be handled, removed, and disposed of in accordance with all applicable Federal, State, and local regulations, thus avoiding any significant adverse impacts. In addition, areas containing petroleum-related contamination from spill sites would be investigated and remediated under the NYSDEC Spills program, including preparation and approval of a Work Plan, Health and Safety Plan (HASP), and/or Remedial Action Plan (RAP), as appropriate. Further, the proposed development would be conducted under NYCDEP-approved RAP, including a HASP, designed to protect site workers and the surrounding community from exposure to hazardous materials during construction activities in areas where soil excavation and/or remediation would occur. Therefore, if all State- and City-approved HASPs and RAPs are properly implemented the proposed project would not result in any significant adverse impacts with respect to hazardous materials.

WATERFRONT REVITALIZATION PROGRAM

The components of the proposed project that are within the coastal zone—the proposed Harlem River waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B—would be consistent with the City's 10 Waterfront Revitalization Program (WRP) coastal policies, and the WRP's guiding principle of maximizing the benefits derived from economic development, environmental preservation, and public use of the waterfront while minimizing conflicts among these objectives. It would also be consistent with the Bronx Waterfront Plan issued by the Bronx Borough President, Adolfo Carrion, Jr., in March 2004, and its objectives to improve existing parkland, develop pedestrian connections to the Harlem River waterfront, and redevelop the Bronx Terminal Market to include a waterfront open space. The Harlem River waterfront park and esplanade would create new open space and ballfields along the Harlem River, would re-establish physical and visual public access to the Harlem River waterfront, and result in waterfront uses that attract the public and enliven the waterfront as well as benefit the surrounding community.

INFRASTRUCTURE

The incremental water demand from the proposed project would be a minimal increase over existing demand and would not be large enough to significantly impact the water supply system's ability to deliver water reliably. Demand for water is not expected to affect local water pressure. Although the proposed project would involve the relocation of several large water and sewer lines, these relocations are not expected to cause interruption to water supply or sewage disposal in the area. The additional sanitary sewage expected to result from the proposed project would not cause the Wards Island Water Pollution Control Plant to exceed its design capacity or its New York State Pollutant Discharge Elimination System permit flow limit. The volume of stormwater from the proposed project would not have a significant adverse impact on the Harlem River or on New York City's combined sewer system. Therefore, the proposed project would not result in any significant adverse impacts to the existing water supply, sewage treatment, or stormwater discharge systems.

SOLID WASTE AND SANITATION SERVICES

The total solid waste generated from the proposed project would be a minimal increase over the amount generated by the existing stadium and park users. The increase is not expected to overburden New York City's solid waste handling services, and the proposed project would not have a significant adverse impact on solid waste and sanitation services.

ENERGY

The proposed project would increase energy consumption over the existing uses in the project area. The incremental increase in energy demand would be caused primarily by the four new parking garages replacing surface parking, which uses less energy. Compared to the overall energy consumption in New York City, however, this increase is minimal. An existing substation next to the site of the proposed stadium would be used, and a new distribution system is not expected to be needed. Further, this additional demand from the proposed project is not expected to overburden the energy generation, transmission, and distribution systems and would not cause a significant adverse energy impact.

TRAFFIC AND PARKING

The proposed stadium would be relocated across East 161st Street from the existing stadium, on a site bounded by East 161st Street on the south, Jerome Avenue on the west, the equivalent of about East 163rd Street on the north, and River Avenue on the east. East 162nd Street would be closed and demapped between River Avenue and Jerome Avenue, and would essentially serve as an entry/exit for one of the new parking garages (Parking Garage B) being proposed as part of the proposed project. Ruppert Place would also be demapped; this is a very low traffic street passing along the western side of the existing stadium, and which is closed to vehicular traffic on game days. East 157th Street between River Avenue and Ruppert Place, which is currently closed, would be re-opened to vehicular traffic.

The proposed stadium is expected to be slightly smaller than the current stadium in terms of the amount of seating. Thus, the number of fans and attendees at sold-out ballgames will be slightly less than currently attending games at the stadium. The four proposed garages that would provide a total of approximately 4,735 parking spaces as part of the proposed project—representing a net addition of approximately 3,315 spaces above existing parking supplies—would make it easier for fans driving to games to park closer to the stadium, resulting in less circulation on local streets in search of the currently often hard-to-find parking spaces. Decreased traffic circulation on local streets in search of available parking and parking garage spaces, and less parking on the local streets themselves, would also provide a benefit to the local community and local residents in particular.

The creation of 4,735 parking spaces in the four proposed garages would also create a shift in motorists' travel patterns to and from the stadium since some would now exit the Major Deegan Expressway when arriving, and enter the expressway when leaving, further north than they do today. There would be a greater concentration of traffic on East 157th Street, Jerome Avenue, the Macomb's Dam Bridge Approach, and a portion of East 161st Street near Jerome Avenue, where two of the four proposed parking garages would be located, and on segments of the expressway that lead to East 157th and East 161st Streets. There would be less traffic on Exterior Street and on the northbound expressway exit ramp to East 149th Street, since much of the traffic that now parks south of the existing stadium is expected to shift northward to park in the proposed garages located closer to the proposed stadium.

The key findings of the traffic impact analyses are as follows: (1) the proposed project would provide Yankees fans with thousands of new parking spaces close to the proposed stadium, thus relieving the area of excessive traffic circulation pre-game as motorists would no longer have to circulate on local streets in search of hard-to-find parking spaces, especially on sellout game days; (2) the proposed project would also eliminate some illegal parking on local streets and on the service road of the northbound Major Deegan Expressway since the parked cars could now be accommodated within off-street parking lots and garages; (3) the proposed project would result in a shift of vehicular traffic from some currently used traffic routes to others, primarily to streets such as Jerome Avenue, the Macomb's Dam Bridge Approach, River Avenue, and others; (4) the streets and intersections affected would experience significant adverse impacts—10 to 13 intersections on weeknights and 15 to 16 intersections on weekends—and would require traffic capacity improvements to mitigate projected impacts, including a game-day traffic management plan to accommodate both vehicular and pedestrian flows; and (5) significant impacts on some sections of the Major Deegan Expressway would also require improvements and/or game-day traffic management planning to mitigate significant adverse impacts, as motorists shift from some currently used exit and entrance ramps to others.

Some traffic and pedestrian improvements have been included as part of the proposed project (the "Build" condition), where the need for such improvements is readily apparent to maintain safe and efficient vehicular and pedestrian flows. These improvements include wider crosswalks, sidewalks, and additional green time at signals for pedestrians to access the new stadium, a new signalized midblock crossing of East 161st Street leading to the new stadium, and others. Where significant adverse traffic impacts would still result, additional improvements needed to mitigate these impacts are identified and evaluated in "Mitigation," including lane re-striping, modified signal phasing and timing patterns, parking restrictions, and other standard traffic engineering improvements. For those significant adverse impacts that cannot be mitigated through such standard measures, additional game-day operational measures would be implemented.

TRANSIT AND PEDESTRIANS

The operating conditions of critical transit and pedestrian elements that would be most affected by the proposed project were analyzed. As with vehicular traffic, the proposed project would not result in a net increase in transit and pedestrian trips over existing conditions. Rather, these trips would be redistributed within the transportation network, largely due to the future location of the proposed stadium, the addition of nearby parking, and the provision of a dedicated pedestrian walkway along Ruppert Plaza.

Transit service to the study area is expected to remain the same as currently exist. However, with the demapping of East 162nd Street between Jerome and River Avenues to accommodate proposed Parking Garage B, a portion of the Bx13 bus route would need to be rerouted northward to East 164th Street. In connection with this rerouting, several bus stops would also need to be relocated. New York City Transit (NYCT) would determine the specific requirements of this rerouting and the appropriate locations for the future new bus stops. It is expected that these minor changes to the Bx13 bus route would not significantly impact bus operations during game-day or non-game-day conditions. In addition, to the extent practicable, projected increases in bus travel time during peak game-day time periods would be minimized with measures contemplated in the comprehensive traffic management plan, such that the intermittent service disruptions would not constitute a significant adverse impact to bus operations. NYCT would evaluate the actual future conditions and determine whether to adjust its bus schedules.

Analysis results show that significant adverse transit and pedestrian impacts are anticipated for eight (8) stairways at the 161st Street-Yankee Stadium station and four (4) crosswalks along East 161st Street, including the two crosswalks at Ruppert Plaza, where congested levels are anticipated during critical game-day travel periods experienced in very large part almost entirely by persons traveling to and from a game.

Significant adverse crosswalk impacts at the River Avenue and East 161st Street intersection would result for the following crosswalks:

- The north crosswalk during all four analysis time periods;
- The south crosswalk during the weekday post-game time period; and
- The westbound service road east crosswalk during the weekend pre-game time period.

The game-day crosswalk extension incorporated at Babe Ruth Plaza on the west side of the River Avenue and East 161st Street intersection is expected to operate at acceptable levels. While several significant adverse crosswalk impacts have been identified at this intersection, some of the intersection's crosswalks, most noticeably the east crosswalks at the mainline and at the eastbound service road, would experience noticeable improvements in level of service.

Furthermore, the proposed pedestrian bridge that would connect to Garage 8 and span East 157th Street would provide adequate capacity for projected pedestrian flow.

At the new 60-foot-wide Ruppert Plaza crossing under both weekday and weekend conditions, pre-game levels were projected at LOS C while post-game levels would be congested at marginally unacceptable LOS D, constituting a significant adverse pedestrian impact.

AIR QUALITY

The results of the analysis indicate that in the future with the proposed project, there would be no potentially significant adverse air quality impacts from mobile sources. With or without the proposed project in 2009, the maximum predicted ambient carbon monoxide (CO) concentrations at the intersections analyzed would be lower than the corresponding ambient air quality standards. In addition, CO impacts from the proposed garages were found to be substantially below the applicable standard of 9 parts per million (ppm). Therefore, it can be concluded that the proposed garages would not result in any significant adverse air quality impacts.

The primary stationary source of air pollutants associated with the proposed project would be emissions from the combustion of natural gas by heating, ventilation, and air-conditioning (HVAC) equipment from the proposed stadium. The primary pollutant of concern when burning natural gas is nitrogen dioxide (NO_2). The analysis determined that the proposed project would not result in any significant stationary source air quality impacts because the project would be well below the maximum size permitted by CEQR guidelines.

The industrial source screening analysis showed that there would be no exceedance of the NYSDEC annual guideline concentrations for potential contaminants at the proposed project sites. Therefore, based on the data available on the surrounding industrial uses, the proposed project would not experience significant air quality impacts from industrial facilities.

Finally, maximum predicted pollutant concentrations with the proposed project would be less than the corresponding ambient air standard. Therefore, the proposed project would be consistent with the New York State Implementation Plan (SIP) for the control of ozone and CO. The proposed project would therefore not result in any significant adverse air quality impacts.

NOISE

Future noise levels with the proposed project at all sites would be less than 3.0 dBA (A-weighted decibels) higher than noise levels without the proposed project. Change of this magnitude would be barely perceptible, and based upon CEQR impact criteria, the changes would not be significant. At some sites there would be a decrease in noise levels, generally attributable to a decrease in vendor/crowd noise at the location, and/or changes in traffic.

Noise levels within the new parks proposed at River Avenue and at the Harlem River waterfront would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. $L_{10(1)}$ noise levels at these locations would be approximately 71.8 dBA and 73-78 dBA. These high predicted noise levels are primarily a result of the noise generated by the elevated subway trains and vehicles on the elevated Major Deegan Expressway. These noise sources are independent of the proposed project, but based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks. There are no practical and feasible mitigation measures that could be implemented to reduce these noise levels to below the 55 dBA $L_{10(1)}$ guideline noise level. Noise levels in these new parks would, however, be comparable to noise levels in a number of existing

parks in New York City that are also located adjacent to heavily trafficked roadway, including Central Park, Hudson River Park, Riverside Park, and Van Cortlandt Park, Pelham Bay Park, and Macomb's Dam Park in The Bronx. While 55 dBA $L_{10(1)}$ is a worthwhile goal for outdoor areas requiring serenity and quiet, due to the level of activity present at most New York City parks, except for park areas far away from traffic and other typical urban activities, this relatively low noise level is often not achieved. In addition, in park areas with active recreation (i.e., with basketball courts, baseball fields, soccer fields, etc.) typically noise generated by these activities is above the 55 dBA $L_{10(1)}$ guideline level. In addition, at most New York City parks traffic from nearby streets and roadways and noise from typical urban activities result in noise levels which are above the 55 dBA $L_{10(1)}$ guideline level.

CONSTRUCTION IMPACTS

The construction of the proposed project is expected to begin in 2006 and be completed in 2010, with the opening of the proposed stadium anticipated in 2009, and all proposed garages operational at that time. Different construction techniques would be employed for the different elements of the proposed project. The upland elements, including the stadium, parks, parking garages, and recreational facilities, are expected to use conventional construction techniques with cranes, earth movers, and other heavy equipment. The equipment and storage areas would be land based. The in-water elements associated with rehabilitation of the bulkhead would likely employ marine construction techniques. Materials would likely be transported and stored on waterborne barges. For certain waterfront areas that may be inaccessible to barges due to inadequate water depth, the equipment may have to be land based.

As with most construction projects, construction activities would cause increases in traffic, fugitive dust, emissions from equipment and vehicles, and noise. Construction activities could also result in temporary increases in potential exposure pathways to hazardous materials. A site-specific HASP and Construction Protection Plan would be developed for the site to protect construction workers and the public from adverse environmental conditions during construction. Construction activities for the proposed project also have the potential to affect open space, economic conditions, air quality, water quality and natural resources, and infrastructure. However, it is not expected that and significant adverse impacts to these resources would result. In addition, during construction of the proposed project, appropriate measures would be closely followed to minimize fugitive dust emissions, control noise and vibration levels, control the rodent population, and thus reduce impacts to the surrounding area. Mobile source $PM_{2.5}$ impacts at intersection from construction activities were analyzed and determined to be insignificant.

As described in Chapter 19, "Construction Impacts," it is anticipated that construction activities would have the potential for significant adverse noise impacts at one or more locations in the study area. In the time period between the DEIS and FEIS, detailed construction noise analyses were performed, which showed that there would be a significant unmitigated adverse noise impact due to construction activities at East 164th Street between Jerome Avenue and River Avenue, including within John Mullaly Park. At other locations adjacent to construction sites, noise from construction activities would be intrusive and discernible; however, these increased noise levels would be for limited periods of time and according to CEQR criteria, would not constitute a significant adverse noise impact. These significant adverse impacts would be temporary during the peak construction period. In addition, one or two intersections would experience significant adverse traffic impacts for a period of about two years.

PUBLIC HEALTH

The proposed project would not meet any of the thresholds warranting a public health assessment. However, to address comments made during the scoping of the proposed project, an analysis of asthma—its prevalence in New York City and its possible causes and triggers—was performed, and an assessment of the potential public health effects from the proposed project was presented. This analysis concludes that potential emissions of fine particulate matter (i.e., $PM_{2.5}$) from mobile and stationary sources related to the proposed project are not expected to result in adverse public health impacts. Nonetheless, NYCDPR and the Yankees are sensitive to the community's concerns with respect to the incidence of asthma among the local population. Both the New York Yankees and the City are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction period and a full-time health specialist would be employed by the New York Yankees to monitor conditions throughout the construction period.

MITIGATION

HISTORIC RESOURCES

The proposed project would result in the construction of a new park with ballfields, esplanade, and surface parking on the west side of Exterior Street at the Bronx Terminal Market in the area of Buildings G, H, and J (S/NR-eligible). Therefore, to build the new park and ballfields, esplanade, and surface parking associated with the proposed project, these buildings would be demolished, resulting in a significant adverse impact on historic resources. Measures to mitigate this impact have been developed in consultation with SHPO. The mitigation measures would be expected to include HABS-level photographic documentation with an accompanying narrative, and interpretive design elements such as a fence and plaques/historic markers. The mitigation measures would be set forth in an MOA to be entered into among NYCDPR, NPS, and SHPO. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among the parties, is included in Appendix G.[1]

TRAFFIC AND PARKING

Overview and Summary of Findings

The proposed project would result in significant adverse traffic impacts at local intersections within the traffic study area and along sections of the Major Deegan Expressway near the proposed stadium site.

A total of 34 intersections were analyzed for Build conditions, including intersections analyzed under existing and No Build conditions plus additional intersections created at proposed garage entrances/exits. Significant impacts can be fully mitigated at the vast majority, but not all, of the locations analyzed. A comprehensive game day traffic management plan would seek to address all impacts in as effective a manner as possible. However, it is possible that not all significant adverse impact locations would be fully mitigated, just as occurs today with several congested

[1] As indicated above, because the Alternative Park Plan analyzed in "Alternatives," is the preferred park plan that is anticipated to be adopted and approved by NYCDPR, the Draft MOA applies to that alternative program.

locations resulting from traffic accessing and leaving the area before and after games. Mitigation measures would consist of signal phasing and timing changes, implementation of physical measures to better delineate travel lanes, parking regulation changes ("No Parking, Stadium Event" restrictions), lane signage changes, and the use of variable-message signs (VMS) to inform motorists about traffic conditions. To more fully mitigate significant adverse impacts, conventional traffic capacity improvements would need to be combined with other measures to reduce traffic volumes approaching key intersections, and have been evaluated comprehensively as part of an overall game day traffic management plan. Such measures are described later in this section, including diverting traffic away from problem locations.

Implementation of the standard traffic mitigation measures described above would result in all significant adverse traffic impacts being mitigated with the following exceptions: the Macomb's Dam Bridge Approach/East 161st Street intersection would be partially mitigated in both the weeknight and weekend pre-game arrival peak hours and in both post-game analysis hours; the River Avenue/East 161st Street intersection would be partially mitigated in both peak hours; the Jerome Avenue/East 161st Street intersection would be partially mitigated in the weeknight post-game peak hour; the intersection of Macomb's Dam Bridge Approach and the exit ramp from the southbound Major Deegan Expressway would be partially mitigated in the weekend pre- and post-game peak hours; and the intersection of Jerome Avenue/Ogden Avenue would be partially mitigated in the weeknight post-game peak hour. Mitigation with traffic diversion strategies (turn prohibitions, street closures, and VMS), in conjunction with standard traffic capacity improvements, is addressed below and would reduce the number of partially mitigated impact locations and reduce delays at locations that would not be fully mitigated.

It should also be noted that the determination of significant adverse traffic impacts, traffic improvements needed to mitigate those impacts, and the ability of those improvements to mitigate in full, have been determined for 54,000-person sellout games. Games with a significantly lower level of attendance would have a lesser level of impact, a lesser level of mitigation needs, and a lesser likelihood of having unmitigated impacts.

Major Deegan Expressway

Significant traffic impacts were identified for the following sections of the Major Deegan Expressway:

- During the weeknight pre-game arrival peak hour, northbound Major Deegan Expressway mainline south of the 138th Street on-ramp merge and between this on-ramp and the 149th Street off-ramp; and between the 157th Street exit that leads to the existing stadium and the Service Road on-ramp merge north. Southbound Major Deegan Expressway mainline north of Exit 6 (Bronx Terminal Market off-ramp diverge) and between Exit 6 and Exit 5 (Macombs Dam Bridge/East 161st Street), both of which would experience very substantial travel speed reductions.
- During the weekend pre-game arrival peak hour, northbound Major Deegan Expressway mainline between the 157th Street exit and the Service Road on-ramp merge north; and immediately north of the Service Road on-ramp, north of Jerome Avenue.
- During the weekend pre-game arrival peak hour, northbound Major Deegan Expressway mainline between the 149th Street off-ramp and the 157th Street off-ramp. Southbound Major Deegan Expressway mainline north of Exit 6 (Bronx Terminal Market off-ramp diverge) and between Exit 6 and Exit 5 (Macombs Dam Bridge/East 161st Street), both of

which would experience very substantial travel speed reductions, similar to the weeknight pre-game arrival peak hour.

- During the weekend post-game departure peak hour, northbound Major Deegan Expressway mainline immediately north of the Service Road on-ramp, north of Jerome Avenue.

To partially or fully mitigate projected impacts northbound approaching the exits at East 149th Street and East 157th Street, it would be necessary to use VMS to advise through traffic to stay to the left and minimize last-minute weaving movements near exit ramps. Partial mitigation of the southbound mainline would require re-striping of the Exit 5 ramp approach to the intersection with the Macomb's Dam Bridge Approach road. It should be noted that even under existing conditions, sections of the Major Deegan Expressway operate under congested conditions during the pre-game and post-game peak hours. It is the shifting of traffic within the corridor—shifts from existing conditions rather than increased traffic volumes—that contributes to these impacts and the need for mitigation.

Comprehensive Game-Day Traffic Management Plan

To mitigate conditions where standard traffic capacity improvements applied at individual intersections would not be sufficient, a comprehensive game-day traffic management plan would be developed and implemented. Such measures are deployed for the existing stadium, under the cooperative efforts of the New York City Department of Transportation (NYCDOT) and NYPD, seeking to optimize traffic conditions to the extent possible. Possible measures that could be considered as part of this plan were evaluated at an initial level in the DEIS, and were comprehensively evaluated between the DEIS and FEIS. They include:

- Close River Avenue, post-game only, from the north side of East 161st Street to East 162nd Street (just south of existing Parking Garage 3), and prohibit the southbound River Avenue through movement at 164th Street to keep the section of River Avenue alongside the proposed stadium free of vehicular traffic. Post-game traffic exiting from Parking Garage B and Parking Garage 3 onto River Avenue would need to proceed northbound on River Avenue. This measure would be similar to the closure of River Avenue between East 157th Street and East 161st Street that occurs today to allow for better pedestrian access to and from the stadium.
- Prohibit left turns from southbound Macomb's Dam Bridge Approach onto the eastbound East 161st Street service road, to eliminate frictions between left-turning vehicles and oncoming traffic.
- Prohibit right turns from the westbound East 161st Street service road onto northbound Macomb's Dam Bridge Approach/Jerome Avenue in order to eliminate conflicts between right-turning vehicular traffic and pedestrians crossing to and from the proposed stadium near the stadium's main home plate area entrance.
- Prohibit left turns from proposed Parking Garage B onto Jerome Avenue post-game. Exiting traffic would either have to make right turns onto northbound Jerome Avenue, or make left turns from the garage onto northbound River Avenue on the other side of the garage. Prohibiting left turns onto southbound Jerome Avenue would reduce traffic flows and delays at the intersection of Jerome Avenue and East 161st Street near the exit from proposed Parking Garage C, and would reduce traffic demands on the northbound Major Deegan, as well. Traffic choosing to turn right onto northbound Jerome Avenue from the garage could be directed to continue north on Jerome Avenue and on Edward Grant Highway in order to access the Major Deegan Expressway and the George Washington Bridge. Traffic choosing

to turn left onto northbound River Avenue from the garage could continue north and access the eastbound and westbound Cross Bronx Expressway—en route to the George Washington Bridge to the west and Queens, Long Island, Westchester and Connecticut to the east—in the vicinity of 176th Street.

- Utilize portable VMS on game-days to advise motorists of conditions at key highway locations, and to direct motorists to alternate routes to the stadium and to garages with available capacity. Portable VMS could be deployed at the following locations:
  - Along the northbound Major Deegan between Exits 3 and 4, directing stadium-bound traffic to use Exit 4 rather than Exit 5 when traffic conditions along Exit 5 and the Jerome Avenue corridor have excessive delays and congestion. Greater use of northbound Exit 4 would lead motorists to proposed Garage D. VMS signage can also direct northbound Major Deegan traffic to exit at "138th Street/Grand Concourse" and use the Grand Concourse to approach the stadium area.
  - Along the eastbound George Washington Bridge and Trans Manhattan Expressway, advising stadium-bound traffic of an alternate route to the stadium using the exit to Amsterdam Avenue/University Avenue. This would allow motorists heading to the stadium to use the Washington Bridge (different than the George Washington Bridge) that connects the Washington Heights area of Upper Manhattan with University Avenue in The Bronx, and then southbound Edward Grant Highway and Jerome Avenue to access proposed Parking Garage B.
  - Along the westbound Cross Bronx Expressway advising stadium-bound traffic of an alternate route to the stadium using the exit to Jerome Avenue. This would allow motorists heading to the stadium to use this exit to approach proposed Garage B via southbound Jerome Avenue/River Avenue.

The detailed analyses for a comprehensive game-day traffic management plan that utilizes both standard traffic capacity improvements and traffic diversion strategies indicate that these strategies would reduce the number of partially mitigated impact locations from two, three, four, and three in the weeknight pre-game peak hour, weekend pre-game peak hour, weeknight post-game peak hour, and weekend post-game peak hour, respectively, to two, one, three, and one locations with the degree of impact and vehicle delays significantly reduced at those locations that would still remain partially mitigated. These mitigation measures have been approved by NYCDOT, the New York State Department of Transportation (NYSDOT), and NYPD (see Appendix D, "Correspondence").

TRANSIT AND PEDESTRIANS

The proposed project is expected to result in similar overall transit use and pedestrian levels as currently exist in the surrounding area of the project site. However, localized significant adverse impacts on several subway and pedestrian elements are anticipated due to the change in terms of access patterns and the redistribution of pedestrian flow. In addition, the new crosswalk at Ruppert Plaza was anticipated to be insufficient to provide adequate capacity.

The following sections present a summary of potential measures that could mitigate the identified significant adverse impacts or further improve pedestrian flow. As with the assessment of vehicular traffic, the mitigation analysis for transit and pedestrians is intended to illustrate the level of improvements needed to eliminate projected impacts under the CEQR guidelines. City and State agencies are expected to then evaluate the magnitudes of improvements needed, and

make the appropriate determination on the implementation of physical or operational measures. Since the adverse conditions that are typical of peak game-day conditions are currently alleviated with various game-day management strategies, it is likely that decision-makers would continue to make use of similar efforts in combination with some of the measures identified in this EIS to facilitate reasonable operations at the 161st Street-Yankee Stadium Station and at key crossing locations along East 161st Street between Ruppert Plaza and River Avenue.

Subway Station Elements

While the total demand could be met by the combined capacity of all stairways serving Yankees patrons at the 161st Street-Yankee Stadium Station, the shift in pedestrian flow would result in improved conditions at some stairways and deteriorations at others. Because of the magnitude of the total pedestrian demand at the station, reasonable stairway widenings could not be achieved to avoid significant adverse impacts. However, dispersion of subway riders to less congested stairways would be achieved with the TEA management of pedestrian movements at the subway station to mitigate the projected impacts. The City and New York Yankees would coordinate with the Metropolitan Transportation Authority (MTA) to ensure the effectiveness of the described measures, and, if necessary, based on actual operations, would provide such additional practicable measures as may be warranted.

Pedestrian Elements

Mitigation of significant crosswalk impacts would typically involve the temporary (on game days with coning or TEA controls) or permanent widening of painted areas to allow pedestrians additional crossing space. At the River Avenue and East 161st Street intersection, minor widening would be needed for the intersection's east crosswalk at the westbound service road and south crosswalk at the eastbound service road. The mitigation of the north crosswalk impacts would contemplate a temporary set-back of the southbound vehicular traffic via coning and TEA control. This mitigation, however, would not be required during post-game peak periods because the portion of River Avenue north of East 161st Street would be closed to vehicular traffic under the game-day traffic management plan. At the Ruppert Plaza intersections with East 161st Street, projected significant adverse pedestrian impacts would be mitigated with set-back stop bars on the East 161st Street approaches or with game-day TEA override of the traffic signal. The above mitigation measures and game-day management of pedestrian flow were developed in consultation with and have received approval from the NYCDOT and MTA, such that with the implementation of these measures, the proposed project would not result in unmitigated significant adverse transit and pedestrian impacts.

AIR QUALITY

The air quality analysis showed that for the 2009 Build year, impacts on carbon monoxide (CO) would be well below ambient air quality standards and the City's *de minimis* criteria. The proposed weeknight and weekend post-game traffic mitigation measures, which include new roadway configurations, physical restrictions, and signal timing adjustments, were evaluated to determine the potential effects on air quality in the study area.

The analysis was performed for the three analyzed intersections where mitigation measures were proposed. The CO values shown are the highest predicted concentrations for these intersections (East 157th Street and River Avenue, East 161st Street and Jerome Avenue, and Macombs Dam Bridge and the Major Deegan southbound off-ramp) for the time periods analyzed. However, the maximum predicted 8-hour CO concentrations for the analyzed sites with the proposed traffic

mitigation measures would be below the NAAQS and would not result in any significant adverse air quality impacts. The proposed traffic mitigation measures would also not affect the stationary or industrial source analyses discussed above which determined that there would be no significant air quality impacts resulting from the proposed project.

The proposed project would include emergency generators, which would be fueled by diesel fuel. The primary pollutants of concern associated with diesel-fuel-fired emergency generators are particulate matter (PM) and sulfur dioxide (SO_2). The results of the analysis determined that maximum impacts from emergency generators, when added to background concentrations, are substantially below ambient air quality standards. The air quality modeling analysis also determined that the maximum 24-hour and annual average $PM_{2.5}$ incremental impacts would be less than the applicable NYCDEP interim guidance criteria.

NOISE

As discussed in the "Noise" section, noise levels within the new parks proposed at River Avenue and East 157th Street and within the new proposed Harlem River waterfront park located west of Exterior Street and the Major Deegan Expressway, would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels within these parks to below the 55 dBA $L_{10(1)}$ guideline noise level. Noise barriers and/or berms would not be practicable and, according to CEQR impact criteria would represent an unmitigated significant noise impact from the proposed project on users of these new parks. Noise levels in these new parks would, however, be comparable to noise levels in a number of existing parks in New York City, including Macomb's Dam Park.

ALTERNATIVES

The FEIS analysis examines reasonable and practicable options to avoid or reduce project-related, significant adverse impacts and still meet the proposed project's stated goals and objectives. These include: several alternative locations considered but discarded as infeasible or otherwise unsuitable for the new stadium; the No Action Alternative, in which the new stadium is not constructed as proposed; a stadium renovation alternative; a stadium rehabilitation alternative; and an alternative that adds a garage on the waterfront in an effort to reduce the proposed project's identified significant adverse impacts, including those related to traffic. In response to comments on the DEIS indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street, a construction schedule that would minimize the duration of time that recreational facilities would be unavailable, and concern about the visual effect of the elevated tennis concession atop Garage C, an alternative park plan has been developed and is analyzed in this chapter.

ALTERNATIVES CONSIDERED AND DISCARDED

Over the past decade, as part of the current planning process, and in response to comments made at the scoping meeting for the DEIS, other options for the stadium were considered, including three locations outside the neighborhood (including Van Cortlandt Park and Pelham Bay Park, both in The Bronx, and the Caemmerer Yard (rail yard) on Midtown Manhattan's West Side) and several suggested locations near the existing Yankee Stadium, but south of East 161st Street. Also considered were additional renovations to the existing stadium and the possibility of demolishing the existing stadium and rebuilding using the current site, expanded by the

inclusion of Ruppert Place and portions of Macomb's Dam Park adjacent to Ruppert Place. None of these alternatives proved feasible for a variety of reasons, as discussed below.

Locations Outside the Local Neighborhood

Van Cortlandt Park. The use of Van Cortlandt Park was not recommended because of inadequate highway access given the traffic expected and very poor transit access. Only a small percentage of fans could use public transportation to get to a stadium at this site. Large areas for parking would be required, so that, in the aggregate, a stadium at this location would displace substantially more landscaped parkland than the proposed project, including 12 acres of high-quality wetlands. Since conducting the analysis, the City has begun clearing the site for the construction of a water filtration plant and the site is no longer available. The City will replace the driving range and clubhouse on top of the completed facility, and thus it would be unavailable for stadium use.

Pelham Bay Park. This site is also poorly served by public transit, and it is expected that only 5 percent of visitors would arrive by mass transit. Substantial parking would also therefore be required at this location. The existing vehicular transportation network would not be sufficient to accommodate the demand from a stadium use. Additional ramp connections to the Hutchinson River Parkway and the New England Thruway, new interchanges, and peripheral roads would be needed to access the site. As with Van Cortlandt Park, the much larger area required for the stadium and its parking (compared to the proposed project) would result in greater displacement of recreational facilities and would involve the loss of 12 acres of wetlands.

West Side Rail Yard. This site was considered in the late 1990s, and was determined to be a feasible alternative, but was not pursued because of a lack of funding at the time. Subsequently, and during the proposed project's planning process, the site was committed by the City and State for the development of a new multi-use facility, including a stadium to be used by the New York Jets football team and the 2012 Olympics. While these two projects are no longer under consideration, the City and State will likely continue to pursue development of the site that would not contemplate a new Yankee Stadium. Furthermore, the use of this site would not be consistent with the project objective of remaining in a location near the Yankees' traditional home in The Bronx.

Other Sites Near the Existing Yankee Stadium

The project sponsors also considered other sites near Yankee Stadium, particularly locations to the south of the stadium. Three areas were identified and assessed, as discussed below. These included the portion of Macomb's Dam Park adjacent to Ruppert Place (Site I), the site of existing Garage 8 and its surroundings, south of East 157th Street (Site II), and the Harlem River waterfront (Site III). Other locations south of Yankee Stadium, primarily in the Bronx Terminal Market area, are slated for other development and therefore would not be available as alternative stadium sites. All three sites were found to be too small (as described in "Purpose and Need," most of the recently constructed stadiums in the U.S. have an average footprint of 15.5 acres) to accommodate a new stadium, and two of them would require a reduction in the number of parking spaces available to Yankees fans. The waterfront site would also be too distant from parking and transit.

Renovation

Renovation of the existing stadium in its current location was determined to be infeasible because it would not achieve the project's goals and objectives. The renovation alternative would involve limited, primarily cosmetic changes and would not change the basic size, shape, or layout of the stadium. One of the project's major goals is to expand the stadium—i.e., to significantly change its size. There is insufficient space within the existing stadium to accommodate the extensive needs and requirements for transforming it into a modern-day stadium. As detailed in "Project Purpose and Need," all aspects of the current stadium are inadequate to support baseball and stadium operations, and to meet the needs of fans, players, Yankees management and the media. Many back-of-the-house functional areas are seriously out-of-date or simply do not exist and would have to be added. With intense competing demands for the very limited space in the stadium, it would not be possible to expand space for the players, which is currently badly constrained. Adequate practice space and batting cages are lacking, and there is only one weight room, which must be shared by both the Yankees and visiting teams. For the stadium to function properly and provide a comfortable experience for fans, players, and the press, a nearly 100 percent increase in public concourse and fan amenity areas would be required. This cannot be accomplished as a renovation, or with a few incremental changes. In fact, major demolition and reconstruction would be required for any meaningful expansion, because of the stadium's poured-in-place concrete structure. Moreover, although new seats could theoretically be provided as part of a renovation, the decks could not be reconstructed to orient the seats to the field properly, and with more than 41 percent now in the steeply raked upper deck, it would be impossible, as part of a renovation, to alter the location of this seating to provide better views and comfort. In addition to expanding and modernizing the stadium, another critical goal for the project is to provide adequate parking to meet the stadium's existing demand. Therefore, this alternative would involve creation of new parking garages. Similar to those proposed for the project, these garages would have to be built on other parkland or be built along the waterfront, which, as discussed in "Waterfront Garage Alternative," below, would be infeasible given the required height of the structure, and, further would conflict with public waterfront policies and would result in unmitigatable impacts that would not occur with the proposed project.

Reconstruction

Reconstruction of the stadium on the existing site was also considered. As noted above, the existing stadium has insufficient space to accommodate modern-day baseball and stadium operations, and the stadium site itself is not large enough to allow the needed expansion at the site. To modernize the stadium and provide adequate area for pedestrian concourses, back-of-the-house operations, and improved facilities for fans, players, Yankees management and the media, the footprint would need to be expanded by 3.9 acres, to a total of 13.3 acres. As indicated, the most recently constructed stadiums have an average stadium site footprint of 15.5 acres.) To expand the stadium structure while retaining the field in its current location, in a way that would allow the construction of a full concourse around the playing field, a 65-foot-wide ring around the existing stadium would have to be created. However, the stadium site is not large enough to accommodate this ring, because of the presence of East 161st Street, River Avenue (and the No. 4 elevated subway), and East 157th Street. Even without a full concourse encircling the playing field, an expansion of the stadium's seating areas would extend into Macomb's Dam Park and East 157th Street, and potentially into East 161st Street.

Thus, any "reconstruction" of the stadium on its current site would require shifting the playing field away from River Avenue so that the expanded stadium would not be constrained by the presence of that street and the elevated subway. Such reconstruction would therefore require complete demolition of the existing stadium and construction of a totally new stadium on a bigger site that would extend westward from the existing site across Ruppert Place and the portion of Macomb's Dam Park adjacent to Ruppert Place. This alternative was found unacceptable and infeasible, as follows.

- A stadium on the south side of East 161st Street between River and Jerome Avenues might be large enough to meet stadium criteria, but the result would be sharply inferior to the proposed project and would not meet several key project objectives. Construction on this site would displace the recreational facilities in the portion of Macomb's Dam Park west of Ruppert Place, but would not provide the opportunity for new parkland and replacement recreational facilities at the site of the existing stadium. In light of community concerns with replacing public ballfields along the Harlem River waterfront—the only site that might be available as replacement parkland under the alternative—this would result in a significant adverse impact on parkland that would not occur with the proposed project. Moreover, Garage A could not be built in the location proposed for the project. Therefore, this alternative would either fail to provide adequate off-street parking, which is one of the stated goals of the project; require that Garage A be built on other parkland; or necessitate that Garage A be built along the waterfront, which, as discussed below in "Waterfront Garage Alternative," would be infeasible, given the required height of the structure, and, further, would conflict with public waterfront policies and result in unmitigatable impacts that would not occur with the proposed project.
- The reconstruction alternative is also infeasible because demolition and reconstruction of the stadium in an area containing today's Yankee Stadium site would require the relocation of the Yankees to another venue for approximately four years. Of the various sports venues in the City, only Shea Stadium could accommodate a major-league baseball team. Thirty years ago, when the Yankee Stadium was undergoing major reconstruction, the Yankees played for three seasons at Shea Stadium. This is not possible today. The Mets are poised to build a new Shea Stadium next to the existing facility, which is widely acknowledged to be out of date. Having the Yankees play along with the Mets during construction of the new stadium would greatly exacerbate the parking impacts of the Shea Stadium project during its construction. Instead of games on 81 days, there would be games on 162 days during the approximately six-month baseball season. The current plans for parking during Shea construction include use of grassy areas and parking lots in the park, use of land beneath the Van Wyck Expressway, and the parking area for the former Ederle Theater; all of these areas are distant enough from the stadium to require shuttle buses. The likelihood of games at Shea Stadium conflicting with the U.S. Open at the Tennis Center in Flushing Meadows-Corona Park would be substantially increased. Use of the park fields for parking would displace recreational uses in those areas. Given the addition of the Yankees' schedule to that of the Mets and the U.S. Open, these areas would be effectively lost to park users during the warm weather seasons for as much as four years or more. In addition, the relocation would be particularly disruptive to the Yankees, and could be achieved only at a great cost—not only the cost of relocation, but also the costs related to loss of revenue from team sponsors who could not be accommodated at Shea. These cost penalties would likely be reflected in a substantial increase in public sector contributions to the project. For all of these reasons, any option requiring relocation of the team is completely unacceptable to the Yankees.

NO ACTION ALTERNATIVE

With the No Action Alternative, a new stadium would not be constructed within portions of Macomb's Dam and John Mullaly Parks, and the existing stadium would remain in its current location. Regular maintenance of the existing stadium would occur, but there would be no investment to expand or upgrade the facility. Furthermore, the City would not build new parking structures, and parking Lots 12 and 13D would be removed with the construction of Gateway Center at Bronx Terminal Market, resulting in a loss of parking as compared to today. Existing parkland would not be displaced, but most new and renovated parkland would not be provided.

Alternative Compared with the Proposed Project

Land Use, Zoning, and Public Policy. The No Action Alternative would not result in an increase in parking facilities or parklands in the vicinity of Yankee Stadium. Similar to the proposed project, the No Action Alternative would not result in significant adverse impacts on land use, zoning, or public policy.

Socioeconomic Conditions. Similar to the proposed project, the No Action Alternative would not result in direct or indirect displacement of residents and businesses. With the No Action Alternative, New York City would continue to collect rent on the existing stadium, but would spend money for stadium upkeep, leading to a direct deficit of $77 million over a 30 year period under the No Action Alternative. With the proposed project, the City would not collect rent on the new stadium, but it would also not expend funds for stadium upkeep. The new stadium would generate approximately $58 million more annually in direct expenditures than the existing stadium. In addition, annual operation of the new parking garages would result in an estimated 33 jobs, $0.5 million in tax revenues, and a total of $5.4 million in economic output within New York City. Construction of a new stadium, new garages, and new parks as planned with the proposed project would produce 15,484 new construction jobs, $2.05 billion in direct and indirect construction expenditures, and $73.3 million in new tax revenues. Compared with the existing stadium, the proposed project would result in 1,200 new jobs, $14.3 million in new tax revenues, and a total of nearly $116 million in new spending. Neither the proposed project nor the No Action Alternative would result in significant adverse impacts on socioeconomic conditions. However, the No Action Alternative would not produce the fiscal benefits that would be realized with a new stadium.

Open Space. The No Action Alternative would not displace parkland, nor would it create a 4.63-acre net increase in parklands. Therefore, although the No Action Alternative would not result in significant adverse impacts on open space, it would not provide new and enhanced recreational facilities and would, therefore, not provide open space benefits that would be realized with the proposed project.

Shadows. Because the No Action Alternative would not result in new parking structures, it would not increase shadows on parklands as compared to today, but the existing stadium would continue to cast shadows on surrounding parks. However, similar to the proposed project, the No Action Alternative would not result in significant adverse impacts from stadium shadows.

Historic Resources. The No Action Alternative would not have significant adverse impacts on Buildings G, H, and J of the Bronx Terminal Market as with the proposed project. In the No Action Alternative, these buildings would remain. Since the No Action Alternative would not result in construction of Parking Garages A and C, it would not obstruct some views of the Macomb's Dam Bridge Approach that would be obscured with the proposed project.

Urban Design and Visual Resources. Neither the No Action Alternative nor the proposed project would result in significant adverse impacts on urban design or visual resources.

Since the No Action Alternative would not result in the construction of Parking Garages A and C, it would not result in the contextual impacts on the Macomb's Dam Bridge Approach that would occur with the proposed project. However, since the No Action Alternative would not provide new public open space along the Harlem River, it would not provide for the new visual resources that would be realized with the proposed project.

Neighborhood Character. Although the No Action Alternative would not result in significant adverse impacts on neighborhood character on game days as compared to today, it would not provide for the same benefits to the overall neighborhood character that would be realized with the proposed project.

Natural Resources. With the No Action Alternative, parking facilities along the waterfront would not be replaced with parkland. The No Action Alternative would not result in the removal of mature street trees or the alteration of existing parkland, both of which may serve as terrestrial habitats. However, the No Action Alternative would not result in an increase in parkland, which would increase natural habitats.

Waterfront Revitalization Program. The No Action Alternative would not provide new public waterfront access or recreational opportunities and, therefore, would not offer the same benefits to the coastal zone as the proposed project.

Infrastructure, Solid Waste and Sanitation, and Energy. Neither the No Action nor the proposed project would result in significant adverse impacts on the City's water supply, sanitary sewage systems or solid waste and sanitation services. Similarly, neither the No Action Alternative nor the proposed project would result in significant adverse energy impacts.

Traffic and Parking. Under the No Action Alternative, new parking concentrated near the stadium would not be provided, and traffic would remain more dispersed throughout the area. The current shortage of parking spaces would remain and, on game days, Yankees fans driving to the stadium would continue to circulate excessively through the area in search of hard-to-find parking spaces on-street. Illegal parking would continue to occur at several locations including, for example, along the service road of the northbound Major Deegan Expressway.

Overall traffic volumes in the area would be the same under the No Action Alternative and the proposed project since the proposed project would not be expected to generate new traffic. There would be some shifting of traffic patterns to routes and intersections closer to the new stadium's proposed parking garages under the proposed project, creating significant adverse traffic impacts Many of these impacts could be mitigated by a range of measures. Under the No Action Alternative, adverse traffic levels of service in the area would remain even with traffic operations measures in place on game days. Significant adverse traffic impacts generated by the proposed project however, resulting from the shifting of traffic patterns, would not occur.

With the No Action Alternative, the Major Deegan Expressway would continue to operate at unacceptable levels of service E and F during all four traffic analysis periods throughout the corridor adjacent to the existing stadium. With the proposed project, nearly all levels of service would remain the same as with the No Action Alternative, but there would be significant impacts at a number of locations where traffic densities (i.e., the volume of traffic per mile per lane) would be expected to increase beyond CEQR thresholds.

Transit and Pedestrians. For the weekday and Saturday pre-game period, the No Action Alternative would produce a lower level of congestion on stairways A, C, D, E, P12, and P16 at the 161st Street-Yankee Stadium station than the proposed project; however, stairways F1, F2, and G1 would have a poorer level of service (LOS) compared to the proposed project. In the post-game periods, under the No Action Alternative operation of stairways A, C, D, E, P11, and P15 would be substantially less constrained, compared to the proposed project, but the operation of F1, F2, G1, H1, H2, P1, P3, P7, and P8 would be much worse. This variance in the operation of subway stairways results from the shifting of passengers between the north side and south side of East 161st Street, depending on the stadium's location.

With the No Action Alternative, pedestrian travel would be concentrated south of East 161st Street. With the proposed project, pedestrian activities would shift north of East 161st Street near subway entrances and west and north of the proposed stadium where new parking facilities would be located. As a result, the proposed project would result in substantially more pedestrians crossing East 161st Street; however, the proposed project would include a widening of the west crosswalk at the intersection with River Avenue and new crosswalks at Ruppert Plaza and Macomb's Dam Bridge Approach. Generally, the proposed project would result in substandard operation of the north and east crosswalks while the No Action Alternative would result in substandard operations on the east, west, and south crosswalks. At the River Avenue intersections with West 153rd and West 157th Streets, there would be a lower concentration of pedestrian traffic on game days with the proposed project. With the No Action Alternative, there would be substandard operating levels at the River Avenue/West 153rd Street west crosswalk and at the River Avenue/West 157th Street north crosswalk during both weekday and weekend post-game peak periods—two crossings that would otherwise operate at acceptable levels with the proposed project. With the No Action Alternative, there would be no significant adverse impacts at Ruppert Plaza, as are predicted for the proposed project. In addition, the No Action Alternative would not require substantial widening of the north crosswalk at River Avenue and East 161st Street or closing a portion of River Avenue north of the intersection, additional reconfiguration of the new crossings at Ruppert Plaza and Macomb's Dam Bridge Approach, or replacing the existing waterfront pedestrian bridge with one that connects to Garage 8 and spans over East 157th Street. At other crosswalk locations, game-day congestion and widening requirements would be similar for the No Action Alternative and the proposed project.

Air Quality. As described above, the No Action Alternative would disperse traffic and parking as compared to the proposed project; therefore, it is anticipated that emissions would be less concentrated in the vicinity of the project area. However, these emissions would be dispersed elsewhere throughout the neighborhood since patrons would use other access routes and remote parking facilities. Furthermore, the heating ventilation, and air conditioning (HVAC) system of the existing system would not be modernized with the No Action Alternative; therefore, associated emissions could be greater than with a new, modern HVAC system, which would be constructed with the proposed project. Overall, similar to the proposed project, the No Action Alternative would not result in significant adverse air quality impacts.

Noise. Similar to the proposed project, the No Action Alternative would not result in significant adverse impacts from increased noise levels at sensitive receptors. However, because the No Action Alternative would not result in increased vehicular traffic in the vicinity of Macomb's Dam Park and because the No Action Alternative would not locate a new stadium in closer proximity to residences, it would result in slightly improved noise levels at these locations as compared to the proposed project.

Construction. No construction would occur on the site and at all other locations in the No Action Alternative, and the significant adverse noise and traffic impacts associated with the construction of the proposed project would not occur.

Public Health. Neither the No Action Alternative nor the proposed project is expected to result in significant adverse impacts to public health.

WATERFRONT GARAGE ALTERNATIVE

The EIS impact analyses have identified significant traffic and pedestrian impacts associated with the concentration of parking spaces in proposed Parking Garages A and C. Therefore, this chapter considers an alternative that would reduce the capacity of proposed Parking Garages A and C and attempt to transfer the parking spaces to another site, specifically Parking Lots 13A and 13B on the waterfront.

Similar to the proposed project, the Waterfront Garage Alternative would include a new stadium in Macomb's Dam Park on the north side of East 161st Street. Parking Garage B would also be constructed in John Mulally Park; however, Parking Garages A and C would be reduced in size and structured parking would be built on the waterfront in the location of Parking Lots 13A and 13B. Under the Waterfront Garage Alternative, it is estimated that 1,000 to 1,500 spaces would be removed from Parking Garages A and C as compared to the proposed project. Thus, the waterfront garage would need to accommodate the 852 spaces currently available in Parking Lots 13A and 13B as well as the spaces that would be removed from Parking Garages A and C for a total of 1,852 to 2,352 spaces. The long, narrow shape of the waterfront site, which is confined by the Major Deegan Expressway and its ramps, the Macombs Dam Bridge, and the Oak Point rail link (which runs above the river parallel to the shoreline), would constrain the footprint of the garage and would require at least a four-story garage at this location to fully accommodate the 1,852 to 2,352 spaces. It would also require that the garage be built over a small inter-pier area at the southern end of the site. This would cover approximately 0.36 acres of littoral tidal wetlands, which would likely require mitigation. Additional approvals in the form of individual permits from the U.S. Army Corps of Engineers and NYSDEC would be necessary.

To avoid covering 0.36 acres of wetland and bridging over the Major Deegan Expressway exit ramp, two separate garages would have to be developed—a garage each on Lots 13A and 13B—separated by the Major Deegan Expressway exit ramp to Exterior Street (from Exit 5). To accommodate over 1,800 spaces, a single garage on either lot would range up to 16 stories in height; this is not considered feasible from a functional design perspective and therefore not a feasible or practicable alternative.

The special regulations relating to the waterfront area (Section 62 of the New York City Zoning Resolution) would apply to the design of these two garages. Specifically, the waterfront zoning requires (Section 62-341(7)) that the ground floor of the garage contain area that is not garage space, such as retail or other uses. The waterfront zoning regulations (Section 62-322) also require that a 40-foot yard be maintained along the farthest inboard point of the bulkhead line—parking is prohibited in this yard area. Waterfront zoning requirements also include upland connections to adjoining streets every 600 feet and a 40-foot walkway along the shore (Section 62-40). In addition, there are height and setback requirements under the waterfront regulations. Any wall facing the shoreline above a height of 60 feet may not be more than 100 feet tall (Section 62-341(6)). An additional 30-foot setback is required along the length of the waterfront

yard above a height of 60 feet and 15-foot setbacks along any upland connections above the 60-foot height (Section 62-341(a)).

To accommodate more than 1,800 spaces in two garages and comply with the waterfront zoning requirements, a garage on Lot 13B would require at least eight levels and a garage on Lots 13A would require 11 levels. These heights would substantially exceed the height of the adjacent, elevated Major Deegan Expressway.

Like the proposed project, under the Waterfront Garage Alternative, recreational facilities would be constructed atop Parking Garages A and C and a new waterfront park would be constructed south of the existing Parking Lots 13A and 13B. Furthermore, a publicly accessible ballfield would be constructed on the site of the existing Yankee Stadium. Therefore, all of the effects associated with the new stadium, reuse of portions of the existing stadium and replacement of recreational facilities would be essentially the same as with the proposed project. The discussion below concentrates only on those elements that differ from the proposed project.

Alternative Compared with the Proposed Project

Land Use, Zoning, and Public Policy. The New York City Zoning Resolution contains special regulations to guide development along the City's waterfront in order to, among other reasons, maintain and re-establish physical and visual public access to and along the waterfront; promote a greater mix of uses in waterfront developments to attract the public and enliven the waterfront; create a desirable relationship between waterfront development and the water's edge, public access areas, and adjoining upland communities; preserve historic resources along the City's waterfront; and protect natural resources in environmentally sensitive areas along the shore.

The Waterfront Garage Alternative would not be consistent with several of the goals of the special waterfront regulations of the New York City Zoning Resolution. Parking structures at this location would not be considered a water dependent use. The Waterfront Garage Alternative would impede physical and visual public access to an approximately 1,700 linear feet portion of the Harlem River. The Waterfront Garage Alternative would block views of nearly all of the Macombs Dam Bridge camelback truss and obstruct views of the entire historic Macomb's Dam Bridge Approach from the south as well as half of the approach from the north. Development of one large garage would require covering approximately 0.36 acres of wetland and would also not be consistent with the waterfront zoning goals to be protective of natural resources. Therefore, unlike the proposed project, the Waterfront Garage Alternative would not be consistent with the New York City Zoning Resolution special waterfront regulations.

Open Space. Both the Waterfront Garage Alternative and the proposed project would result in benefits to parklands and recreational facilities. However, because the size of Parking Garage C would be reduced with the Waterfront Garage Alternative, it would be possible to locate its rooftop recreational facility at the level of the Macomb's Dam Bridge Approach, which would improve access to this facility as compared to the proposed project. This alternative would have the same impact on open space, due to its loss of recreational facilities during construction, as the proposed project.

Shadows. The construction of one or two new parking structures along the waterfront would create transient new shadows on the Harlem River and the Macombs Dam Bridge, which would not occur with the proposed project. However, since neither resource is considered a sun sensitive receptor, these new shadows would not constitute a significant adverse impact.

Historic Resources and Urban Design and Visual Resources. The construction of Parking Garages A and C and one or two waterfront parking structures under the Waterfront Garage Alternative would obstruct views of the entire historic Macomb's Dam Bridge Approach from the south as well as half of the approach from the north. It would block views of nearly all of the bridge's camelback truss. This would constitute a significant adverse impact on the historic resource that could not be fully mitigated. Such an impact was not identified for the proposed project, because although Parking Garages A and C would block views of half of the approach, the remaining half including the truss, would remain visible.

Neighborhood Character. As described above, the construction of a waterfront parking garage in combination with Parking Garages A and C would substantially obstruct views of the Macomb's Dam Bridge Approach and the bridge's camelback truss, which would result in a significant adverse impact, and would adversely affect views of the river from other locations, which would be detrimental to the visual quality of the Harlem River. These significant adverse impacts on visual resources would not occur with the proposed project, and would be unmitigated under the Waterfront Garage Alternative.

Natural Resources. Development of one parking garage for the Waterfront Garage Alternative would cover approximately 0.36 acres of a small inter-pier basin, which, like the basins along the waterfront to the south, is probably classified as a NYSDEC littoral zone tidal wetland. Even though it would not be considered to be a high-quality wetland and the garage would deck over it rather than fill it, the permanent cover would constitute an adverse impact requiring mitigation in the form of a replacement wetland of higher quality. This impact and mitigation requirement would not occur with the proposed project.

Waterfront Revitalization Program. Although, like the proposed project, the Waterfront Garage Alternative would improve public access to the waterfront, it would significantly adversely impact views of the Macombs Dam Bridge structure and camelback truss from this new waterfront park and would block views of the river from other locations, which is detrimental to the visual quality of the Harlem River. Furthermore, although the Waterfront Garage Alternative would not change the use of this waterfront parcel, the bulk of the structure that would be needed to house the requisite number of parking spaces would result in significant new construction on the Harlem River that is inconsistent with the City's current policy for development of this waterfront area. Specifically, the Waterfront Garage Alternative would be inconsistent with Policies 8 and 9 of the WRP—to provide public access along New York City's coastal waters and protect scenic resources that contribute to the visual quality of the New York City coastal area, respectively. Overall, both the proposed project and the Waterfront Garage Alternative would improve public access to the waterfront; however, the Waterfront Garage Alternative would diminish the historic and visual quality of the waterfront, would intensify a use on the waterfront that is neither water-dependent nor water-enhancing, and therefore would be inconsistent with the goals and objectives of the Waterfront Revitalization Program.

Traffic and Parking. The Waterfront Garage Alternative might have the potential to reduce significant traffic impacts at intersections along Jerome Avenue and the Macomb's Dam Bridge Approach that would be expected to occur under the proposed project. Under this alternative, up to 2,352 cars would reach their parking spaces via southbound Exit 6 off the Major Deegan Expressway to "Bronx Terminal Market," and would not circulate on the local street network. Return trips to the northbound expressway would be made via a U-turn onto the ramp from Exterior Street that leads to the expressway, near East 157th Street, also avoiding the local street network. Thus, a substantial portion of stadium traffic that would have used Jerome Avenue and

Macomb's Dam Bridge Approach with the proposed project would not pass through these critical locations. Although this shift in parking may not fully mitigate the impacts of the proposed project that were identified at these locations, it would decrease the anticipated vehicle delays, and would require, at most, a less stringent mitigation package than the proposed project.

Transit and Pedestrians. Under the Waterfront Garage Alternative, transit service and usage would be similar to conditions under the proposed project, but pedestrian routes to the proposed stadium would vary. More pedestrians would need to cross over to the east side of the Metro-North Railroad tracks via the enclosed pedestrian bridge, which currently accommodates patrons traveling via the Yankee Clipper Ferry or parking at Parking Lots 13A, 13B, 13C, and 13D. With a new parking garage constructed at existing Parking Lots 13A and 13B, an estimated 4,125 additional pedestrians during game-day peak hours could traverse this pedestrian bridge. This level of pedestrian volume increase could be accommodated by the proposed new pedestrian bridge, which would be made ADA compliant, connect with the second level of Garage 8, and span over East 157th Street onto Ruppert Plaza.

Under the Waterfront Garage Alternative, more pedestrians would need to travel the length of Ruppert Plaza and cross East 161st Street there than with the proposed project. It is expected that Ruppert Plaza would be designed to meet the increased demand. However, at the proposed at-grade East 161st Street crossing at Ruppert Plaza on peak game days, which is projected to be congested under the proposed project, would be further exacerbated. At the same time, conditions at the Macomb's Dam Bridge Approach, which were also identified as a critical vehicular and pedestrian location under the proposed project, would realize a lower level of activity, with resulting improvements in both vehicular and pedestrian traffic flows as compared to the proposed project.

Air Quality. Under Like the proposed project, the Waterfront Garage Alternative would not result in significant adverse air quality impacts.

Noise. Like the proposed project, traffic from the Waterfront Garage Alternative would not result in significant increases in noise levels at sensitive receptors. The impact of ambient noise levels on the proposed new parkland would be the same for this alternative and the proposed project.

Construction. The The Waterfront Garage Alternative would result in the loss of Parking Lots 13A and 13B during construction, which would temporarily reduce the supply of Yankee Stadium parking. Construction at this location may also require restricted access or lane closures on the Major Deegan Expressway and its ramps at 161st Street. Therefore, the Waterfront Garage Alternative may have greater construction period impacts on traffic circulation and parking than the proposed project. The potentially significant construction noise impacts identified with the proposed project would be the same with this alternative.

Conclusion

The Waterfront Garage Alternative would be inferior to the proposed project and was not selected for the following reasons:

- It would be inconsistent with the goals and objectives of the New York City Zoning Resolution Waterfront Regulations.
- It would result in significant adverse impacts on historic and visual resources that could not be mitigated.
- It would be inconsistent with the goals and objectives of the WRP.

- It would cover a littoral zone tidal wetland if one garage were constructed, constituting a significant adverse impact requiring mitigation, and requiring additional regulatory approvals.
- It would likely have greater traffic and parking impacts during construction than the proposed project.
- Although it would relieve traffic congestion on Jerome Avenue and the Macomb's Dam Bridge Approach and reduce impacts at the intersections of those two streets and East 161st Street, some mitigation would still likely be required. This benefit would not outweigh the additional unmitigated impacts and the unacceptable contravention of current City policy regarding development of this waterfront that would result from the Waterfront Garage Alternative.

ALTERNATIVE PARK PLAN

In response to comments on the DEIS indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street, a construction schedule that would minimize the duration of time that recreational facilities would be unavailable, and concern about the visual effect of the elevated tennis concession atop parking Garage C (in fall and winter months when a tennis bubble would be inflated), NYCDPR proposes a revised program for park development, the "Alternative Park Plan."

The Alternative Park Plan would develop three ballfields at the site of the existing Yankee Stadium and locate the tennis concession at the proposed waterfront park. The Alternative Park Plan would create a unified and contiguous 17.36-acre park area south of East 161st Street containing most of the neighborhood-oriented active recreational amenities proposed as part of the project. The Alternative Park Plan would also more closely replicate the use and function of the existing Macomb's Dam Park.

The Alternative Park Plan is reflected in a modified ULURP application for approval of a major concession (Application No. C060148(A) MCX). The Alternative Park Plan would only modify the replacement recreational facilities as proposed by the project—this alternative does not include any changes to the proposed stadium or parking facilities. Specifically, the Alternative Park Plan includes the following elements, which are shown on attached Figure S-13:

- Three natural turf ballfields—a baseball field, a softball field, and a little league field—would be located in the proposed parkland at the site of the existing stadium (see Figures S-14 and S-15). Under the proposed project, this park area would contain only one baseball field—Heritage Field.
- The existing Yankee Stadium would be completely demolished and the field would be raised with fill to bring the area to an elevation that more closely matches Ruppert Place. Under the proposed project, the playing field, dugouts, some of the field seats (no more than 3,000 seats), and locker rooms under the field seats of the existing stadium would be retained and adapted as a public baseball field. With the Alternative Park Plan, none of these features would remain. However, the Alternative Park Plan would include opportunities to "interpret" the former Yankee Stadium, such as retaining the foul poles of the existing stadium, preserving portions of the outfield (both the existing and 1923 stadium layouts), locating park entrances at the major stadium gate locations, and using informational markers to denote other elements of the former stadium (e.g., the location of home plate).

- Four basketball courts would be located in the park area west of Ruppert Place. Under the proposed project, this park area would contain two basketball courts and two tennis courts, with an additional 14 tennis courts atop proposed parking Garage C. The Alternative Park Plan would accommodate all 16 tennis courts at a tennis concession along the waterfront, making room for four basketball courts in the unified central park. The other recreational facilities proposed for this park area remain unchanged from the proposed project (a full-size soccer field, a 400-meter athletic track, a little league field, nine handball courts, and a tot-lot with climbing and play equipment).
- The tennis concession would be located at the new waterfront park. Under the proposed project, the waterfront park area would contain two artificial turf ballfields and the tennis courts would be located atop proposed Garage C. The Alternative Park Plan would include 16 tennis courts at the waterfront park, consistent with the existing number of courts, and all or a portion of the courts would be covered by a bubble during the winter months (approximately 26 weeks).
- The existing Bronx Terminal Market Building J would be preserved and adapted for park uses, including a tennis house, which would provide a comfort station, administrative space for the concession, and lockers and other amenities for the tennis players. Space not used for the concession in Building J would be utilized by NYCDPR for maintenance and operation purposes. Building J is a historic (S/NR-eligible) two-story former power house that is currently vacant. Under the proposed project, Building J would be demolished, a small comfort station would be constructed in the southern portion of the waterfront park, and surface parking would be constructed at the former location of Building J. By retaining Building J, the Alternative Park Plan would not include a separate comfort station in the southern portion of the waterfront park.
- Approximately 50 parking spaces would be available for tennis patrons during non-game times in Parking Lot 13A, which is located directly to the north of and adjacent to the proposed tennis concession. Under the proposed project, parking at this location was proposed to be available only for Yankees games.
- New passive park space and a pedestrian esplanade would surround the tennis courts along the waterfront. This is similar to the pedestrian esplanade and passive park space surrounding the ballfields proposed at the waterfront park under the proposed project.
- The height of proposed parking Garage C would be one level lower than under the proposed project since the tennis concession would no longer be located on its roof. As compared to the height of Garage C under the proposed project, this reduction would be approximately 11 feet in the summer, when the tennis courts on the roof would be open air, and approximately 50 feet in the fall through spring months when the tennis bubble would be inflated.
- By retaining and adapting Bronx Terminal Market Building J for park uses, as compared to demolishing the building and using the area for surface parking under the proposed project, the Alternative Park Plan would result in an increase of 0.4 acres of usable recreational facilities at the waterfront park. However, removing the tennis concession from the roof of Garage C would result in 2.89 fewer acres of replacement recreational facilities than the proposed project at this location so that, overall, the Alternative Park Plan would result in a net increase of 2.14 acres of recreational facilities, as compared to a net increase of 4.63 acres under the proposed project.

Alternative Compared with the Proposed Project

Land Use, Zoning and Public Policy. The Alternative Park Plan would develop the same amount of new parkland at the site of the existing Yankee Stadium and along the waterfront as the proposed project. Although the Alternative Park Plan would not result in new recreational facilities atop parking Garage C, this portion of Macomb's Dam Park is currently used as surface parking. Therefore, like the proposed project, the Alternative Park Plan is consistent with existing land uses in the project area and would not result in significant adverse impacts on adjacent land uses.

The Alternative Park Plan would result in the same areas to be mapped as new parkland, including the new parkland to be developed along the waterfront, and the leasing of existing mapped parkland, as the proposed project. The design and location of parking Garage D, and the requirements for special permits, would be the same for both the proposed project and the Alternative Park Plan. Under the Alternative Park Plan, the existing Yankee Stadium site would be designated as new parkland and developed with three public recreational ballfields—a public use permitted in the Yankee Stadium Urban Renewal Plan. The Alternative Park Plan would not affect any other portions of the project area located within the Amended Yankee Stadium Urban Renewal Plan. Therefore, the Alternative Park Plan, like the proposed project, is consistent with the First Amended Yankee Stadium Urban Renewal Plan.

The Alternative Park Plan would locate public tennis courts at the new waterfront park, which would be consistent with New York City Zoning Resolution special regulations to guide development along the City's waterfront, the New York City WRP, and the Bronx Borough President's new Bronx Waterfront Plan and Yankee Stadium Neighborhood Development Plan. Like the proposed project, the Alternative Park Plan would not result in any significant adverse zoning or public policy impacts.

Socioeconomic Conditions. The Alternative Park Plan, like the proposed project, would not directly displace any residential population nor any business or institutional uses. The Alternative Park Plan would relocate park and recreational facilities very close to their original location. Therefore, indirect residential displacement is not expected to occur as a result of the Alternative Park Plan. Like the proposed project, the Alternative Park Plan would not alter existing economic patterns in the study area and so would not cause indirect displacement of businesses and institutions. The Alternative Park Plan would not significantly affect business conditions or substantially reduce employment or impair the viability of any specific industry or category of business in The Bronx or the City as a whole. Like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts to the socioeconomic character of the project's study area.

Open Space and Recreation. The Alternative Park Plan would create a unified and contiguous 17.36-acre park area south of East 161st Street containing most of the neighborhood-oriented active recreational amenities proposed as part of the project. Like the proposed project, this new centrally located park would be larger than the total park area that would be displaced in the portions of Macomb's Dam and John Mullaly Parks located north of East 161st Street and contain new, modern facilities to replace older, and in some cases worn, facilities. By proposing three ballfields at the new park area south of East 161st Street, the Alternative Park Plan would also more closely replicate the use and function of the existing Macomb's Dam Park. The ballfields south of East 161st Street would continue to accommodate groups using multiple fields at a location simultaneously. The Alternative Park Plan would also result in a net increase of two basketball courts as compared to existing conditions.

The Alternative Park Plan would provide the same amount of new parkland as the proposed project, 15.82 acres, consisting of the current Yankee Stadium site and Ruppert Place, the waterfront park, and the new parks along River Avenue. By retaining and adapting Bronx Terminal Market Building J for park uses, as compared to demolishing the building and using the area for surface parking under the proposed project, the Alternative Park Plan would result in an increase of 0.4 acres of usable recreational facilities at the waterfront park. However, by removing the tennis concession from the roof of Garage C, the Alternative Park Plan would result in 2.89 fewer acres of active parkland use at this location. As with the proposed project, Garage C would be built on a portion of Macomb's Dam Park that is currently used for surface parking. Overall, the Alternative Park Plan would result in a net increase of 2.14 acres of open space and recreational facilities. The increased net acreage for the recreation facilities would benefit park users.

As discussed further below under the "Construction Impacts" section, the Alternative Park Plan would have a different overall construction schedule as compared to the proposed project. As a result of this construction schedule, the Alternative Park Plan would develop temporary recreational facilities to minimize to the maximum extent practicable, the duration of time that recreational facilities would be unavailable. Like the proposed project, prior to construction of the new stadium, a temporary running course would be created around the two ballfields in the portion of Macomb's Dam Park west of Ruppert Place. This running course would be available in the spring and summer of 2006. In the fall of 2006, the area for proposed parking Garage C (existing parking Lot No. 1) would be developed with a temporary running course (suitable for walking, jogging and recreational running, but not for competitive track meets). This area would also contain a synthetic turf multi-purpose interim field. The field would be striped to accommodate a softball field and children's soccer field(s) such that either could be accommodated on a given day, but not both at the same time. Like the proposed project, when construction displaces these temporary facilities, the esplanade surrounding the new Harlem River waterfront park would serve as a running course and would be available until the permanent track is available.

LWCF Section 6(f) Compliance

The Alternative Park Plan would result in different recreational programming at the replacement parcels associated with the requirements of Section 6(f) of the LWCF, as compared to the proposed project. The Alternative Park Plan would have the same proposed use for the Macomb's Dam Park conversion parcel as the proposed project (i.e., the new Yankee Stadium). As described in "Open Space and Recreation," the conversion parcel (Site 1 in Table S-4) currently contains a 400-meter running track with a soccer field inside the track and spectator stands at the edge of the track, a baseball field (90-foot infield), and a softball field (60-foot infield). Under the Alternative Park Plan, the waterfront replacement parcel (Site 4) would contain tennis facilities and a pedestrian promenade as compared to ballfields under the proposed project. The Alternative Park Plan would replace all the ballfields currently located on the Section 6(f) conversion parcel at the replacement parcel located south of East 161st Street and east of Ruppert Plaza (Site 2), although one 90-foot infield ballfield would be replaced by a 60-foot infield ballfied (see Table S-4) Like the proposed project, the design of Ruppert Plaza (Site 3) would include significant landscaping, including shaded areas and passive park amenities, such as benches, resting areas, and pedestrian walkways.

Table S-4
Alternative Park Plan Section 6(f) Parcels: Recreational Facilities

Site #	Type of 6(f) Parcel	Recreational Facilities
1	Conversion	400-meter Track with Soccer Field and Spectator Stands Softball Field (60-foot infield) Baseball Field (90-foot infield)
2	Replacement	Baseball Field (60-foot infield) Little League Baseball Field (90-foot infield) Softball Field (60-foot infield)
3	Replacement	Passive Park-Ruppert Plaza
4	Replacement	Tennis Facilities (16 courts)

Source: NYCDPR.

All of the replacement facilities would be located within ½-mile of the converted facilities under the Alternative Park Plan. Three ballfields would be located across the street, approximately 600 feet, from the existing ballfields. Tennis facilities, not currently located on the conversion parcel, would be located at the replacement parcel along the Harlem River waterfront. Section 6(f) requires that the proposed replacement facilities are of reasonably equivalent usefulness and location as the converted property. As described above, the replacement facilities under the Alternative Park Plan—three ballfields, tennis courts, and a pedestrian promenade—would provide equal recreational usefulness to the public.

Like the proposed project, subway access to the replacement parcels under the Alternative Park Plan would generally be equivalent to that of the conversion parcel. As the replacement parcels that would contain ballfields for the Alternative Park Plan are located across the street from the conversion parcel, they would use the same subway access at River Avenue and East 161st Street.

As described below under Construction Impacts, although all of the replacement parcels would be mapped as parkland at the outset of the project, the recreational facilities and improvements proposed by the Alternative Park Plan would be implemented over the course of the construction period, ending in 2010. By 2007, the Harlem River waterfront replacement parcel would be completed and the recreational facilities available to the public. However, during the 2009 to 2010 construction period, replacement facilities would not be available at the existing Yankee Stadium replacement parcel because the existing stadium cannot be converted as replacement ballfields under the Alternative Park Plan until the proposed stadium is completed and operational and the existing stadium can be demolished. However, as described above there would be a temporary softball field available during part of the construction period. This gap in the availability of the replacement facilities under the Alternative Park Plan would be temporary and the replacement facilities would ultimately provide reasonably equivalent recreational usefulness to the public. NYCDPR would also work with displaced baseball and softball user groups to find playing time at nearby recreational fields as close as possible to Macomb's Dam Park.

An appraisal of the fair market value of both the portion of Macomb's Dam Park that would be utilized, as well as that of the properties proposed for substitution under the Alternative Park Plan has been conducted as part of the formal conversion proposal to satisfy the Section 6(f) requirements. The remaining evaluations required under Section 6(f), as described in "Open

Space and Recreation," including alternatives and consistency with the Statewide Comprehensive Outdoor Recreation Plan, would be the same for the proposed project and Alternative Park Plan. Like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts to open space. The Alternative Park Plan would comply with the requirements of Section 6(f) of the LWCF and the New York State legislation authorizing the alienation of certain areas of currently mapped parkland.

Shadows. As proposed by the Alternative Park Plan, parking Garage C would have a lower overall height as compared to the proposed project. The existing Yankee Stadium would also be completely demolished under the Alternative Park Plan. Therefore, the incremental shadows on portions of Macomb's Dam Park would be smaller as a result of the Alternative Park Plan as compared to the proposed project. Like the proposed project, the Alternative Park Plan would not result in any significant adverse shadow impacts on open space.

Historic Resources. The Alternative Park Plan would result in the complete demolition of Yankee Stadium. Under the proposed project, the existing Yankee Stadium would retain certain features of the ballpark. Although Yankee Stadium has been located on its present site for more than 80 years the New York State Office of Parks, Recreation and Historic Preservation found that it has been so altered by its major renovation in 1973, that it is not eligible for listing on the State and National Registers of Historic Places, and the New York City Landmarks Preservation Commission has concurred in this conclusion. Therefore, like the proposed project, demolition of the existing Yankee Stadium under the Alternative Park Plan would not result in any significant adverse impacts to historic resources.

The Alternative Park Plan would retain and preserve Bronx Terminal Market Building J for park uses including a comfort station, administrative space for the concession, and lockers and other amenities for the tennis players. Building J is a historic (S/NR-eligible) two-story former power house that is currently vacant. Under the proposed project, Building J would be demolished, along with Bronx Terminal Market Buildings G and H (S/NR-eligible). The Alternative Park Plan would also include the demolition of Bronx Terminal Market Buildings G and H. The Alternative Park Plan, like the proposed project, would result in significant adverse impacts to historic resources due to the demolition of Bronx Terminal Market Buildings G and H, but it would preserve Building J, a benefit compared to the proposed project. An alternatives analysis, prepared and submitted to SHPO to evaluate the potential for retaining and revising Building G and H, concluded that there was no viable use for these structures under the Alternative Park Plan, since returning Bronx Terminal Building J obviated the need for any other park structures. In a letter dated February 8, 2006, (see Appendix D) SHPO concurred that there was no prudent or feasible alternative to the demolition of these structures.

The mitigation measures described in "Mitigation," for demolition of Bronx Terminal Market Buildings G and H would apply to both the proposed project and the Alternative Park Plan. However, mitigation associated with the demolition of Bronx Terminal Market Building J for the proposed project would not apply to the Alternative Park Plan. Instead, NYCDPR would consult with SHPO as the design for the rehabilitation and adaptive reuse of Bronx Terminal Market J is advanced. The mitigation measures developed with SHPO would be recorded in an MOA to be entered into among NYCDPR, the National Park Service, and SHPO, and implemented to partially mitigate the effects of the Alternative Park Plan on historic resources. The MOA would also set forth the process by which NYCDPR would consult with SHPO regarding designs for the reuse of Bronx Terminal Market J and the proposed alterations to the Macomb's Dam Bridge Approach. The Draft MOA, the terms of which have been developed in

consultation with SHPO and NPS, and which is anticipated to be entered into among the parties, is included in Appendix G.

Urban Design and Visual Resources. The Alternative Park Plan would modify the locations of the recreational facilities to be developed in the project area as compared to the proposed project. These include changing the location of the tennis courts from the roof of Garage C under the proposed project to the waterfront under the Alternative Park Plan, and changing the location of two ballfields from the waterfront under the proposed project to the existing Yankee Stadium site under the Alternative Park Plan. Since the Alternative Park Plan would create a waterfront park and provide a continuous open area of parkland south of East 161st Street, like the proposed project, this alternative would not have a significant adverse impact on the urban design of the study area.

The Alternative Park Plan would create new visual resources in the study area of a character comparable to those currently located in the area. The tennis facilities and waterfront park proposed by the Alternative Park Plan would create an active recreation space surrounded by attractive landscaping, like the proposed project, in an area that currently has no such amenities. Like the proposed project, the Alternative Park Plan would require removal of mature trees within and adjacent to the existing Macomb's Dam and John Mullaly Parks. However, since the Alternative Park Plan would completely demolish the existing Yankee Stadium structure, more trees could be planted at this proposed park area.

Like the proposed project, Parking Garages A and C under the Alternative Park Plan would reduce the visibility of the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street. Therefore, like the proposed project, the Alternative Park Plan would result in adverse—but not significant—impacts on visual resources. The most prominent and distinguished portion of the bridge—namely, its two differently configured truss structures that are west of the project area—would remain unaffected by both the Alternative Park Plan and the proposed project. It is expected that the winter tennis bubble to be erected on the waterfront, an approximately 40-foot-tall temporary structure, would not be prominently visible from the upland due to the intervening elevated Major Deegan Expressway above Exterior Street. Therefore, like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts on visual resources.

Neighborhood Character. The Alternative Park Plan would not change the type of land uses or design and scale of development located in the study area. As described above, the Alternative Park Plan was developed in response to comments on the DEIS indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street and concern about the visual effect of the elevated tennis concession atop parking Garage C (in fall and winter months when a tennis bubble is inflated). Overall, the Alternative Park Plan would create a positive effect on the character of the area by creating a unified 17.36-acre park area south of East 161st Street, containing new, modern facilities to replace older, and in some cases worn, facilities. By moving two ballfields from the waterfront park to the new park area south of East 161st Street, the Alternative Park Plan would also more closely replicate the use and function of the existing Macomb's Dam Park.

The Alternative Park Plan would not change the areas to be mapped as new parkland nor the roadways to be demapped in the project area under the proposed project. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Therefore, the Alternative Park Plan would have the same peak traffic and parking,

pedestrian, and noise conditions and as the proposed project. Like the proposed project, the Alternative Park Plan would not result in significant adverse impacts on neighborhood character.

Natural Resources. The Alternative Park Plan would, like the proposed project displace the limited wildlife habitat contained in Macomb's Dam and John Mullaly Parks. Both the Alternative Park Plan and the proposed project would require the removal of mature trees within the existing Macomb's Dam and John Mullaly Parks. However, since the Alternative Park Plan would completely demolish the existing Yankee Stadium structure, more trees could be planted at this proposed park area. Therefore, like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts to terrestrial resources.

Like the proposed project, the waterfront park area proposed by the Alternative Park Plan would not result in significant adverse impacts on the floodplain, wetlands, water quality or aquatic biota of the Harlem River. The waterfront park area proposed by the Alternative Park Plan would include the same improvements to the existing shoreline stabilization as the proposed project, which would enhance the waterfront for park users and aquatic habitat where possible. The natural turf ballfields at the site of the existing stadium proposed by the Alternative Park Plan would result in a decrease of stormwater runoff as compared to Heritage Field under the proposed project. The tennis courts at the waterfront park area proposed by the Alternative Park Plan would result in approximately the same amount of stormwater as compared to the artificial turf ballfields under the proposed project, both of which include more pervious surface and therefore result in less stormwater runoff than under existing conditions. Therefore, the Alternative Park Plan would result in a decrease of stormwater discharges during rainfall events as compared to the proposed project, and have a beneficial effect to the floodplain. Like the proposed project, potential adverse effects on water quality resulting from the discharge of stormwater during construction of the Alternative Park Plan would be minimized through implementations of a SWPPP, which would include stormwater detention facilities. Therefore, like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts on Harlem River water quality.

Hazardous Materials. As described in "Hazardous Materials," there are two 15,000-gallon underground storage tanks (USTs) at the existing stadium. There is an open NYSDEC Spill number (98-13424) associated with these tanks. At the time the DEIS was completed, it had not been determined whether those tanks would remain at the proposed Heritage Field. These tanks would need to be removed under the Alternative Park Plan, and removal would be conducted according to the requirements of the NYSDEC Spills program to obtain closure of Spill No. 98-13424, including preparation and approval of a HASP, and/or RAP, as appropriate. In accordance with these requirements, removal of the tanks under the Alternative Park Plan would not result in any significant adverse impacts with respect to hazardous materials.

Like the proposed project, all activities involving disturbance of existing soils associated with the Alternative Park Plan would be conducted in accordance with a NYCDEP-approved RAP, including a HASP, to protect site workers and the surrounding community from exposure to hazardous materials during construction in areas where soil excavation and/or remediation would occur. Like the proposed project, with the implementation of all State- and City-approved HASPs and RAPs, the Alternative Park Plan would not result in any significant adverse impacts with respect to hazardous materials.

Waterfront Revitalization Program. The only component of the Alternative Park Plan that is within the coastal zone is the proposed tennis facility at the new waterfront park and retention of Bronx Terminal Market Building J. Like the proposed project, the Alternative Park Plan would

create new open space and public recreational facilities along the Harlem River, establish physical and visual public access to the Harlem River waterfront, and result in waterfront uses that attract the public and enliven the waterfront as well as benefit the surrounding community. Like the proposed project, the tennis facility proposed by the Alternative Park Plan would be consistent with the City's 10 WRP coastal policies, and the WRP's guiding principle of maximizing benefits derived from economic development, environmental preservation, and public use of the waterfront while minimizing conflicts among these objectives. The preservation of Building J under the Alternative Park Plan, which would be demolished under the proposed project, would also be considered a benefit under the WRP. In addition, like the proposed project, the tennis facilities proposed by the Alternative Park Plan would be consistent with the Bronx Waterfront Plan issued by the Bronx Borough President, Adolfo Carrion, Jr., and its objectives to improve existing parkland, develop pedestrian connections to the Harlem River waterfront, and redevelop the Bronx Terminal Market to include a waterfront open space. Like the proposed project, the Alternative Park Plan would be consistent with the City's WRP.

Infrastructure. The Alternative Park Plan, like the proposed project, would require the relocation of several large water and sewer mains which are not expected to cause an interruption to water supply and sewage disposal in the area. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. The Alternative Park Plan would have the same total amount and types of recreational facilities as the proposed project. However, Heritage Field, which would retain 3,000 field seats of the existing Yankee Stadium under the proposed project, would be eliminated under the Alternative Park Plan. Therefore, the Alternative Park Plan would have slightly smaller peak water and sewage demands as compared to the proposed project and would not result in any significant adverse impacts to the existing water supply and sewage treatment.

The natural turf ballfields at the site of the existing stadium proposed by the Alternative Park Plan would result in a decrease of stormwater runoff as compared to Heritage Field under the proposed project. The tennis courts at the waterfront park area proposed by the Alternative Park Plan would result in approximately the same amount of stormwater as compared to the artificial turf ballfields under the proposed project, both of which include more pervious surface than under existing conditions and therefore result in less stormwater runoff than the future without the proposed project. Like the proposed project, the Alternative Park Plan would install detention facilities as necessary to reduce the rate of discharge into the City sewer system and meet the flow requirements of the NYCDEP. Therefore, like the proposed project, the the Alternative Park Plan would not result in any significant adverse impacts to the existing water supply, sewage treatment, and stormwater discharge systems.

Solid Waste and Sanitation Services. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. The Alternative Park Plan would have the same total amount and types of recreational facilities and uses as with the proposed project except for Heritage Field. Therefore, the Alternative Park Plan would have slightly lower solid waste generation and demand on sanitary services than the proposed project. Like the proposed project, the Alternative Park Plan would not have a significant adverse impact on solid waste and sanitation services.

Energy. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. The Alternative Park Plan would have the same total amount and types of recreational facilities and uses as with the proposed project. Therefore, the

Alternative Park Plan would have the same energy demand as the proposed project. Like the proposed project, the Alternative Park Plan would not have a significant adverse energy impact.

Traffic and Parking. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Transportation effects from the proposed project include a trip increment for the additional parkland. Since the Alternative Park Plan would not result in an increase of parkland over that of the proposed project, and the proposed stadium and parking garages would be on the same locations, the Alternative Park Plan would have the same overall peak traffic and parking conditions as the proposed project.

The traffic mitigation measures described in "Mitigation" would be employed for both the proposed project and the Alternative Park Plan. These mitigation measures include standard traffic capacity improvements applied to individual intersections (e.g., signal retiming) combined with an overall game-day traffic management plan. However, even with these strategies in place, there would be several local intersection areas where standard traffic capacity improvements applied in tandem with a game-day traffic management plan would not be sufficient to fully mitigate impacts. These locations are: (1) River Avenue and East 161st Street; (2) Macomb's Dam Bridge Approach and East 161st Street; and (3) Jerome Avenue, Ogden Avenue, and the loop ramp to the Macomb's Dam Bridge. Like the proposed project, the Alternative Park Plan would result in significant adverse traffic impacts at these local intersections within the traffic study area.

Transit and Pedestrians. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Transportation effects from the proposed project include a trip increment for the additional parkland. Since the Alternative Park Plan would not result in an increase of parkland over that of the proposed project, and the proposed stadium and parking garages would be on the same locations, the Alternative Park Plan would have the same overall peak transit and pedestrian conditions as the proposed project.

The transit and pedestrian mitigation measures described in "Mitigation" would be employed for both the proposed project and Alternative Park Plan. With these measures, significant adverse impacts at the 161st Street-Yankee Stadium Station would be mitigated. Significant adverse pedestrian impacts would also be mitigated for the three existing crosswalks at River Avenue and East 161st Street and at the new Ruppert Plaza crossing. Like the proposed project, the Alternative Park Plan would not result in any unmitigatable significant adverse transit and pedestrian impacts.

Air Quality. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Therefore, the Alternative Park Plan would have the same peak traffic and parking conditions and as the proposed project. Like the proposed project, the Alternative Park Plan would not result in significant adverse air quality impacts due to mobile sources. The combustion source air quality effects from the Alternative Park Plan—HVAC systems at the proposed stadium and emergency generators at the proposed stadium and garages—would be the same as with the proposed project. Like the proposed project, the Alternative Park Plan would not result in significant adverse air quality impacts due to stationary sources. The Alternative Park Plan would have the same total distance between the proposed open space and existing sources of industrial emissions. Therefore, like the proposed project, the Alternative Park Plan would not result in significant adverse air quality impacts due to industrial sources. Overall, like the proposed project, the Alternative Park Plan would not have any significant adverse air quality impacts.

Noise. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Therefore, the Alternative Park Plan would have the same peak

traffic and parking conditions and as the proposed project. Like the proposed project, noise levels within the new parks proposed at River Avenue and East 157th Street and within the new proposed Harlem River waterfront park located west of Exterior Street and the Major Deegan Expressway under the Alternative Park Plan, would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. The high noise levels at these new park locations are independent of either the proposed project or the Alternative Park Plan. Based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels within these parks to below the 55 dBA $L_{10(1)}$ guideline noise level. Noise barriers and/or berms would not be practicable. Noise levels in these new parks would be comparable to noise levels in a number of existing parks in New York City. However, based upon CEQR impact criteria, both the Alternative Park Plan and the proposed project would result in an unmitigated significant noise impact on users of these new parks.

Construction. The Alternative Park Plan would have a different overall construction schedule as compared to the proposed project. Table S-5 provides a summary of the completion date for the major components to the project.

Table S-5
Alternative Park Plan Estimated Construction Schedule

Description	Length of Construction	Estimated Completion Date
Temporary Running Course 1 (Macomb's Dam Park south of East 161st Street)	2 months	April 2006
Temporary Running Course 2 (future location of Garage C)	2 months	April 2007
Permanent Competitive Track	1 year	November 2008
Harlem River Waterfront Park - Tennis Courts	1 year	June 2007
Waterfront Esplanade	1½ years	April 2008
Passive Use Parklands along River Avenue	6 months	September 2008
Parking Garage A, Phase 1	1¼ years	April 2008
Parking Garage A, Phase 2	9 months	July 2009
Recreational Facilities Over Garage A, Phase 1	1 year	November 2008
Parking Garage D	1 year	December 2007
Parking Garage B	1 year	February 2009
Parking Garage C	1 year	October 2009
Yankee Stadium	3 years	March 2009
Recreational facilities Over Garage A, Phase 2	1½ years	December 2010
Heritage Park	1½ years	December 2010
Babe Ruth Plaza	2 years	December 2010

Sources: Tishman Speyer Development and NYCDPR.

The Alternative Park Plan would accelerate the construction of all the replacement recreational facilities with the exception of the ballfields (see Table S-6), as compared to the proposed project. By moving the replacement ballfields to the site of the existing stadium in immediate proximity to East 161st Street and the surrounding community, the two ballfields that would be constructed at the waterfront would be completed later. In addition, the Alternative Park Plan would also provide a temporary softball field during a part of the construction period. NYCDPR would work with displaced baseball and softball field user groups to find playing time at nearby recreational fields as close as possible to Macomb's Dam Park.

Table S-6

Alternative Park Plan Displacement and Replacement of Recreational Facilities

Facility	New Location	Date Closed	Date Operational	Years Closed
8 tennis courts	Waterfront Park	2007 1st Q	2007 1st Q	0
8 tennis courts	Waterfront Park	2006 2nd Q	2007 1st Q	¾
Harlem River Esplanade[1]	Waterfront Park	New Facility	2008 2nd Q	NA
Passive recreation[1]	River Avenue Park	New Facility	2008 3rd Q	NA
Competitive Track[2]	Macomb's Dam Park atop Garage A (Phase I of Garage)	2006 2nd Q	2008 4th Q	2½
Soccer field	Macomb's Dam Park atop Garage A (Phase I of Garage)	2006 2nd Q	2008 4th Q	2½
Basketball courts (2)	Macomb's Dam Park atop Garage A (Phase I of Garage)	2007 1st Q	2008 4th Q (4)[3]	1¾
8 handball courts	Macomb's Dam Park atop Garage A (Phase I of Garage)	2006 2nd Q	2008 4th Q (9 courts)	2½
90-foot ballfield	Macomb's Dam Park atop Garage A (Phase II of Garage)	2006 2nd Q	2010 1st Q	4½
60-foot ballfield	Heritage Park	2006 2nd Q	2010 1st Q	4½
90-foot ballfield	Heritage Park	2007 1st Q	NA[3]	NA[4]
60-foot ballfield	Heritage Park	2007 1st Q	2010 1st Q	3¾
60-foot ballfield	Heritage Park	New Facility	2010 1st Q	NA[4]
24 handball courts	None[4]	2007 1st Q	NA[4]	NA[4]

Notes:
[1] The Harlem River Esplanade and the River Avenue Parks would be new facilities.
[2] A temporary running course would be available throughout the construction period.
[3] The Alternative Park Plan would create two more basketball courts (for a total of 4) than currently contained in the parks.
[4] The Alternative Park Plan would replace one 90-foot ballfield with one 60-foot ballfield.
[5] The Alternative Park Plan would not replace 23 out of 32 existing handball courts.
One new basketball court and the soccer field/400-meter track would have spectator stands.
NA = Not Applicable.
Sources: NYCDPR

Under the Alternative Park Plan, construction would begin on the waterfront parkland in the summer of 2006, with the tennis center to be located at that location to be completed in January 2007, and the surrounding waterfront esplanade to be completed in April 2008. The construction of the proposed stadium would be phased to preserve portions of the tennis facilities at John Mullaly Park north of 162nd Street for recreational use for as long as possible. Because the northern portion of the existing tennis center (8 courts) in John Mullaly Park would remain open until March 2007 (the southern portion—8 courts—would be taken out of service in May 2006), tennis facilities would likely be available throughout most of the construction period. The Alternative Park Plan would also construct parking Garage A in two phases and certain replacement recreational facilities located atop Garage A (i.e., competitive track, basketball courts, soccer field) would be completed earlier than anticipated for the proposed project.

The three ballfields proposed at Heritage Park for the Alternative Park Plan would be completed in the fourth quarter of 2010. By building Garage A in two phases, the ballfield to be constructed above Garage A Phase 2 would also be completed in the fourth quarter of 2010. By moving the ballfields from the waterfront park (which would be completed early in the construction

schedule) to the park area at the existing Yankee Stadium site (which would be completed late in the construction schedule), the ballfields under the Alternative Park Plan would be unavailable for the duration of construction. However, these ballfields would all be located in immediate proximity to East 161st Street and the location of existing ballfields, which was requested by the community.

Since the Alternative Park Plan would have a different overall construction schedule from that of the proposed project, the Alternative Park Plan would develop additional temporary recreational facilities to minimize to the maximum extent practicable, the duration of time that recreational facilities would be unavailable (see Table S-7).

Table S-7
Alternative Park Plan: Temporary Recreational Facilities

Facility	Date Open	Date Closed	Duration (Years)
Temporary Running Course 1 (Macomb's Dam Park south of East 161st Street)	2006 2nd Q	2007 1st Q	¾
Temporary Running Course 2 (future location of Garage C)	2007 1st Q	2008 4th Q	1¾
Harlem River Esplanade Temporary Running Course 3	2008 2nd Q	Permanent	N/A
Children Soccer Field(s) (future location of Garage C)	2007 1st Q	2008 4th Q	1¾
Softball Field (future location of Garage C)	2007 1st Q	2008 4th Q	1¾

Source: NYCDPR.

Prior to the construction of the new stadium, a temporary running course would be created around the two baseball fields in the portion of Macomb's Dam Park west of Ruppert Place. This running course would be available in the spring and summer of 2006. In the fall of 2006, the area for proposed parking Garage C (existing parking Lot No. 1) would be developed with a temporary running course (suitable for walking, jogging and recreational running, but not be suitable for competitive track meets) and an area that could accommodate a softball field or children's soccer fields (this area would accommodate either use but both not at the same time) at the end of 2008. Like the proposed project, when construction displaces these temporary facilities, the esplanade surrounding the new Harlem River waterfront park would serve as a running course and would be available until the permanent track is available. Therefore, throughout the construction period, an exercise or running course would always be available until the permanent track is completed.

Finally, there are a number of parks containing recreational facilities within close proximity to the project area (i.e., from 0.3 to 1.4 miles away) that would not be affected by the proposed project and would remain available to the community throughout the project's construction. These include: (i) Franz Sigel Park; (ii) the northern portion of John Mullaly Park; (iii) Nelson Avenue Playground; (iv) Claremont Park; (v) St. Mary's Park; and (vi) Crotona Park.

Although the construction phasing of the Alternative Park Plan would be different than that of the proposed project, the peak trip generation of construction workers and truck delivery materials and equipment would be the same. Some additional truck trips would be generated by raising the grade for the new ballfields at Heritage Field, but these truck trips would not occur during the peak construction period. The truck trips would occur after the proposed Yankee Stadium and the majority of the new recreational facilities are completed. The potential effect on

air quality and noise during construction of the Alternative Park Plan would be similar to the proposed project. Like the proposed project, there would be a significant unmitigated adverse noise impact due to construction activities at East 164th Street between Jerome Avenue and River Avenue within John Mullaly Park associated with the Alternative Park Plan.

As described above, a site-specific HASP would be prepared for the Alternative Park Plan to minimize exposure to hazardous materials by workers and the public. Removal of any USTs encountered during construction of the Alternative Park Plan would be handled in accordance with all applicable Federal, State, and local regulations. Erosion and sediment control measures, and stormwater management measures as part of the SWPP would be implemented during construction of the proposed changes. With these measures in place, the Alternative Park Plan would not result in significant adverse impacts.

Public Health. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. As described above, neither the proposed project nor the Alternative Park Plan would result in significantly adverse air quality impacts or construction-related air quality impacts. Both the proposed project and the Alternative Park Plan would comply with New York City Local Law 77 that requires the use of ultra-low sulfur diesel (ULSD) and "best available technology," for reducing emissions from non-road construction equipment. Under both the proposed project and the Alternative Park Plan, the New York Yankees and the City are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction of the proposed stadium and the New York Yankees would employee a full-time health specialist to monitor conditions thought the construction period both under the proposed project and the Alternative Park Plan. Like the proposed project, the Alternative Park Plan would not have any significant adverse public health impacts.

UNAVOIDABLE SIGNIFICANT ADVERSE IMPACTS

Most of the potential impacts identified for the proposed project could be fully mitigated; however, in the following areas, significant, adverse and unmitigated impacts would remain.

HISTORIC RESOURCES

The proposed project would result in the demolition of Bronx Terminal Market Buildings G, H, and J (S/NR-eligible), resulting in a significant adverse impact on historic resources. In comments dated September 20, 2005, SHPO concurred with this finding. Therefore, measures to mitigate this impact have been developed in consultation with SHPO. The mitigation measures would be expected to include HABS-level photographic documentation with an accompanying narrative, and interpretive design elements, such as fence and plaques/historic markers. The mitigation measures developed with SHPO would be recorded in an MOA to be entered into among the NYCDPR, and SHPO, and implemented to partially mitigate the effects of the proposed project on historic resources. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among parties, is included in Appendix G. The impacts could not be completely eliminated, so it is considered an unavoidable significant adverse impact of the proposed project.

TRAFFIC

The proposed project would result in significant adverse traffic impacts at local intersections within the traffic study area and along sections of the Major Deegan Expressway near the proposed stadium site. Proposed traffic mitigation measures would be employed and would include standard traffic capacity improvements applied to individual intersections (e.g., signal retiming) combined with an overall game-day traffic management plan that was developed and fully analyzed during the period between the DEIS and FEIS, and which has been approved by the agencies responsible for its implementation. However, even with these strategies in place, the detailed traffic impact analyses conducted as part of the FEIS have indicated that there would be three local intersections where standard traffic capacity improvements applied in tandem with a game-day traffic management plan would likely not be sufficient to fully mitigate impacts. These locations are (1) River Avenue and East 161st Street; (2) Macomb's Dam Bridge Approach and East 161st Street; and (3) Jerome Avenue, Ogden Avenue, and the loop ramp to the Macomb's Dam Bridge. Impacts at these intersections would be unavoidable, significant, and adverse.

NOISE

The noise levels within the new parks proposed at River Avenue and at the Harlem River waterfront would result in potentially significant noise impacts on users of these new parks. Noise levels at these parks would be approximately 71.8 and 73-78 dBA, respectively, and above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. These high predicted noise levels are primarily a result of the noise generated by the elevated subway trains and vehicles on the elevated Major Deegan Expressway. These noise sources are independent of the proposed project, but based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks. As there are no practical and feasible mitigation measures that could be implemented to reduce these noise levels to below the 55 dBA $L_{10(1)}$ guideline noise level, this is an unavoidable significant adverse impact.

CONSTRUCTION

A scenario in which construction workers would be provided with parking at one of the Yankee Stadium garages was evaluated, as well as a scenario in which construction workers would instead park in on-street parking spaces. The analysis concludes that there would be significant adverse traffic impacts under both scenarios, for which only partial mitigation has been identified at this time. Construction-worker traffic therefore constitutes an unavoidable significant adverse impact.

In the time period between the Draft and Final EIS, detailed construction noise analyses were performed. It was determined that construction activities would result in significant adverse noise impacts at locations along 164th Street between Jerome Avenue and River Road, including in John Mullaly Park. There are no practicable measures that could be implemented to eliminate these significant adverse impacts at this location.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The resources that would be expended in the construction and operation of the proposed project include the materials used in construction; energy in the form of gas and electricity consumed during construction and operation; and the human effort (time and labor) required to develop,

construct, and operate various components of the proposed project. They are considered irretrievably committed because their reuse for some purpose other than the proposed project would be highly unlikely. Although the proposed project would result in a net overall increase in open space and parkland, the land use changes associated with the development of the proposed project may also be considered a resource loss. The proposed project constitutes an irreversible and irretrievable commitment of the project area as a land resource, thereby rendering land use for other purposes infeasible. ✷

Chapter 1: Project Description

A. PROJECT IDENTIFICATION[1]

The proposed project that is the subject of this Final Environmental Impact Statement (FEIS) consists of the following elements: 1) construction of a new Yankee Stadium one block north of its existing location at East 161st Street and River Avenue in The Bronx (the "proposed stadium"); 2) construction of four new parking garages containing approximately 4,735 spaces in the vicinity of the proposed stadium (the "proposed garages"); and 3) development of new and replacement recreational park facilities for a net increase of approximately 4.63 acres within the vicinity of the proposed stadium (referred to as appropriate as the "proposed parkland" or "replacement facilities"). Collectively, these three elements are the "proposed project."

The New York City Department of Parks and Recreation (NYCDPR) proposes to allow for the development of the proposed stadium by the New York Yankees on portions of Macomb's Dam and John Mullaly Parks adjacent to the existing stadium site, across East 161st Street at River Avenue (see Figures 1-1 and 1-2). The proposed open-air stadium, which would have a capacity for 54,000 spectators (53,000 seats and 1,000 standing spaces), would replace the existing, approximately 56,928-seat, outdated 82-year-old Yankee Stadium with one that can effectively accommodate a modern baseball team and provide greatly improved spectator and parking facilities. Although the interior of the proposed stadium would contain state-of-the art facilities for players and spectators, the design would evoke both the 1923 and the existing stadiums, incorporating design elements of both.

Parking for the existing stadium is insufficient, widely scattered, and has spilled over into the surrounding neighborhood. There are 6,995[2] dedicated parking spaces currently available for Yankee Stadium patrons in surface lots and garages within an approximate ½-mile radius of the existing stadium. The separate Gateway Center project at Bronx Terminal Market would be developed in two phases, to be completed by 2009 and 2014. If built, this project would result in development on areas currently used for parking by Yankee Stadium patrons, resulting in the loss of 766 spaces and reducing the net number of spaces available for Yankee Stadium patrons to 6,229.

In response to the proposed stadium's parking need, the proposed project would develop four new parking garages containing approximately 4,735 spaces and would add 376 spaces in existing and expanded surface parking lots. The proposed project would displace approximately 1,030 parking

[1] In response to comments received on the Draft EIS (DEIS), including comments from the community and the Bronx Borough President, an alternative plan for the parkland program and recreational facilities has been developed and is examined in Chapter 22, "Alternatives," of this FEIS.

[2] The number of existing parking spaces changed between the DEIS and FEIS to reconcile discrepancies cited by various sources. The capacities of the proposed parking garages have been reduced between the DEIS and FEIS as a result of advancing the design of the garages.

spaces in existing lots, bringing the total number of spaces available for Yankee Stadium patrons to 10,310, for a net increase of 3,315 spaces.[1] This would support the parking need for the proposed stadium and reduce the spill-over conditions on local streets that presently exist. Street-level, non-destination retail would be developed in one of the proposed parking garages for a total of approximately 12,000 gross square feet (gsf).

As described further below, the proposed project would require the alienation of certain areas of mapped parkland to allow for its disposition by NYCDPR, through leases, for operation of the proposed stadium and several new parking garages. These areas would, however, remain mapped parkland. In addition, new areas of mapped parkland would be created to provide additional new open space and to accommodate park facilities displaced by the proposed stadium and garages. Overall, the proposed project would result in a net increase of approximately 4.63 acres of accessible recreational facilities within the project area.

In particular, the proposed stadium and three of the proposed garages would be built in portions of Macomb's Dam and John Mullaly Parks (both New York City parks). To replace the recreational facilities displaced by these structures, the proposed project would include the following elements:

- A number of replacement recreational facilities would be developed atop two of the garages to be constructed within a portion of Macomb's Dam Park.
- New parkland would be created and recreational facilities would be developed: (1) at the site of the existing stadium and Ruppert Place between East 157th and East 161st Streets; (2) on existing parking lots along River Avenue at East 157th Street; and (3) at the site of three warehouse buildings and piers along Exterior Street within the Bronx Terminal Market.
- An esplanade connecting the new waterfront park to the existing ferry landing would be developed on paved areas located along the Harlem River waterfront.

The proposed recreational facilities on Exterior Street and proposed esplanade would create new open space and ballfields along the Harlem River and would represent an important new community amenity that would serve the surrounding neighborhood and provide new public waterfront access.

In total, the proposed project would displace recreational facilities on approximately 22.42 acres (including the portion of Macomb's Dam Park at the corner of East 157th Street and Ruppert Place that is currently used for accessory parking for Yankee Stadium—i.e., Lot 14) of existing parkland. Replacement facilities would be developed on 10.22 acres of existing parkland, including the approximately 2.89 acres of Macomb's Dam Park currently used for accessory parking for Yankee Stadium. The proposed project would also create 15.82 acres of new parkland, including approximately 5.11 acres of recreational waterfront parkland, and 1.01 acres of new open spaces (not mapped as parkland). In total, the proposed project would result in the development of 27.05 acres of replacement facilities. This would be a net increase of 4.63 acres over existing conditions. (Approximately 15 acres of Macomb's Dam and John Mullaly Parks—the site of the proposed stadium and a parking garage—would remain as mapped parkland. The

[1] The net increase would, in fact, be somewhat lower, because of the loss of more than 800 spaces used by Yankees fans on Exterior Street, Cromwell Avenue, and between the Bronx Terminal Market site and the Harlem River that would no longer be available in the future as the Bronx Terminal Market site is redeveloped.

underwater land beneath Slips 2 and 4 of the Harlem River, and 0.4 acres south of Pier 1 along the Harlem River that is proposed as new surface parking, would be also mapped as new parkland. However, these mapped parkland areas would contain no public recreational facilities and so are not counted in the tally of proposed parkland to be created by the proposed project.) The proposed project would create a unified 17.36-acre park area south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street.

The proposed stadium, all four proposed garages, and almost all of the proposed parkland would be completed by 2009. The full development of the proposed parkland would be completed by 2010.

Public actions required to permit the proposed project to go forward include disposition of City-owned property in the form of long-term leases (including leases of existing parking facilities); acquisitions by the City of interests in the proposed Yankee Stadium and garage sites; mapping actions to map new parks and demap portions of East 161st Street, Macomb's Dam Bridge Approach, and Jerome Avenue; administrative actions to demap portions of two streets (East 162nd Street, Ruppert Place), and a volume of space located above East 151st Street; approval of a concession to operate tennis courts; a special permit for a public parking garage (not located on parkland) and a special permit to allow modification of rear yard requirements for that garage; and State and City funding for the non-stadium portions of the proposed project. Certain State and Federal permits may be required for activities in connection with construction of the waterfront park. Further, the location of the proposed stadium is on the portion of Macomb's Dam Park that was improved with funds from the Federal Land and Water Conservation Fund (LWCF). As a result, the proposed project would trigger a parkland conversion under Section 6(f)(3) of the LWCF Act that requires federal review and approval by the Secretary of the Interior (delegated to the National Park Service).

The disposition and acquisitions, parkland mapping, approval of a concession, parking garage special permit actions, and realignment of boundaries of East 161st Street, Macomb's Dam Bridge Approach, and Jerome Avenue in the vicinity of the proposed stadium site are subject to the City's Uniform Land Use Review Procedure (ULURP), and all of the actions require environmental review. NYCDPR is the lead agency for the environmental review.

B. PROJECT PURPOSE AND NEED

The New York Yankees are the most successful team in baseball, and Yankee Stadium is an icon in The Bronx. However, the stadium has become increasingly inadequate to support the players, the fans, and the media. A new stadium, close to the old one in place and style, is needed.

BACKGROUND

Yankee Stadium was built at its present site in 1923, at East 157th Street, River Avenue, East 161st Street and Ruppert Place in the Bronx Borough of the City of New York. It was the first baseball park to be called a "stadium." The original stadium's design consisted of triple-decked grandstands which extended from behind home plate and up to the first and third base lines, included a frieze that adorned the stadium's third tier deck, and had wood seating. In the years 1928, 1937, and 1938, the predominantly lower deck seating arrangement was expanded to extend the upper decks into the outfield, resulting in the short right field porch of today.

On August 8, 1972, after years of debate about the future of the aging ballpark, the Yankees signed a 30-year lease with the City which called for Yankee Stadium to be completely modernized in time for the 1976 season. After completing the Stadium's 50th-anniversary season in 1973, the Yankees moved to Shea Stadium for two seasons while their home was almost completely demolished and then rebuilt.

The modernization removed the numerous, obstructive steel columns that supported the second and third decks and blocked views. By "cantilevering" the upper decks and lowering the playing field while increasing the slope of the lower stands, sight lines for fans were improved. The original roof was replaced with a smaller, more modern roof, and the decorative frieze at the upper deck was removed and a similar architectural element made of concrete was created at the top of a new 560-foot-long scoreboard which stretched across the rear of the bleachers. Yankee Stadium's exterior changed dramatically, too, as three escalator towers were added, one at each of the Stadium's three entrances. With 10 additional rows of seats added to the upper deck, the stadium also appeared larger. The monuments and plaques were removed from center field and placed behind the left center field wall between the Yankees and visiting team bullpens to create the existing "Monument Park." The renovated stadium opened for the 1976 season.

Notwithstanding the renovation, existing stadium operations have become severely constrained (see discussion below for details). Accordingly, other options for improving or modernizing stadium operations have been considered, including reconstruction of a stadium on the existing site and building a new stadium in a different location. Four candidate locations for a new stadium were previously assessed: Macomb's Dam/John Mullaly Parks (similar to the proposed project site), Van Cortlandt Park, and Pelham Bay Park, all in The Bronx, and the Caemmerer Yard (West-Side rail yard) on Midtown Manhattan's West Side. The sites in Van Cortlandt and Pelham Bay Parks were eliminated for several reasons: mass transit was not available; the highway access system could not support the traffic from the stadium; a stadium would require use of substantially more parkland in each location than the proposed project, and each would disturb 12 acres of high-quality wetlands. Moreover, the Van Cortland Park site has since become unavailable as it is the location of the Croton Filtration Plant currently under construction by the New York City Department of Environmental Protection. A stadium over Manhattan's West-Side rail yard (Caemmerer Yard) was found to be more feasible because of its central location and availability of mass transit, but was eliminated from consideration when Yankees management decided to remain in The Bronx. Reconstruction on the existing site was also considered but was determined infeasible because of the physical limitations of the site and the consequent inability to provide a modern-day baseball facility. In addition, the reconstruction alternative would require the use of portions of Macomb's Dam Park for parking, without the opportunity to provide replacement facilities on the site of the existing stadium. These alternatives are discussed further in Chapter 22, "Alternatives."

The option to move the stadium across East 161st Street from the existing Yankee Stadium continued to be considered and various concepts developed, <u>including a plan by Borough President Adolfo Carrión, Jr.,</u> leading up to the current proposal. <u>The Bronx Borough President issued a Yankee Stadium Neighborhood Development Plan in 2004 supporting the development of a new stadium across East 161st Street, as well as the creation of more useable parkland in the area, reuse of the existing Yankee Stadium as a publicly accessible baseball field, and development of connections to new waterfront parks. The Borough President's plan also called for several other separate components, including the development of a hotel conference center, sports and fitness center, high school for sports industry careers, and transportation improvements for subway, regional rail, and waterborne transport.</u>

CURRENT CONDITIONS AT YANKEE STADIUM

PHYSICAL CONSTRAINTS

By any measure of a modern ballpark other than the number of seats, the existing Yankee Stadium is too small and functionally inadequate. Although its seating capacity is sufficient, there is not enough space to support baseball and stadium operations. The stadium sits on a site of just under 10 acres, compared to the more than 13.0 acres that a state-of-the-art facility requires. The average acreage of the sites of the most recently constructed (since 2000) new stadiums (i.e., Petco Stadium in San Diego, Great American Ball Park in Cincinnati, PNC Park in Pittsburgh, Minute Maid Park in Houston, and SBC Park in San Francisco) is over 15.5 acres. Within this constrained area, space for entries and pedestrian walkways is very limited, and many of the facility's service and staging functions must take place outside the stadium, in public areas, where they compete for space with fans and local residents.

The footprint of the stadium, at 8.5 acres, is also too small. To supply the current requirements for comfortable seating and for circulation, food, shops, restrooms, and other support areas, the footprint for a modern stadium would have to be at least 12.5 acres. To expand the footprint to meet this standard on the existing site would mean substantially encroaching on and/or closing one or more of the streets that surround the stadium. Similarly, the overall building size, at 873,163 gross square feet, is inadequate. Each floor plate must be increased by approximately 45 percent in order to accommodate the seating and service demand of a modern stadium. As it stands now, Yankee Stadium cannot comfortably handle attendance greater than 35,000; at that point, the hallways are crowded, long lines form for the food concessions and bathrooms, further interfering with pedestrian flow, and the kitchens and other support facilities are inadequate to meet the demand. Many back-of-the-house functional areas simply do not exist. For the stadium to function properly and provide a comfortable experience for fans, players, and the press, a nearly 100 percent increase in public concourse and fan amenity areas is required.

Space for the players is equally constrained. Adequate practice space and batting cages are lacking. One weight room is shared by both the Yankees and visiting teams. The area for the press is inadequate as well; often, they overflow into seats intended for fans.

The existing stadium has 41 percent of its seats (23,607 seats) in the upper deck. Due to the large number of seats and constrained footprint, the existing upper deck is the steepest in major league baseball. And the seats themselves are too small: the existing seating tread widths are 29 to 30 inches accommodating 17-inch-wide chairs, compared to a state-of-the-art facility requiring widths of 33 to 36 inches to accommodate 19- to 22-inch-wide chairs. Also, because the seating areas have been altered during renovations, many of the seats are not oriented properly to face towards second base, making it uncomfortable for fans to watch a game.

PARKING

In 1923, most fans came to games at the then-new Yankee Stadium by public transportation. In the ensuing years, with the rise of the automobile and the spread of the suburbs, driving to the game became more and more popular. The number of parking spaces provided has increased steadily over the years, including in garages built in the 1973 renovation, but has not kept pace with demand. The current off-street parking space inventory is 6,995. Of these, approximately 3,500 are located within a ¼-mile (a 10-minute walk) of the stadium. These spaces are filled whenever game attendance reaches approximately 15,000. The remaining spaces are farther away and, clearly, much less convenient, especially for night games. All spaces are filled when

game attendance reaches approximately 30,000, a level that has been exceeded regularly in recent years at Yankees home games (see discussion below). Overflow parking is accommodated, when possible, in the Bronx Terminal Market south of the stadium, and along public streets. The accumulation of mostly illegal on-street parking impairs traffic flow. Parking conditions at the existing stadium today are clearly inadequate and contribute to the traffic congestion that accompanies most home games as fans circulate excessively on local streets in search of the hard-to-find parking spaces.

ATTENDANCE

The history of attendance at Yankee Stadium shows that, from the first, and with few exceptions, the Yankees have attracted more patrons than the American League average. For the past decade, Yankees' home game attendance has trended upward (see Table 1-1). Average game attendance has exceeded 35,000 every year since 1999. The peak was last year, 2005, with an average game attendance of 50,499 and a season total of 4,090,440. Given the constraints and limitations of existing Yankee Stadium, each year that attendance has grown, the problems of accommodating that demand have become more frequent and more difficult.

Table 1-1
Baseball Attendance History at Yankee Stadium

Year	Average Game	Season Total	League Average
1924	13,251	1,007,066	575,324
1930	12,470	960,148	582,809
1940	11,313	859,785	533,825
1950	29,467	2,283,676	1,341,331
1960	20,026	1,552,030	1,143,682
1970	13,185	1,067,996	1,011,227
1976	16,101	1,288,048	1,099,119
1980	31,772	2,537,765	1,597,999
1990	26,963	2,170,485	2,131,090
1995	29,656	1,675,556	1,728,728
1996	23,521	1,705,263	1,811,356
1997	27,789	2,250,877	2,122,721
1998	31,856	2,580,325	2,234,523
1999	36,484	2,955,193	2,298,169
2000	40,662	3,293,659	2,286,874
2001	37,956	3,227,657	2,262,557
2002	40,807	3,264,552	2,346,071
2003	42,736	3,461,644	2,207,891
2004	47,788	3,775,292	2,340,422
2005	50,499	4,090,400	2,360,452

Notes: Games were held in the renovated stadium beginning in 1976.
Sources: www.baseball-almanac.com.

CONCLUSION: PROJECT GOALS AND OBJECTIVES

The Yankees currently operate within the constraints of an outmoded ballpark. All aspects of the existing stadium are inadequate to support baseball and stadium operations. Seats, aisles, and corridors for both spectators and players are too small and narrow. The steeply raked upper deck contains the majority of seats, but has the fewest concessions and restroom facilities (due to severe space constraints). Kitchen space is not adequate to provide food and beverage service to

the stands. Clubhouse and press accommodations are also insufficient to accommodate the needs of today's baseball teams and media coverage, especially during playoffs. In addition, parking is insufficient and widely scattered, causing the problem to spill over into the surrounding neighborhood. As noted earlier, Yankee Stadium cannot comfortably handle attendance greater than 35,000, so as average attendance continues to increase, the situation will only worsen. The Yankees need a new stadium, preferably nearby and reminiscent of their traditional home. The following goals and objectives reflect the purpose and need for the proposed project.

PROVIDE A MODERN STADIUM THAT CAN ADEQUATELY SUPPORT BASEBALL AND STADIUM OPERATIONS, PLAYERS, AND THE MEDIA

- Provide enough land area to accommodate a modern stadium and adequately support baseball and stadium operations. Accommodate game day staging of larger broadcast production vehicles on site rather than on public streets, as is the current practice.
- Create a stadium of appropriate size to offer comfortable seating for all fans and ample room for circulation, food kiosks, and all services supporting fans and the media.
- Create state-of-the-art facilities for the Yankees and visiting teams.
- Provide adequate parking.
- Create efficient and attractive pedestrian circulation space.

LOCATE AND DESIGN THE PROPOSED STADIUM TO CLOSELY REFLECT THE TRADITIONAL HOME AND STYLE OF THE NEW YORK YANKEES

- Keep the Yankees in The Bronx, preferably near their traditional home.
- Design a modern stadium with an exterior style that is reminiscent of the original Yankee Stadium.
- Recreate Monument Park in the proposed stadium.
- Reuse the site of the existing stadium—for baseball and other public recreational uses and for other uses benefiting the neighborhood.
- Incorporate elements of the existing stadium into the new recreational space to be built on the existing stadium site.

MINIMIZE ADVERSE IMPACTS AND IMPROVE CONDITIONS IN THE SURROUNDING NEIGHBORHOOD

- Provide adequate off-street public parking and areas for pedestrian circulation.
- Replace displaced recreational facilities with equal or better facilities within the area.
- Reduce any adverse impacts of the proposed project to the extent practicable.

C. PROJECT DESCRIPTION

OVERVIEW

The New York Yankees are an important asset to The Bronx, New York City, and New York State. The plan for building a new stadium, long in the making, reflects the need to maintain and enhance facilities for the team in its traditional Bronx location, to ensure its continuing contribution.

As shown on Figures 1-3 and 1-4, the proposed project would develop a new Yankee Stadium one block north of its current site, across East 161st Street at River Avenue. The proposed stadium would be built on land currently in recreational use (portions of Macomb's Dam and John Mullaly Parks) and on one block of East 162nd Street, which would be closed and mapped as parkland. Ample space would be provided on site to accommodate all functions related to the team and game-day operations, including off-street loading, adequate areas for fans to congregate at entrances, which would be arranged along three sides of the building, and sufficient space for circulation within. State-of-the-art seating and amenities for fans and the media would be combined with modern facilities for the players, to make game going a comfortable and exciting experience for all.

The proposed project would also add to and better consolidate the off-street parking inventory in the area, by constructing four new parking garages, thus reducing the overflow of parkers scattered throughout the neighborhood in both legal and illegal parking spots. Three of the garages would occupy existing parkland in portions of Macomb's Dam and John Mullaly Parks. A garage with frontage on River Avenue at East 151st Street would offer retail space at street level, as well. The proposed garages, along with existing parking facilities in the area, are anticipated to be leased to private operators.

The recreational facilities to be displaced by construction of the proposed stadium and garages would be replaced as part of the proposed project—with similar or improved facilities for active recreation (e.g., softball, baseball, tennis, basketball, handball) and for passive enjoyment of the park (e.g., seating, plantings, paths, food concessions, etc.). New parkland and public open space would be created along the Harlem River waterfront, providing new public waterfront access, as well (see Figure 1-5). The site of the existing Yankee Stadium would be a major feature of the recreation plan, providing Heritage Field on the site of the existing Yankee Stadium playing field. Ruppert Place would also be demapped and reconfigured as part of the parkland provided south of the proposed stadium. Fuller descriptions of the project's elements, including the proposed stadium, proposed garages, traffic and pedestrian circulation, and proposed parkland and recreational facilities, are provided below.

PROPOSED STADIUM

SITE

The proposed stadium would be developed in portions of Macomb's Dam and John Mullaly Parks, and would require that East 162nd Street be closed and mapped as parkland between River and Jerome Avenues. The Home Plate Entry would be located at Jerome and East 161st Street, the First Base Entry at East 161st Street and River Avenue, the Third Base Entry on Jerome Avenue, and the Bleachers' Entry on River Avenue.

The proposed stadium's playing field would be positioned in an orientation similar to the existing stadium. The fan experience would be greatly enhanced by appropriate sidewalk widths, which allow enough space for queuing and a pedestrian-friendly environment. An efficient security screening system would be incorporated into the entry process.

The intent of the overall site development is to foster Yankees games as exciting events while reducing neighborhood congestion. In addition to providing adequate space around the stadium for fans, service vehicles would park off-street in a secured service drive between the north side of the proposed stadium and proposed parking Garage B, and River and Jerome Avenues. This

would resolve some of the pedestrian and vehicular conflicts that currently occur at the existing stadium and would allow for security procedures in connection with servicing the stadium.

DESIGN

The proposed new home for the New York Yankees combines tradition and technology, in a structure of steel, concrete, glass, and stone. It is intended to be a facility for the future, with the soul of the past. As shown on Figures 1-6 and 1-7, the ballpark's façade would be highlighted by arched porticos, inspired by the façade of the 1923 stadium.

The new playing field would have the same geometry and orientation as the existing field. But the facility would also display a progressive vision. As shown in the figures identified above and in Figure 1-8, the design of the playing field and stands within the limestone and granite walls would adhere to the most modern standards of design. The interior structure would be of steel and concrete. The seating would be comfortable, with unobstructed views of the field.

The height of the stadium's exterior facade ranges from 70 to 95 feet above the sidewalk elevation at the main entrance (due to grade changes around the site, all figures are approximate). The upper deck of the stadium's interior seating bowl, which would be set back from the exterior façade on average by approximately 50 feet, would feature a canopy that would rise to a maximum height of 138 feet, approximately the same as the existing stadium.

The stadium would also include an approximately 60,000-square-foot plaza along East 161st Street that would facilitate pedestrian movement into the stadium on game days and would be a public amenity at other times. This area would be open for public use on a year-round basis.

PROGRAM

Introduction

The proposed stadium has been designed to provide ample and comfortable facilities for all those who use them: spectators, players, team management, the press, and a host of people who run the stadium, provide its services, and are responsible for its security and smooth operations. The program includes a wide variety of components, as discussed below. The total built floor area for the proposed stadium would comprise approximately 1.3 million square feet.

Spectator Amenities

Seating. Approximately 53,000 seats for viewing baseball are planned at a split of approximately 65 percent lower bowl to 35 percent upper bowl seating, the reverse of current conditions. Sightline clearances would be maintained for all seats, and aisles that have seats on both sides would be 4 feet wide with proper hand rails. All seats except bleacher seats, which would be bench seats, would have self-rising armchairs, and most would have cup holders. Specified standing room for 1,000 spectators would also be provided, bringing the capacity of the stadium to 54,000 spectators.

Disabled seating areas complying with applicable code requirements and current requirements of the federal Americans with Disabilities Act (ADA) would be distributed throughout all seating categories at all levels. These seating areas would provide spaces for wheelchairs and companion seating, and would be located on an accessible route.

Suites. Approximately 60 suites would be provided, which would have fixed-seating capacities of 12 to 16, plus some additional room.

Premium Seat Lounges. Several lounges would be available to premium seat-holders, as follows:

- *The Legends Suite Lounges* would provide Legends suite seat-holders lounges with food and beverage service, including the Legends Suite Home Plate Lounge, which would be located behind home plate with an entrance from the Main Concourse, allowing direct access to the Legends suites. Glass frontage would provide natural light and views to the field.
- *The Grandstand Sports Club* would be an enclosed, air-conditioned suite seating area and lounge located directly behind the centerfield wall. It would consist of approximately 400 tiered seats within the suite that view the field and a lounge with seating and light food service. The club would be accessible from the stadium concourses.
- *The Stadium Club* would be a full service restaurant and bar located in the left field corner at the Suite Level with dining both within the club and on a terrace, which would provide a view of the field in a conditioned environment.

Places of Interest

Monument Park would be recreated (see Figure 1-9), and monuments and other features from the existing stadium would be moved to a new center field location outside the field wall. The area would be accessible to tour groups on non-game days and controlled public access would be provided on game days.

Guest Services

A guest information station would be available at each public concourse, along with a customer relations window nearby. There would also be a primary first aid station on the Main Concourse and two satellite first aid stations convenient to the upper and lower seating bowls.

Entry Areas

Some 30 ticket windows would be located in the stadium entry areas. Approximately 20 of the windows would be near the ticket operations offices, serving as the Main Box Office. Other windows would be distributed as appropriate, both at other entry gates (as day-of-game windows) and within the stadium, as advance sale windows. Ample space would be provided for queuing for security screening, and for entry to the stadium.

Food Service and Retail Facilities

Concessions. Concession stands would be located throughout the concourses. In addition, portable concession carts would be provided, as needed, to supplement concession stands, especially at high-traffic locations. Vendor commissaries would be provided at public concourses, distributed to provide ready access to vendors from all seating sections served by vendors/hawkers. These would be located away from heavy-traffic intersections in the concourse, and would have separate entrance and exit doors for efficient circulation of vendors.

Retail. The main team store selling Yankees' merchandise would be at two levels in a prominent location, allowing entry from within the stadium. Two smaller satellite stores selling Yankees' merchandise would be located away from each other and from the main retail store to allow for better access to retail outlets for fans throughout the stadium.

Novelty stands would also be provided throughout the concourses, distributed proportionately at high-traffic areas.

Restaurants. An approximately 300-seat restaurant, located at street level at the corner of River Avenue and East 161st Street, would provide year-round operation with direct entry from outside the stadium, as well as access to the stadium concourse.

Circulation

Concourses. Concourses would be the main circulation arteries around the proposed stadium. They would provide convenient access to all spectator amenities and be sized to allow comfortable movement throughout and to accommodate exiting requirements. They would offer appropriate directional graphics and would be provided with space and utilities to support portable concession and novelty carts. Drinking fountains, pay telephones, program kiosks, and ATM machines would also be located within the concourses.

The suite concourse would serve as the primary circulation corridor on the Suite Level and would include a balcony that would overlook the concourse below. Access to the Suite Level would be controlled to allow access by suite holders and their guests only.

Service Tunnel. A tunnel would be provided at the Service Level for service vehicles (such as Cushman carts, tractors, and forklifts) and personnel. It would be designed with adequate height and vehicle turning radius space at corners and turn-around spaces.

Vertical Circulation. Vertical circulation within the proposed stadium would consist of ramps, stairs, escalators, and elevators. They would be built to connect all levels of the building. The ramps would also be sized to permit their use by Cushman carts, tractors, and forklifts, as well as by spectators.

Media and Broadcast Facilities

Press Entry. There would be a dedicated press window, similar to the ticket windows, for checking press credentials and issuing passes. The entry gate for press would be located near the press window, with an attendant stationed at the entry lobby where a dedicated elevator and an egress stairway between press box level and field level, with secured access, would be provided.

Press Box Facilities. For the press, there would be approximately 125 writer stations in a tiered seating arrangement with a view of the playing field from each tier, for regular season play. The press box would also include a sound system, closed-circuit television, and climate controls. There would also be cubby lockers, a media workroom, and a press dining room and lounge. In addition to the Press Box, the proposed stadium would provide nine TV broadcast and radio booths.

Press Conference Room/Auditorium. A press conference room would be located at the Field Level, near the home clubhouse and the press elevator, which would seat approximately 100 on a regular basis, but be expandable to 300, using an operable partition. This room would be available as a multipurpose room, for use by the Yankees organization.

Broadcast Production. A small broadcast production studio would be provided in the proposed stadium along with space to park and service at least 10 large, expandable mobile units.

Camera/Still Photo Positions. The Yankees would provide suitable positions for video, film and still cameras throughout the stadium, along with backup space, such as workrooms, lockers, etc.

Clubhouse Facilities

Home Clubhouse. The home clubhouse and dugout would be located as in the existing stadium, on the First Base side. A training room would also be provided, to be used for game preparation, rehabilitation, and emergency treatment of players. It would have direct and easy access to the playing field. There would be additional space for the head trainer and doctors' offices, plus X-ray facilities and a hydrotherapy area. A state-of-the-art exercise room would also be provided for the players. Additional facilities would include a family lounge, a team security office, and a video coaching room located next to the dugout tunnel, so the batting coach would be able to work with batters during the game.

Home Dugout Tunnel. The proposed stadium would provide a large, climate-controlled home dugout with a tunnel connecting it to the clubhouse. A climate-controlled batting/pitching tunnel would also be provided and would include two cages and two dirt mounds.

Visitors' Clubhouse and Dugout Tunnel. The visitors' clubhouse would be similar to the Yankees' clubhouse, except that some of the facilities would be smaller than those of the home clubhouse. The dugout, dugout tunnel, and batting/pitching tunnel would be similar to the home team facilities, except that the batting/pitching facility would have only one cage and one mound.

Auxiliary Facilities. Locker facilities would be provided for the umpires and there would be auxiliary locker rooms and star dressing rooms.

Service and Operations Facilities

All day-of-game employees and staff would use the same entry to the stadium, which would be located near the subway. Facilities for check-in, security, offices, break area, and locker rooms would be provided. Space would also be provided for groundskeepers, operations offices, maintenance facilities and shops, cleaning and trash storage, etc.

Building Security

The stadium would provide space for staging New York City Police, and a building command center.

Administrative Facilities

The New York Yankees administrative offices would be located within the proposed stadium, as they are now.

Playing Field Facilities

Bullpens. The proposed stadium would provide warm-up bullpens for home and visitors in the outfield. Bullpens would be visible from both dugouts and would be equipped with phone outlets and an intercom system.

Playing Field. The field would be of natural grass, with a sand-base, gravity-drainage system. The field shape would match the configuration of the existing stadium. Foul poles, foul ball screens, batters' eye backdrop, and field wall pads would be part of the basic stadium field area.

The playing field would be illuminated by metal halide focused-beam lighting to meet the standards set by the American League and Major League Baseball. The field lighting system would provide illumination for color television coverage of major league baseball.

PROPOSED GARAGES AND TRANSPORTATION ELEMENTS

The transportation components of the proposed project have been designed to ease access to the proposed stadium. Truck and bus loading and operation of service vehicles have been removed from public streets, entry areas have been designed with enough capacity to handle crowds entering and leaving the proposed stadium, a basic plan to manage traffic and pedestrian flows at game time has been developed, and parking capacity has been expanded to reduce overflow parking on local streets and help reduce the walk from parking facilities to the stadium, as discussed below. The existing ferry landing and service would be maintained at its current location and capacity.

LOADING AND ENTRY AREAS

As stated previously, the proposed stadium would have a secured service drive between the north side of the proposed stadium and Parking Garage B, which would provide several loading docks for food service deliveries, team and other deliveries, and trash storage and pickup. Access to this secured driveway would be from River and Jerome Avenues. Team parking for private cars and buses would be located within the building and would have a designated access off River Avenue. In addition, the proposed stadium would provide space in the loading area for 10 large mobile media trucks with hookups.

Ticket windows and pedestrian entries to the proposed stadium would be on three sides: East 161st Street, River Avenue, and Jerome Avenue. This arrangement would help distribute spectators entering and leaving the proposed stadium and thus take full advantage of its perimeter in providing access capacity.

TRAFFIC AND PEDESTRIAN IMPROVEMENTS

At the present time, the New York City Police Department (NYPD) operates a transportation management plan during game days at Yankee Stadium. This includes certain street closings, use of Traffic Enforcement Agents (TEAs), and other options to control the peak traffic conditions. It is anticipated that a comparable management plan would be implemented for the proposed stadium.

Some traffic and pedestrian improvements have been included as part of the proposed project where the need for such improvements is readily apparent to maintain the safe and efficient vehicular and pedestrian flows. These improvements include:

- Ruppert Place between East 161st Street and East 157th Street would be converted to passive parkland use as part of the proposed project's parkland replacement. It would be demapped as a street and function as a north-south pedestrian-way on game days directly across from the proposed main stadium entrances along East 161st Street. It would also create an important link between adjacent parklands.
- The pedestrian plaza currently connecting Parking Garage 8 (located between East 157th Street, East 153rd Street, and River Avenue) with the existing stadium is part of a mapped street (East 157th Street) that is closed to vehicular traffic. As part of the proposed project, this plaza would be eliminated and East 157th Street would reconnect to the street network. With Ruppert Place closed to vehicular traffic but a major entrance to proposed Parking Garage A opened immediately west of it, a new intersection consisting of East 157th Street, East 153rd Street, and the Parking Garage A driveway would be created. Just east of this new intersection another driveway to proposed Parking Garage A is also proposed.

- The existing covered pedestrian bridge over the Metro-North Railroad tracks would be improved and made ADA compliant. To facilitate game-day pedestrian flow, the proposed project would extend this bridge to connect to the second level of Parking Garage 8 and span over East 157th Street onto Ruppert Plaza. This pedestrian bridge would provide a connection to the existing waterfront parking lots and ferry landing.
- An at-grade, controlled crossing of East 161st Street at Ruppert Plaza would be created. The existing T-intersection would be reconfigured for a wide, mid-block crosswalk with signals controlling East 161st Street traffic. Since Ruppert Plaza would no longer accommodate vehicular traffic under the proposed project, this crossing would make possible a continuous pedestrian-way between the existing Garage 8 and points south and the proposed stadium.
- A game-day pedestrian crossing area would be maintained at Babe Ruth Plaza along East 161st Street immediately west of the subway entrance pillars in the roadway medians. TEAs would be stationed along its perimeters to ensure safety and separation of vehicular and pedestrian traffic. This crossing would only be available during game days.
- An improved crossing would be provided at the Macomb's Dam Bridge Approach intersections with the East 161st Street service roads. Specifically, a new signal would be provided at the eastbound service road intersection, and a new south crosswalk, a widened north crosswalk and a widened continuous east crosswalk would be incorporated.
- Under the traffic management plan for the existing stadium, River Avenue between East 153rd and East 161st Streets is either partially or fully closed during certain periods on game days. The transportation analyses assume that this stretch of roadway could remain open at all times with the proposed project. The comprehensive game-day traffic management plan developed for the proposed project would close River Avenue, post-game only, from the north side of East 161st Street to East 164th Street.
- As necessary, TEAs would be deployed as they are today to facilitate vehicular and pedestrian traffic flow at the above and other strategic locations.

PUBLIC PARKING

Four new public parking garages would be developed on existing surface parking lots and parkland surrounding the proposed stadium, and existing Yankee Stadium Parking Lots 13A and 13B located along the Harlem River would be repaved, restriped, and extended south to replace the spaces lost to create the esplanade (see Figure 1-10). Parking would be available at existing lots and garages (except for the two existing lots located at East 157th Street and River Avenue that would become new parkland) and the four proposed new garages (see Figure 1-11 for location of all parking facilities), all of which are anticipated to be leased to private operators. In total, approximately 10,310 parking spaces would be available for stadium patrons. The City and Yankees are committed to making parking available to the public on a year-round basis to the extent possible. Stadium garages would be made available to the public during the off-season and on non-game days during the baseball season. Pedestrian circulation to the proposed stadium would originate from garage access points, from the existing ferry landing, and from the existing subway station at East 161st Street and River Avenue. The subway station is serviced by the B, D, and 4 subway lines.

Two of the proposed garages, Parking Garages A and C, would be connected at one level below-grade and designed to function as one efficient garage complex with separate access points. Parking spaces may shift from one garage to the other during detailed design, but access and

egress points would remain the same, as described below. Both Parking Garages A and C would be set back 12 feet from the Macomb's Dam Bridge Approach viaduct.

Parking Garage A would be a two-level garage located partially below-grade between East 157th and East 161st Streets and the Macomb's Dam Bridge Approach and the site of the existing stadium (see Figure 1-12). The garage would accommodate approximately 1,700 spaces; new recreational facilities that could be accessed from street-grade would be located above the structure. Two-way vehicular access would be available at two locations along at East 157th Street and at one location on the Macomb's Dam Bridge Approach (see Figure 1-11). Garage A would be located in the southern portion of Macomb's Dam Park, which currently contains recreational facilities and surface parking associated with the existing Yankee Stadium. Right-in, right-out only movements would be available at the garage's Macomb's Dam Bridge Approach access location. Elevators and stairs would direct pedestrian access onto Ruppert Plaza in several locations along its length and onto the Macomb's Dam Bridge Approach intersection with East 161st Street.

Parking Garage C would be a four-level garage located west of East 161st Street between Jerome Avenue, Macomb's Dam Bridge Approach, and the Major Deegan Expressway. Macomb's Dam Bridge Approach is an elevated roadway and approximately 16 feet higher in elevation than East 161st Street to its northeast and 10 feet higher than Jerome Avenue to its northwest. The proposed site of Parking Garage C is currently located in a portion of Macomb's Dam Park and contains a surface parking lot with access from East 161st Street. Macomb's Dam Bridge Approach is elevated above the existing parking lot. The proposed garage would accommodate approximately 1,120 spaces. Two-way access would be available from the street level (Level 1) of the garage at East 161st Street. Curb cuts would be provided at two locations along the Macomb's Dam Bridge Approach to access Level 3 and Level 4 (the top level) of the garage (see Figure 1-11). Similar to the Garage A driveway, only right-in, right-out movement would be permitted at these locations. New public tennis facilities would cover the entire garage roof. However, the tennis facilities would appear to be only two levels above the street along Macomb's Dam Bridge Approach. Pedestrian access for Garage C would be provided to the new roof-top recreational facilities, adjacent to the Macomb's Dam Bridge Approach intersection with East 161st Street.

Parking Garage B would contain five levels above-grade (including one level of roof parking) and one level below-grade. The garage would be located south of East 164th Street at the northern end of the proposed stadium and north of the service road (see Figure 1-13) and would accommodate approximately 966 spaces. Two-way vehicular access would be available at Jerome Avenue and River Avenue (see Figure 1-11). Garage B would be located in the southern portion of John Mullaly Park, which currently contains tennis and handball courts.

Parking Garage D would be a five-level above-grade garage (including one level of roof parking) located south of the proposed stadium at East 151st Street between River and Gerard Avenues. The garage would accommodate approximately 949 spaces. Two-way access would be available at River and Gerard Avenues. Parking Garage D would extend over East 151st Street at the 3rd, 4th, and roof levels (see Figure 1-13).

Existing Yankee Stadium Parking Lots 13A and 13B are located west of Exterior Street between the Bronx Terminal Market and the Macombs Dam Bridge. The proposed project would repave and restripe these existing lots and create new surface parking, as a southern extension to existing Yankee Stadium Lot 13A. This new southern parking extension would be located on property that contains paved areas and an abandoned power house building associated with

Bronx Terminal Market (Building J), which would be demolished. These surface parking changes would replace the spaces lost to create the new esplanade (described below).

PROPOSED PARKLAND AND RECREATIONAL FACILITIES

As noted above, the proposed stadium and three of the four proposed parking garages would occupy approximately 22.42 acres of parkland (including the portion of Macomb's Dam Park at the corner of East 157th Street and Ruppert Place that is currently used for accessory parking for Yankee Stadium—i.e., Lot 14) containing recreational facilities (13.5 acres for the stadium and 8.92 acres for the garages), but would replace the facilities and open space lost, and create a net increase of 4.63 acres in recreational acreage, as described below.

EXISTING FACILITIES

The proposed project would occupy the portion of Macomb's Dam Park north and south of East 161st Street and east of Jerome Avenue (21.42 acres), plus the southern portion of John Mullaly Park between East 162nd and East 164th Streets (3.9 acres). (See Figures 1-14 and 1-15.) Table 1-2 describes the existing recreational facilities in the parks that would be eliminated by the proposed project. As shown on Figure 1-15, these areas contain a substantial number of active recreational facilities, including 16 tennis courts and 8 handball courts in John Mullaly Park; and two baseball fields with 90-foot infields, one little league baseball field with a 60-foot infield, a softball field, a soccer field surrounding by a 400-meter track and bleachers, 24 handball courts, and two basketball courts in Macomb's Dam Park. There are two ballfields, each on the portions of Macomb's Dam Park located north and south of East 161st Street, which have overlapping outfields. When games are held at the same time on adjacent fields, the outfield must be shared by each ballfield, hindering their use. The track in this portion of Macomb's Dam Park was resurfaced in 2004 and is in good condition. However, the baseball field (90-foot infield) is in fair to poor condition and in need of renovation—the center field is barren dirt. Besides the specified facilities, Macomb's Dam Park contains a NYCDPR District Office building, which also provides public restrooms and open areas, which are used for pick-up football games, ball tossing, etc. Surveys of all recreational facilities in 2001 and 2004 found them to be well-used. Although most of the land is occupied with active recreational uses, the parks also contain a number of mature trees of various species.

Table 1-2
Recreational Facilities Proposed to be Displaced

Ref. No.	Recreational Facility	No. of Facilities
1	Tennis Courts: all 16 courts are open air in summer and 14 are covered in winter	16
2	Little League Baseball Field: 90-foot infield, overlapping outfield*	1
3	Running Track with Soccer/Football Field and Spectator Stands*	1
4	Softball Field: 60-foot infield, overlapping outfield	1
5	Little League Baseball Field: 90-foot infield, overlapping outfield	1
6	Little League Baseball Field: 60-foot infield, overlapping outfield	1
7	Basketball Courts	2
8	Handball Courts: Macomb's Dam Park (24 courts) John Mullaly Park (8 courts)	32

Notes: See Figure 1-15.
* Facilities rehabilitated with LWCF grant funding.
Sources: NYCDPR.

Several of the facilities in the portion of Macomb's Dam Park bounded by East 161st Street to the south, Jerome Avenue to the west, East 162nd Street to the north, and River Avenue to the east, were improved and rehabilitated with funds from the Federal Land and Water Conservation Fund (LWCF). As a result, this portion of Macomb's Dam Park is subject to the provisions of Section 6(f) of the LWCF Act. Section 6(f) requires that property improved or developed with LWCF assistance shall not be converted to any use other than public outdoor recreation use without the approval of the Secretary of the Interior (delegated to the Director of the National Park Service [NPS]). Therefore, NPS approval is required for the conversion of this portion of Macomb's Dam Park for the proposed stadium.

In addition to the use of parkland described above, Garage C would be built in a portion of Macomb's Dam Park on 2.89 acres of mapped parkland currently containing a parking lot. Parking facilities are permitted on lands dedicated as parkland and are consistent with the park designation, and are authorized by State legislation.

REPLACEMENT FACILITIES

A total of 27.05 acres of replacement recreational facilities, including new parkland would be provided as part of the proposed project. As described below, these facilities would all be located within existing and new parkland and public open space (see Figures 1-16 and 1-17). The replacement acreage includes: 15.82 acres of new mapped parkland, 2.89 acres on currently mapped parkland that contains an existing surface parking lot, 7.33 acres on existing parkland, and 1.01 acres of new open space (not mapped as parkland). The proposed project would create a unified 17.36-acre park area south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street. For purposes of the Federal LWCF conversion, the proposed Section 6(f) replacement parks would be developed on the existing stadium site, Ruppert Plaza, and along the Harlem River waterfront. As currently contemplated, NYCDPR would replace directly most of the existing facilities to be displaced by the proposed project. However, NYCDPR may choose to vary the new facilities to provide replacements that are not exactly the same as those displaced, but are equal or greater in use and value. For example, NYCDPR in consultation with the local community may replace some of the existing handball courts with alternative recreational facilities that meet current community needs. To this end, NYCDPR would undertake a broad community outreach program before deciding on a final plan for the new parkland and recreational facilities. The anticipated new facilities, which may be modified, include the following elements:

- The proposed project would retain the playing field, dugouts, and locker rooms under the field seats of the existing stadium and adapt it to a public baseball field called "Heritage Field." It is anticipated that some of the field seats in the existing stadium would be retained for the replacement ball field (no more than 3,000 seats), while most of the existing stadium would be demolished. Also on the site of the existing Yankee Stadium would be areas of landscaped, passive recreational open space. In total, this area would be 8.9 acres of new parkland. A portion of the existing Yankee Stadium site, approximately 0.75 acres along East 157th Street, would not be mapped as parkland. This area would be reserved for future development that could accommodate other elements of the Borough President's plan for the neighborhood as they develop. This area would contain passive open space until such plans are implemented. This acreage (0.75 acres) is not included in the 8.9 acres of replacement parkland and recreational facilities on the existing stadium site.

- A full-size, artificial turf soccer field would be located south of East 161st Street between Jerome Avenue and the existing stadium site in the southern portion of what is currently Macomb's Dam Park. A 400-meter athletic track would encircle the soccer field. A grandstand would overlook these two facilities. A comfort station with restrooms could be located beneath the grandstand. Adjacent to the track on its south would be an artificial turf little league field and nine handball courts, and to its west would be two basketball courts (one with stands) and two tennis courts. A tot-lot, with climbing and play equipment, drinking fountain, and benches would be located at the corner of Macomb's Dam Bridge Approach and East 161st Street. These facilities would be built atop a new subterranean garage (Parking Garage A) and would be accessible via a short set of stairs and ADA-compliant ramps from the new pedestrian-only Ruppert Plaza, described below, and accessible at-grade from the surrounding streets. In total, they would comprise 7.33 acres.
- Between Heritage Field and the soccer field and athletic track would be a passive park with an allee of trees on re-aligned Ruppert Place. Renamed "Ruppert Plaza," it would comprise 1.13 acres of new parkland. The design of Ruppert Plaza would include significant landscaping, including shaded areas and passive park amenities, such as benches, resting areas, and pedestrian walkways. Ruppert Plaza would be an important recreation element that would be integrated with Heritage Field, create an important link to adjacent parkland and new recreational facilities. It would also function as the main thoroughfare from the existing parking facilities, as well as proposed Parking Garage A, to the proposed stadium.
- Passive park/civic space is proposed east of River Avenue on either side of East 157th Street and would contain benches and unique paving landscapes. The northern park parcel would contain sculptured play elements. Together these parks would act as a gateway to Heritage Field. These facilities would constitute 0.68 acres of new parkland.
- Fourteen tennis courts would be built in Macomb's Dam Park atop Parking Garage C, south of East 161st Street, west of Jerome Avenue and north of a ramp from the Major Deegan Expressway. Adjacent to the tennis courts would be a pavilion building with restrooms and other amenities serving the tennis court program. The total area would be 2.89 acres. Although the courts would be on the roof of a four-story garage, the elevation of the Macomb's Dam Bridge Approach in this location would lower their relative height considerably.
- One little league baseball field and one softball field (both artificial turf) would be located along the waterfront, approximately ½-mile from the existing facilities. New passive recreational open space and a pedestrian esplanade would surround these waterfront ballfields. A comfort station with restrooms would be constructed within the waterfront park. These ballfields and open space would be located on property currently associated with the Bronx Terminal Market. Currently, the site contains paved areas for parking, an abandoned power house (Bronx Terminal Market Building J), and two low-scale, partially occupied warehouse buildings (Bronx Terminal Market Buildings G and H) that would be demolished. The new waterfront open space has been designed to accommodate the maintenance and operation of the future reconstruction project for the Major Deegan Expressway. The fields would add 5.11 acres to the inventory of new parkland.
- In addition to the replacement recreational facilities, the proposed project would also create a new 0.71-acre esplanade that would extend from the northern end of the waterfront park, wrap around the waterfront to the existing ferry landing, and extend east to the pedestrian connection at Exterior Street beneath the Major Deegan Expressway. Although it would not be mapped as parkland, the esplanade would provide an important corridor between the

recreational facilities of the Harlem River waterfront and the new recreational facilities in the eastern portion of the project area. In total, the proposed project would create more than 5.82 acres of new public open space along the Harlem River waterfront. The proposed waterfront park and esplanade would provide waterfront access and recreational opportunities that are currently not available in the surrounding community. The new park and esplanade would establish physical and visual public access to the Harlem River waterfront and result in waterfront uses that would attract the public and enliven a waterfront area that is currently composed of degraded piers.

- In addition to the active facilities cited above, public passive open space would surround Parking Garage B along East 164th Street (0.3 acres).

RETAIL DEVELOPMENT

Parking Garage D would be developed with a non-destination retail component of approximately 12,000 gsf along the street level of the garage.

PEDESTRIAN AND STREETSCAPE IMPROVEMENTS

The proposed project would also make improvements along River Avenue and in the area of the existing pedestrian bridge over the Metro-North Railroad tracks. The existing pedestrian bridge would be improved and made ADA compliant. As described earlier, the proposed project would also extend this bridge to connect to the second level of Parking Garage 8 and span over East 157th Street onto Ruppert Plaza to facilitate game-day pedestrian flow. This pedestrian bridge would provide a connection to the waterfront parking lots, new parkland, and ferry landing. New urban design elements, such as unique paving, signage, and pedestrian lighting would be implemented at the western end of the pedestrian bridge. These new elements would direct pedestrians between the parking areas west of the Major Deegan Expressway and the existing bridge. In addition, Ruppert Place would be closed and mapped as passive parkland, and used as a pedestrian-way leading to the proposed stadium. Streetscape improvements would be made along River Avenue between proposed Parking Garage D and East 164th Street. Sidewalks currently in poor condition would be replaced, existing trees would be retained and supplemented with new trees, and pedestrian lighting would be improved. Streetscape improvements would also be made around the stadium on River and Jerome Avenues and on East 161st Street, where large pedestrian gathering areas would include decorative paving, landscaping, and other amenities such as seating areas and sculpture.

D. CONSTRUCTION SCHEDULE

If approved, the proposed stadium is expected to be completed by spring 2009 for opening day of the New York Yankees 2009 season. The Yankees would continue to play at the existing stadium while the proposed stadium is under construction. All four proposed garages are also expected to be completed by 2009. It is expected that all proposed parkland development would occur by 2009, except for Heritage Field on the site of the existing stadium (see Table 1-3).[1]

[1] Since publication of the DEIS, NYCDPR and the Yankees have been working to develop a revised construction schedule that would allow for certain interim and permanent replacement recreational facilities to be available sooner. This new schedule is reflected in the Alternative Park Plan analyzed in Chapter 22, "Alternatives," of this FEIS. As applied to the proposed project, a similar construction schedule would result in additional interim recreational facilities and some permanent replacement

Table 1-3
Estimated Schedule for Parkland and Parking Garage Completion

Description	Estimated Completion Date
Parkland along Waterfront and Recreational Facilities	2007
Parkland along River Avenue and East 157th Street	2007
Parking Garage C	2008
Parking Garage D	2008
Tennis Courts Over Garage C	2008
Parking Garage A	2009
Parking Garage B	2009
Recreational Facilities Over Garage A	2009
Heritage Field and Ruppert Plaza	2010

Source: NYCDPR.

E. PUBLIC APPROVALS

The project will require approvals from the City, State, and Federal agencies. Several of these are discretionary actions requiring review under CEQR and SEQRA. Others are ministerial and do not require environmental review; nonetheless, they are subject to review under each relevant agency's public mandate, as discussed below.

New York State legislation enacted in June 2005[1] authorizes the alienation of certain areas of currently mapped parkland—portions of Macomb's Dam and John Mullaly Parks—to allow for its disposition by the City, through leases, for operation of the proposed stadium and several parking garages. The legislation also allows for stadium-related facilities, including parking facilities on existing and new parkland. Following that disposition, however, these areas would remain mapped parkland. The legislation allows the State to dispose of and the City to acquire two parcels of waterfront property owned by the State. The legislation also allows for the demapping of East 162nd Street and Ruppert Place as an administrative action by the Mayor and authorizes the disposition and use of a volume of air space over East 151st Street.

New York City–ULURP Actions

The following actions will require approval through ULURP under City Charter Section 197(c). Approval, as necessary, would also be required pursuant to City Charter Section 384(b)(4) for the approval of the business terms associated with the parking garages.

Disposition of City-Owned Property:

- Stadium/Stadium Site (Long-Term Lease).
- Parking Facilities/Parking Facilities Sites (Long-Term Lease).

facilities becoming available sooner. This new construction schedule would not result in any significant adverse impacts not already identified for the construction schedule analyzed in Chapter 19, "Construction."

[1] Chapter 238 of the 2005 Laws of New York.

Acquisition:

- Acquisition of property by the City to enable it to acquire leasehold and subleasehold interest in the new Yankee Stadium, and to assure clear title.

Amendments to City Map:

- Map as parkland: former East 162nd Street as part of John Mullaly Park.
- Map as parkland: Ruppert Place as part of Macomb's Dam Park.
- Map as parkland: proposed waterfront ballfields and open space on former Bronx Terminal Market property.
- Map as parkland: proposed passive recreational facilities at River Avenue and 157th Street.
- Map as parkland: existing Yankee Stadium, and adjacent City-owned property.
- Demap the portion of Jerome Avenue between the north side of East 161st Street and the south side of East 164th Street and the portion of East 161st Street between the east side Jerome Avenue and the Macomb's Dam Bridge Approach and the west side of River Avenue. The areas to be demapped would vary in width from approximately 10–20 feet, totaling approximately 0.3 acres. This area would be mapped as parkland and incorporated into the footprint of the proposed Yankee Stadium site.

Concessions:

- Approval of a major concession to operate a tennis facility.

Special Permit:

- A special permit pursuant to Zoning Resolution Section 74-512 to allow construction and operation of a public parking garage not located in parkland (Parking Garage D), to allow the parking garage to contain rooftop parking, and to permit the portion of the garage located above the adjusted base plane and below a height of 23 feet above curb level to be exempt from the definition of floor area.
- A special permit pursuant to Zoning Resolution Section 74-54 to allow for modification of rear yard requirements for Garage D.

New York State

- State funding of parking facilities within the proposed project.
- Tidal Wetlands permit from New York State Department of Environmental Conservation (NYSDEC).
- Possible Protection of Waters permit and water quality certification from NYSDEC.

ADDITIONAL CITY AND STATE ACTIONS

As described above, New York State legislation enacted in June 2005 authorizes the alienation of certain areas of currently mapped parkland, to allow for its disposition by the City, through leases, for operation of the proposed stadium and several parking garages, and the demapping of East 162nd Street and Ruppert Place as an administrative action. The State legislation also requires that the City dedicate the existing stadium site as parkland and acquire additional

parklands and/or dedicate land for park and recreational purposes which are equal to or greater than the fair market value of the parkland being alienated.

New York City

- Administrative action to amend the City map to demap East 162nd Street, Ruppert Place, and a volume above East 151st Street as City streets.
- Possible New York City Department of Environmental Protection (NYCDEP) permits for de-watering activities associated with construction.
- Review and approval of the Art Commission of the City of New York for the design of landscaping and buildings/structures constructed on or over City Property.
- Coastal Zone consistency determination from the New York City Planning Commission.
- City funding and construction of the proposed park improvements.

New York State

- Authorization under the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for stormwater discharges associated with construction activities. A SPDES permit for operations is not required, because all wastewater would be discharged through the NYCDEP permitted sewer system.
- Coastal Zone consistency determination from the New York State Department of State.

FEDERAL ACTIONS

Under the LWCF, 16 U.S.C. § 460l-4 et seq., the National Park Service (NPS) provides matching grants to states, and through states to local governments, for the acquisition and development of public outdoor recreation areas and facilities. Section 6(f) of the LWCF requires that no property acquired or developed with LWCF assistance can be converted to other than public outdoor recreation use without the approval of the NPS and the substitution of other recreational properties of at least equal fair market value and of reasonably equivalent usefulness and location. Because prior improvements to a portion of Macomb's Dam Park within the project area were funded under the LWCF, the NPS is required to approve of the proposed conversion of that portion of Macomb's Dam Park to non-public recreational uses and the substitution of replacement facilities pursuant to Section 6(f). Consistent with the State's role under the LWCF, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) must first provide the NPS with its recommendation concerning the proposed Section 6(f) conversion.

The proposed project also requires authorization under Nationwide Permits from the U.S. Army Corps of Engineers (USACOE) for in- or above-water construction activities.

In addition, as described below, the OPRHP recently determined that several buildings in the project area are eligible for listing on the State and National Registers of Historic Places. The buildings determined eligible for listing on the Registers are the Bronx Terminal Market Buildings G, H, and J.

Because elements of the proposed project will involve discrete discretionary actions by Federal agencies (i.e., the NPS and the USACOE), there will be a review of those elements under Section 106 of the National Historic Preservation Act of 1966 (NHPA), as implemented by

Federal regulations appearing at 36 Code of Federal Regulations (CFR) Part 800, the National Environmental Policy Act (NEPA) and its implementing regulation, as well as any applicable executive orders (e.g., Executive Order 12898 [relating to environmental justice] and Executive Orders 11988 and 11990 [relating to the protection of floodplains and wetlands]).

F. ENVIRONMENTAL REVIEW

The proposed mapping, concession, special permit, acquisition, and disposition actions are subject to the City's land use approval process (ULURP) and environmental review, as described below. Other of the required actions also require environmental review, but not ULURP. CEQR supports these actions, too, and normally runs concurrently with ULURP. NYCDPR is the CEQR lead agency and the ULURP applicant, and the City Planning Commission and City Council are involved agencies in the CEQR process.

As indicated, NPS' approval of the proposed LWCF Section 6(f) parkland conversion is subject to NEPA. NPS and OPRHP will be consulted throughout the SEQRA/CEQR environmental review process, including preparation of the EIS. That process and the EIS will be used by NPS to fulfill federal requirements for an environmental assessment under NEPA that will be used as a decision-making framework to evaluate the environmental impacts of the proposed action, including the construction of the replacement parks, in accordance with NEPA (and the additional applicable federal laws and executive orders identified above), and to issue a decision on the 6(f) conversion.

UNIFORM LAND USE REVIEW PROCEDURE (ULURP)

The City's ULURP, mandated by Sections 197-c and 197-d of the City Charter, is a process specifically designed to allow public review of the proposed actions at four levels: Community Board, Borough President, New York City Planning Commission (CPC), and City Council. The procedure sets time limits for review at each stage to ensure a maximum total review period of approximately seven months. The process begins with certification by CPC that the ULURP application is complete. CPC certified the ULURP application for the proposed project as complete on September 26, 2005, starting the public review process under ULURP.

The application is then referred to Bronx Community Board 4, which has up to 60 days to review and discuss the proposal, hold a public hearing, and adopt a resolution regarding the proposed project. The project was reviewed by Community Board 4 for a total of 49 days, including a public hearing held on November 22, 2005. Following completion of review by the Community Board, the Bronx Borough President has up to 30 days to review the project. Following issuance of Community Board 4's recommendations on the project on November 29, 2005, the Bronx Borough President reviewed the project for a total of 24 days, including a public hearing on December 12, 2005.

CPC then has up to 60 days for review of the application, during which time a public hearing is held. Following the hearing, CPC may approve or disapprove the application. The required public hearing for the DEIS (see below) may be held jointly with the CPC ULURP hearing. Comments made at the DEIS public hearing are incorporated into a Final Environmental Impact Statement (FEIS); the FEIS must be completed at least 10 days before the CPC action. Following issuance of the Borough President's recommendations, CPC began its review of the project and held a joint public hearing on the ULURP application and DEIS on January 11,

2006. After publication of this FEIS, CPC will issue its decision on the project's ULURP application on or before February 27, 2006, the end of its 60-day review period.

CPC forwards the application to the City Council, which has 50 days in which to consider the proposed project. Following the Council's vote, the Mayor may approve or veto the proposed actions. The City Council may override the mayoral veto. Once ULURP is complete, NYCDPR may take action on the proposed project.

CITY ENVIRONMENTAL QUALITY REVIEW

Responding to the State Environmental Quality Review Act (SEQRA) and its implementing regulations, New York City has established rules for its environmental review process, CEQR. The environmental review provides a means for decision-makers to systematically consider environmental effects along with other aspects of project planning and design, to evaluate reasonable alternatives, and to identify and, when practicable, mitigate significant adverse environmental effects. Most recently revised in 1991, CEQR rules guide environmental review through the following steps:

- **Establishing a Lead Agency**. Under CEQR, the "lead agency" is the public entity responsible for conducting the environmental review. Usually, the lead agency is also the entity primarily responsible for carrying out, funding, or approving the proposed project. NYCDPR is the CEQR lead agency for the Yankee Stadium Project, and the City Planning Commission and City Council must also make discretionary decisions under this CEQR process.
- **Determination of Significance**. The lead agency's first charge is to determine whether the proposed project might have a significant impact on the environment. To do so, NYCDPR prepared an Environmental Assessment Statement (EAS). Based on the information contained in the EAS, NYCDPR determined that the project might result in significant adverse environment impacts and issued a *Positive Declaration* on June 15, 2005.
- **Scoping**. Along with its issuance of a Positive Declaration, NYCDPR issued a draft Scope of Work for the EIS on June 15, 2005. This draft scope was widely distributed to concerned citizens, public agencies, and other interested groups. "Scoping," or creating the scope of work, is the process of focusing the environmental impact analyses on the key issues that are to be studied. A public scoping meeting was held for the proposed project on July 18, 2005, and additional comments were accepted until August 17, 2005. Modifications to the draft Scope of Work for the proposed project's DEIS were made as a result of public and interested agency input during the scoping process. A Final Public Scoping Document for the project (which reflected comments made on the draft scope and responses to those comments), was issued on September 21, 2005.
- **Draft Environmental Impact Statement**. In accordance with the Final Public Scoping Document, a DEIS was prepared. After reviewing the DEIS and determining that the document fully disclosed the project program, its potential environmental impacts, and recommended mitigation, the NYCDPR issued a Notice of Completion on September 23, 2005.
- **Public Review**. Publication of the DEIS and issuance of the Notice of Completion signal the start of the public review period. During this time, which extends for a minimum of 30 days, the public has the opportunity to review and comment on the DEIS either in writing or at a

public hearing convened for the purpose of receiving such comments. Where the CEQR process is coordinated with another City process that requires a public hearing, such as ULURP, the hearings may be held jointly. In any event, the lead agency must publish a notice of the hearing at least 14 days before it takes place and must accept written comments for at least 10 days following the close of the hearing. For the proposed project, the public review under CEQR was conducted concurrently with public review under ULURP (see above). The joint ULURP and CEQR public hearing for this project was held on January 11, 2006. Comments were accepted at the hearing and throughout the public comment period, which was held open until January 23, 2006. All substantive comments received at the hearing or during the comment period become part of the CEQR record and are summarized and responded to in the FEIS.

- **Final Environmental Impact Statement**. After the close of the public comment period for the DEIS, NYCDPR prepared an FEIS. This document includes a summary restatement of each substantive comment made about the DEIS and a response to each comment. NYCDPR has determined that the FEIS is complete, and has issued a Notice of Completion.
- **Findings**. To demonstrate that the responsible public decision-maker has taken a hard look at the environmental consequences of a proposed project, any agency taking a discretionary action regarding a project must adopt a formal set of written findings, reflecting its conclusions about the significant adverse environmental impacts of the proposed project, potential alternatives, and potential mitigation measures. The findings may not be adopted until 10 days after the Notice of Completion has been issued for the FEIS. Once findings are adopted, the lead and involved agencies may take their actions (or take "no action").

G. FRAMEWORK FOR ANALYSIS

SCOPE OF ENVIRONMENTAL ANALYSIS

As set forth in the Positive Declaration, the lead agency has determined that the proposed project may result in one or more significant adverse environmental impacts and thus requires preparation of an EIS. The EIS has been prepared in accordance with the guidelines set forth in the *CEQR Technical Manual,* which sets forth methodologies and guidelines for environmental impact assessment consistent with SEQRA.

For all technical analysis in the EIS, the assessment includes a description of existing conditions, an assessment of conditions in the future without the proposed project for the year that the proposed project would be completed, and an assessment of conditions for the same year with the completion of the action in the future with the proposed project. Identification and evaluation of impacts of the proposed project are based on the change from the future without the proposed project to the future with the proposed project.

ANALYSIS YEAR

An EIS analyzes the effects of a proposed action on its environmental setting. Since typically a proposed action, if approved, would take place in the future, the action's environmental setting is not the current environment but the environment as it would exist at project completion, in the future. Therefore, future conditions must be projected. This prediction is made for a particular year, generally known as the "analysis year" or the "Build year," which is the year when the action would be substantially operational.

As previously described, 2009 is the year that the proposed stadium would be completed. It is expected that all proposed parkland development would occur by 2009, except for Heritage Field on the site of the existing stadium, which would be completed by 2010 and in active use in the first quarter of 2011. 2009 has been chosen as the analysis year for the EIS because that is the year in which the principal components of the project—the proposed stadium and parking garages—would be completed. However, to ensure that all of the potential impacts of the completed, full project are accounted for, the analyses in the EIS will be conducted assuming that the fully developed project is in place, with the exception of those subjects for which the most impacts would occur prior to completion of the full project. These include, most notably, open space, because there would be a temporary shortfall between the amount of parkland that is currently available and the amount of replacement parkland ultimately to be provided while the project is under development, and construction impacts. The traffic and pedestrian and transit analyses will assume that the mitigation measures that are being proposed as part of the project are in place in 2009, as is contemplated.

DEFINITION OF STUDY AREAS

For each technical area in which impacts may occur, a study area is defined for analysis. This is the geographic area likely to be affected by the proposed project for a given technical area, or the area in which impacts of that type could occur. Appropriate study areas differ depending on the type of impact being analyzed. Often it is appropriate to use primary and secondary study areas: the primary study area is closest to the project area and therefore is most likely to be affected; the secondary study area is farther away and receives less detailed analysis. Generally, the primary study area is most likely to be more directly affected by the proposed project, and those effects can be predicted with relative certainty, while the secondary study area could experience indirect effects, such as changes in trends. It is anticipated that the direct principal effects of the proposed project would occur within the project study areas. The methods and study areas for addressing impacts are discussed in the individual technical analysis sections.

DEFINING BASELINE CONDITIONS

EXISTING CONDITIONS

For each technical area being assessed in the EIS, the current conditions must first be described. The assessment of existing conditions establishes a baseline, not against which the project is measured, but from which future conditions can be projected. The prediction of future conditions begins with an assessment of existing conditions because these can be measured and observed. Studies of existing conditions are generally selected for the reasonable worst-case conditions. For example, the times when the greatest number of new vehicular, pedestrian and transit trips to and from a project site would occur are measured for the traffic analysis. The project impacts are then assessed for those same traffic peak periods.

DEFINITION OF FUTURE WITHOUT THE PROPOSED PROJECT

The “future without the proposed project,” or “No Build condition,” describes a baseline condition, which is evaluated and compared to the incremental changes due to the proposed project. The No Build condition is assessed for the same 2009 analysis year as the proposed project.

The No Build condition uses existing conditions as a baseline and adds to it changes known or expected to be in place by 2009. For many technical areas, the No Build condition incorporates known development projects that are likely to be built by the analysis years. This includes development currently under construction or which can be reasonably anticipated due to the current level of planning and public approvals. The No Build analyses for some technical areas, such as traffic, use a background growth factor to account for a general increase expected in the future. Such growth factors may also be used in the absence of known development projects. The No Build analyses must also consider other future changes that will affect the environmental setting. These could include technology changes, such as advances in vehicle pollution control and roadway improvements, changes to City policies, such as zoning regulations, or changes in public policy related to operation of the existing stadium.

The No Build condition in the project area is anticipated to be a continuation of existing conditions—including continued operation of the existing Yankee Stadium. In the future conditions without the proposed project, the existing Yankee Stadium would remain, as well as Macomb's Dam and John Mullaly Parks. The same number of baseball patrons and parkland users would continue visiting these sites.

Outside the project areas, there are plans to replace the underutilized and dilapidated buildings at the Bronx Terminal Market with Gateway Center—a major retail center. Most of the Gateway Center project at Bronx Terminal Market would be completed by 2009, with a second phase of development to be completed by 2014. Since completion of the DEIS, the Gateway Center at Bronx Terminal Market project has been reduced in size, in that development on the portion of the site west of Exterior Street and the Major Deegan Expressway was eliminated. The analyses in this FEIS reflect the modified program for the Gateway Center project. As stated in the Gateway Center at Bronx Terminal Market FEIS, the 2009 development would include a total of approximately 957,700 gross square feet (gsf) of retail space, a multi-level parking garage and at-grade parking totaling approximately 2,610 spaces. The second phase of development would build a 250-room hotel and 30,000 gsf banquet facility, as well as 225 additional parking spaces by 2014. The current tenants of the Bronx Terminal Market would be relocated, and the Bronx House of Detention, which is currently in reserve status, would be closed.

In addition, the City will develop an approximately 2-acre waterfront public open space on Pier 4, south of the proposed project's waterfront park. It is anticipated that this public open space would be maintained by NYCDPR. The City is committed to developing this off-site public open space by the Gateway Center project's 2009 Build year. The programming of this open space and the actions required for its development are yet to be determined.

Several other projects are also planned in the vicinity of the project area. The New York City Department of Education has plans to build a high school facility housing four school organizations on the site of the depressed former rail yard, south of P.S. 156 at Concourse Village and East 153rd Street. The New York City Department of Homeless Services has plans for a new Emergency Assistance Unit at East 151st Street and Walton Avenue to replace the existing facility at this location and Hostos Community College will renovate a 125,000 gsf academic building at Grand Concourse and East 149th Street.

As described earlier, the Bronx Borough President issued a Yankee Stadium Neighborhood Development Plan in 2004 that included construction of a new stadium across East 161st Street and the creation of more usable parkland in the area. The plan also called for several other components including a hotel conference center, sport and fitness center, and high school for sports industry careers. As described earlier, the proposed project does not preclude future

development of these elements of the plan. However, since these elements have not been specifically defined at this time (i.e., location, size, program, and construction schedule) these other elements are not included in the No Build analysis.

IDENTIFYING SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS

Identification of significant adverse environmental impacts is based on the comparison of future conditions without and with the proposed project. In certain technical areas (e.g., traffic, air quality, and noise) this comparison can be quantified and the severity of impact rated in accordance with the *CEQR Technical Manual*. In other technical areas, (e.g., neighborhood character) the analysis is more qualitative. The methodology for each technical analysis is presented at the start of each technical chapter.

MITIGATION

Mitigation measures for all significant adverse impacts identified in this DEIS are described in Chapter 21, "Mitigation." CEQR requires that any significant adverse impacts identified in the EIS be minimized or avoided to the fullest extent practicable, given costs and other factors. In the DEIS, options for mitigation can be presented for public review and discussion, without the lead agency having selected one for implementation. Where no mitigation is available, the EIS must disclose the potential for unmitigatible significant adverse impacts.

ALTERNATIVES

Chapter 22, "Alternatives," assesses a range of alternatives to the proposed project. CEQR requires that a description and evaluation of the range of reasonable alternatives to the action be included in an EIS at a level of detail sufficient to allow a comparative assessment of the alternatives to a proposed action. Alternatives and the rationale behind their selection are important in the disclosure of environmental effects of a proposed action. Alternatives provide options to the proposed action and a framework for comparison of potential impacts and project objectives. If the environmental assessment and consideration of alternatives identify a feasible alternative that eliminates or minimizes adverse impacts, the lead agency may want to consider adopting that alternative as the proposed action. CEQR requires a "no action alternative" that evaluates environmental conditions that are likely to occur in the future without the proposed action. Several alternatives addressed include renovation of the existing stadium, as well as rebuilding the stadium at several suggested locations near the existing Yankee Stadium, but south of East 161st Street, or at three locations outside the neighborhood (Van Cortlandt Park and Pelham Bay Park, both in The Bronx, and the Caemmerer Yard (rail yard) on Midtown Manhattan's West Side). The consideration of alternatives also includes an alternative parking arrangement and an alternative park design and location plan. ✶

Chapter 2: Land Use, Zoning, and Public Policy

A. INTRODUCTION

This analysis of land use, zoning, and public policy characterizes the existing conditions of the project area and the surrounding study area; anticipates and evaluates those changes in land use and zoning that are expected to occur independently of the proposed project; and identifies and addresses any potential impacts to land use, zoning, and public policy associated with the proposed project.

To determine existing conditions and assess the potential for project-related impacts, consistent with the *City Environmental Quality Review (CEQR) Technical Manual*, the land use study area has been defined as a ¼-mile radius of the project area, which is the area in which the project has the greatest potential to affect land use or land use trends. Various sources were utilized to prepare a comprehensive analysis of land use, zoning, and public policy characteristics of the study area, including field surveys and land use and zoning maps.

The proposed reconfiguration of the locations of the parking, open space, and stadium facilities and net increase in overall open space would be consistent with land uses in the area under existing conditions and in the future without the proposed project. The proposed project would be consistent with zoning and other public policies affecting the project area and surrounding area. Overall, the proposed project would have no significant adverse impacts on land use, zoning, or public policy.

B. EXISTING CONDITIONS

LAND USE

The following discussion describes existing land use in the project area, as well as the land use patterns and trends in the land use study area.

PROJECT AREA

The project area is located in The Bronx. It encompasses several blocks, and consists of the existing Yankee Stadium located at East 161st Street and River Avenue; portions of Macomb's Dam and John Mullaly Parks, located between East 157th and East 164th Streets and River and Jerome Avenues; several surface parking lots located on the eastern side of River Avenue at East 151st and East 157th Streets and along the waterfront west of Exterior Street; and a portion of the Bronx Terminal Market complex, west of Exterior Street between East 150th and East 153rd Streets (see Figure 2-1).

The existing Yankee Stadium is a 56,928-seat open-air stadium that opened in 1923. The stadium site was purchased from the estate of William Waldorf Astor when the Yankees had to vacate their former Manhattan home—the Polo Grounds—that they shared with the National League Giants. Today the stadium, which was last renovated in 1976, remains the home of the

New York Yankees and hosts at least 81 games per year. A plaza containing a sidewalk café is located between Gates 4 and 6.

The northern portion of Macomb's Dam Park above East 161st Street that is part of the proposed stadium site contains two ballfields, as well as the Yancey track and soccer field, which was used as a training ground for the 1912 Olympics. This portion of the park is approximately 11.2 acres. The southern portion of the park (below East 161st Street) that is part of the project area is approximately 10.22 acres. A portion of this space is currently used for parking for Yankee Stadium. The rest of this space contains 24 handball courts, 2 basketball courts, 2 ballfields, as well as the Macomb's Dam Park District Office, which also provides public restrooms, and passive recreation areas with benches and trees. The existing Yankee Stadium, which is not located on parkland, is to the east of this parkland on the other side of Ruppert Place.

The southernmost block of John Mullaly Park—between East 162nd and 164th Streets—is also part of the project area. This parcel contains the 16 court Stadium Racquet Club, and its associated office and parking facilities, as well as 8 handball courts. This portion of John Mullaly Park is approximately 3.9 acres. A New York City Transit electrical substation is also located on the block.

Two low-scale, partially-occupied warehouse buildings (Buildings G and H) that are part of the wholesale food market at Bronx Terminal Market, paved areas for parking, and an abandoned power house building (Building J) are also part of the project area. The buildings are in dilapidated condition.

The project area also contains surface parking lots not located on parkland—four on the east side of River Avenue at the northeast and southeast corners of East 151st and 157th Streets and two west of Exterior Street, north of the Bronx Terminal Market.

STUDY AREA

As shown in Figure 2-1, the land use study area has been defined by a ¼-mile perimeter extending from the project area parcels. The western portion of the study area is located across the Harlem River within Manhattan, with the remainder of the study area located in The Bronx. The study area is bounded roughly to the north by McClellan Street (Bronx) and West 155th Street (Manhattan), to the east by Concourse Village West (Bronx), to the south by West 143rd Street (Manhattan) and East 146th Street (Bronx), and to the west by Lenox Avenue, Adam Clayton Powell Boulevard, and Frederick Douglass Boulevard (Manhattan).

The Harlem River, which separates The Bronx from Manhattan, is a defining element of the study area. Along this section of the river, two bridges—the Macomb's Dam Bridge and the 145th Street Bridge—connect the two boroughs. Each borough has a major thoroughfare—the Harlem River Drive in Manhattan and the Major Deegan Expressway in The Bronx—running alongside the river.

The study area contains a number of distinct neighborhoods. The central portion of the study area—generally south of East 153rd Street, west of Gerard Avenue, and east of the Harlem River—is characterized by heavy commercial and industrial uses. The major industrial use in the area is the Bronx Terminal Market, with its low-rise, partially occupied wholesale and warehouse buildings. An institutional use, the Bronx House of Detention, which is currently closed and not housing an inmate population, is also located in this largely industrial area. The Bronx House of Detention is a New York City Department of Corrections facility and in reserve status. Paved areas surrounding the buildings provide parking during games at Yankee Stadium. The Oak Point Link rail connection runs on a trestle along the Harlem River parallel to the

shoreline. The elevated Major Deegan Expressway and Exterior Street/Major Deegan Boulevard (the street under the Expressway) run parallel to the waterfront and intersect the market. The area also contains food and beverage suppliers/distributors on the outskirts of the market, surface parking lots within proximity to the existing Yankee Stadium, self-storage facilities, warehouses, wholesale merchandise suppliers, car washes, and auto body shops.

Gerard Avenue roughly marks the boundary between the industrial and residential areas within the Bronx portion of the study area. Six-story residential apartment buildings line Gerard and Walton Avenues north of East 153rd Street and two- to three-story attached residential buildings are located along Walton Avenue south of East 151st Street. Residential buildings located along the east side of the Grand Concourse are predominantly six stories, though there are several taller mid-rise and high-rise residential buildings along the street. At the eastern edge of the study area is the high-rise Concourse Village residential complex. South of the complex is a former Metropolitan Transportation Authority (MTA) rail yard that is located below street level and is currently vacant.

Eugenio Maria de Hostos Community College (commonly referred to as Hostos Community College) is the largest institutional use in the study area, and is located along Walton Avenue and the Grand Concourse south of Hostos Boulevard. The college was created in 1968 to serve the needs of the South Bronx. Several other educational facilities are located in this portion of the study area, including Cardinal Hayes Memorial High School on the Grand Concourse at East 151st Street, the P.S. 31 building on the Grand Concourse at East 145th Street, which is not currently in use, All Hallows Institute on East 164th Street and Walton Avenue, and P.S. 156 on Sheridan Avenue at East 156th Street. The New York City Department of Homeless Services operates an Emergency Assistance Unit intake center at the corner of East 151st Street and Walton Avenue. Other institutional uses in this portion of the study area include the post office at East 149th Street, the Bronx County Courthouse on East 161st Street and the Grand Concourse, and the Andrew Freedman Home, an adult care facility at 1125 Grand Concourse. There are several small churches located throughout the residential area.

The portions of the 28.4-acre Macomb's Dam Park that are not part of the project area are located to the west of the proposed stadium site, with one park parcel located west of the Major Deegan Expressway. The park, which opened in 1899, is named after the Macomb family of millers who, in the 19th century, operated a dam and mill on the site. Along 161st Street west of Jerome Avenue are several small landscaped areas of the park. The triangle between the Macomb's Dam Bridge Approach and Jerome Avenue contains trees and a lawn area with a walking path. The portion between Anderson and Woodcrest Streets contains benches and game tables. The portion between Woodcrest and Ogden Streets contains a grassy hill slope, game tables, and benches. The portion between Ogden Street and Summit Avenue contains Summit Playground and a grassy hill. An additional park parcel is located north of the Macombs Dam Bridge, west of the Major Deegan Expressway and east of the Metro-North Railroad line. This 2.5-acre parcel is connected by a pedestrian bridge to the portion of the park that contains Summit Playground. Pedestrian access is also available from the north sidewalk of the Macomb's Dam Bridge Approach.

The portion of John Mullaly Park that is not part of the project area is located north of Macomb's Dam Park. The sections of the park that would not be affected by the proposed project contain play equipment, a marine animal-themed spray shower, ballfields, lawn, benches, an outdoor pool, basketball courts, swings, a skate park (for skateboards, rollerblades, and rollerskates), and the Mullaly Recreation Center.

Two other large parks are located east of River Avenue. Franz Sigel Park is a 16-acre park with active recreational facilities, such as handball courts, tennis courts, and play equipment, as well as passive recreational amenities, such as benches and game tables. The park is located along the Grand Concourse between East 151st Street and East 158th Street. Joyce Kilmer Park (approximately 7 acres) is bounded by East 164th Street to the north, East 161st Street to the South, Grand Concourse to the east, and Walton Avenue to the west. The park primarily contains a landscaped lawn area with a fountain at its southern end and benches along its walkways. A spray shower is located at the northern end of the park. Garrison Playground—a 0.7-acre park—is located on the Grand Concourse adjacent to P.S. 31.

Retail uses in the eastern portion of the study area are concentrated largely on the Grand Concourse, Walton Avenue, East 149th Street, East 151st Street, and East 161st Street. Retail uses are primarily located on the ground floors of residential buildings and include a mix of neighborhood retail uses, such as grocery stores, cleaners, beauty supply stores, cafes, bars, delis, and restaurants. Along River Avenue, retail uses near the existing Yankee Stadium cater to area visitors, such as souvenir stores and fast food restaurants. Several warehouse uses, as well as a car wash, tire center, and a furniture outlet are located along the Grand Concourse and Sheridan Avenue, north of East 153rd Street.

The Highbridge neighborhood is located north and west of Jerome Avenue. This predominantly residential neighborhood is built upon a hill. Residential uses in the area are predominantly a mix of five- and six-story apartment buildings and 3-story detached houses. There are numerous vacant lots in the area, several of which have been transformed into community gardens. The major institutional uses in this portion of the study area are the Highbridge Woodcrest Center, Highbridge Community Life Center, P.S. 73, and several churches. A large park, Nelson Playground, is located at West 166th Street and Nelson Avenue. Several parking lots are located in the area as well. New residential development has also been constructed in the area, along King Boulevard and on West 161st Street.

The Manhattan portion of the study area, separated by the Harlem River, is largely residential. Several high-rise residential complexes define the area, including Harlem River Houses, a New York City Housing Authority development, and the private Esplanade Gardens complex, along with low-rise predominantly six-story residential buildings. Several institutional uses, including P.S. 200, the Harlem Churches for Community Improvement Family Life Center, the Resurrection School, and numerous churches are located in the area. The site of the future Bradhurst Village Early Childhood Training Academy is located on West 153rd Street. Several parks are also located in the vicinity, including Colonel Charles Young Triangle, Colonel Charles Young Playground, Bill 'Bojangles' Robinson Playground, Holcombe Rucker Playground, and Frederick Johnson Park. Retail uses in this portion of the study area are primarily neighborhood-serving stores, such as groceries and laundries. Industrial uses in the area include parking lots, as well as carwashes and building materials supply stores. There are also several vacant lots in the area.

ZONING AND PUBLIC POLICY

PROJECT AREA

Macomb's Dam and John Mullaly Parks are mapped parklands under the jurisdiction of the New York City Department of Parks and Recreation (NYCDPR) and are not subject to zoning designations. The existing parking lots in the project area on the north and south sides of East 157th Street at River Avenue are mapped in a C8-3 zoning district, as is the existing Yankee

Stadium site (see Figure 2-2). The C8 district is an automotive and heavy commercial services district and the C8-3 district has a maximum commercial Floor-Area Ratio (FAR) of 2.0. The project area's existing parking lots on the north and south sides of East 151st Street east of River Avenue are located in an M1-2 manufacturing district. M1-2 districts often serve as buffers to adjacent residential neighborhoods. Strict performance standards apply in this light manufacturing district. M1-2 districts have maximum FARs of 2.0. The portion of the project area located along the waterfront is mapped in an M2-1 district. M2 zoning districts serve light and heavy industrial uses and have a maximum FAR of 2.0. Performance standards in M2 districts require that certain uses located in manufacturing districts comply with standards governing noise, vibration, smoke and other particulate matter, odorous matter, toxic or noxious matter, radiation hazards, fire and explosive hazards, humidity, heat, and glare.

Portions of the project area are located within the First Amended Yankee Stadium Urban Renewal Plan, approved August 7, 1974 (see Figure 2-3). The goal of the Urban Renewal Plan is to improve the area surrounding the stadium. The development objectives of the Yankee Stadium Urban Renewal Plan are to provide additional parking facilities within walking distance of Yankee Stadium, improve conditions of the local street system to adequately handle increased pedestrian and vehicle traffic flow, and improve the appearance and quality of the development or redevelopment of commercial establishments. Land uses permitted in the Yankee Stadium Urban Renewal Area include commercial uses, such as stadium and stadium commercial accessory uses, public uses, and accessory parking to serve stadium patrons.

The First Amended Yankee Stadium Urban Renewal Plan recommended that the portion of the project area located on the east side of River Avenue—two parcels north and south of East 157th Street, and two parcels north and south of East 151st Street—be acquired for parking. It also recommended that the portion of the project area north of the Bronx Terminal Market, between Exterior Street/Major Deegan Expressway and the Harlem River, be acquired for parking and ramp connections from the Major Deegan Expressway to Yankee Stadium parking facilities.

STUDY AREA

The M1-1, M1-2, M1-5, M2-1, C4-4, C8-3, R6, R7-1, and R8 districts (some with commercial overlays) are the predominant zoning districts within the ¼-mile study area (see Figure 2-2).

M1 districts are located in The Bronx portion of the study area between East 153rd Street and the Metro-North Railroad tracks; west of Summit Avenue, north of West 161st Street; and between River and Gerard Avenues, south of East 153rd Street. M1-1 districts are similar to the M1-2 districts described above, but have a maximum FAR of 1.0, and M1-5 districts have a maximum FAR of 5.0. The M2-1 district is mapped west of River Avenue south of East 153rd Street.

The C4-4 district is located in the southeastern portion of the study area, to the north and south of East 149th Street. The district is a shopping center district with a maximum commercial FAR of 3.4 and a maximum residential FAR of 3.44. The district permits department stores, theaters, and commercial uses that serve a larger area but may be located outside the central business district. The C8-3 district is mapped both in the northwestern and southwestern part of the Manhattan portion of the study area, and along River Avenue north and south of East 157th Street in The Bronx section of the study area. Several commercial overlays are also mapped throughout the study area. A C1-2 overlay is mapped in Manhattan along Frederick Douglass Boulevard and Macombs Place, and in The Bronx within Highbridge, as well as along East 161st and 165th Streets. A C2-4 overlay is mapped on the south side of East 164th Street and Gerard

Avenue. These overlays permit a maximum commercial FAR of 2.0 in the residential districts in which they are mapped.

The R8 district is a predominantly residential zoning district in the study area, and occupies the northeastern portion of the study area in The Bronx and a portion of the study area along the Harlem River in Manhattan. This is the highest-density residential district mapped in The Bronx. The maximum permitted FAR is 6.02. The Highbridge area is mapped with an R7-1 district. R7 districts are medium-density apartment house districts with a maximum FAR of 3.44. A small R6 district is also located in The Bronx portion of the study area, south of the project area. This district is appropriate for medium-density housing and has a maximum FAR of 2.43.

Two special districts are located in the study area. The Special Grand Concourse Preservation District, which is mapped along the Grand Concourse in The Bronx, was established to protect the existing scale and form of development and the traditional residential character of the Grand Concourse. The special district protects the design features of certain buildings through the establishment of design guidelines for renovation or alteration. It is also intended to encourage new development that is in keeping with the scale and character of the area, by providing for street wall continuity and bulk regulations consistent with existing development. Finally, it is intended to preserve and enhance the residential character of the Grand Concourse by limiting ground-floor retail and commercial uses to certain specified locations and by regulating the location of retail and commercial signage.

The second special district, a Special Planned Community Preservation District, is located in the Manhattan portion of the study area where Harlem River Houses is located. The purpose of the Special Planned Community Preservation Districts is to preserve and protect such districts as examples of town planning or large-scale development. In addition, the Special Planned Community Preservation District aims to preserve and protect the character and integrity of unique communities (defined as such by their existing site plan, pedestrian and vehicular circulation system, balance between buildings and open space, harmonious scale of development, related commercial uses, open space arrangement and landscaping) that add to the quality of urban life. The special district regulations promote future development that is consistent with existing development.

Several public policies address waterfront development in the City. As described in Chapter 11, "Waterfront Revitalization Program," a portion of the project area is located within the coastal zone; therefore, the policies of the New York City Waterfront Revitalization Program (WRP) apply. The WRP aims to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing the conflicts between such objectives. The Department of Environmental Conservation's (NYSDEC) *2002 New York State Open Spaces Conservation Plan*, which serves as the blueprint for the state's conservation efforts, seeks to provide urban open space and waterfront access to a portion of the project area.

The proposed project and much of the study area is located within the Bronx Empowerment Zone, which generally extends south of East 165th, West 165th, and McClellan Streets, and west of the Grand Concourse to the Harlem River. The New York Empowerment Zone (NYEZ) program is a federal economic development initiative that uses public funds and tax incentives to encourage private investments in targeted areas. The NYEZ policy objective is to expand the range and scope of economic activity, enhance capital opportunity for local businesses and institutions, and improve the quality of life for residents, workers, and visitors. The Bronx

Empowerment Zone program is administered by the Bronx Overall Economic Development Corporation (BOEDC), a nonprofit organization.

The Bronx Waterfront Plan issued by Bronx Borough President Adolfo Carrion, Jr. in March 2004 aims to establish and improve public waterfront access, upgrade existing parkland, and enhance the business environment to maximize jobs for Bronx residents. Specifically, the plan calls for developing pedestrian connections to the Harlem River waterfront, as well as redeveloping Yankee Stadium and the Bronx Terminal Market to include waterfront parks. The Borough President has also issued a Yankee Stadium Neighborhood Development Plan supporting the development of a new stadium, creation of more useable parkland in the area, reuse of the existing Yankee Stadium as a publicly accessible baseball field, and development of connections to new waterfront parks. The plan also calls for the development of a hotel conference center, sports and fitness center, high school for sports industry careers, and transportation improvements for subway, regional rail, and waterborne transport.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

LAND USE

PROJECT AREA

Absent the proposed project, no changes are expected to occur in the project area by 2009. It is anticipated that the project area would be a continuation of existing conditions—including continued operation of the existing Yankee Stadium.

STUDY AREA

There are no major residential construction projects planned in the study area by the 2009 analysis year. A project is proposed to replace the underutilized and dilapidated buildings at the Bronx Terminal Market, east of Exterior Street, with Gateway Center—a major retail center. Most of Gateway Center at Bronx Terminal Market is expected to be completed by 2009. The 2009 development would include a total of approximately 957,700 gross square feet of retail space, and a multi-level parking garage and at-grade parking totaling approximately 2,610 spaces. A second phase of the project would build a 250-room hotel, 30,000 gsf banquet facility, and 225 parking spaces by 2014. The parcels would be merged with portions of East 150th and East 151st Streets and Cromwell Avenue to form the eastern section of the Bronx Terminal Market project site. The current tenants of the Bronx Terminal Market would be relocated and the Bronx House of Detention would be permanently closed. In addition, the City will develop an approximately 2-acre waterfront public open space on Pier 4, south of the project area.

Reconstruction on East 149th Street between Griffin Place and Exterior Street is expected to be completed prior to 2009. Improvements would include improved traffic lighting, sidewalks, and curbs, thereby improving both vehicular and pedestrian access to the area. Several institutional projects are also planned for the study area by 2009. The New York City Department of Education has plans to build a high school facility with four school buildings on the site of the depressed former rail yard, south of P.S. 156 at Concourse Village West and East 153rd Street. The New York City Department of Homeless Services has plans for a new 60,000-sf Emergency Assistance Unit at East 151st Street and Walton Avenue to replace the existing facility at this location, and Hostos Community College will renovate a 125,000-gsf academic building at Grand Concourse and East 149th Street. Finally, just outside the study area at its southeastern

edge, Lincoln Hospital is in the process of constructing several new facilities, including a labor and delivery center and an MRI unit. The hospital also has plans for a renovated emergency room, Women's Option Center, and upgraded parking garage.

ZONING AND PUBLIC POLICY

No changes to zoning or public policy have been identified for the project area or the land use study area by the 2009 analysis year.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

LAND USE

Project Area

As a result of the proposed project there would be no change in the types of uses located in the project area; however the locations of the various uses would be reconfigured and there would be a net increase in both parkland and parking facilities in the area. As described in more detail in Chapter 1, "Project Description," the existing Yankee Stadium would be adapted to a ballfield and other passive recreational uses available for public use. The proposed stadium would be located a block to the north of the existing stadium on portions of Macomb's Dam and John Mullaly Parks, but as the area would continue to contain parkland, parking, and stadium uses no change in overall land use for the project area would occur. Parking would be consolidated and expanded into four parking garages and existing surface parking lots would be expanded, thereby improving the existing parking in the area. The existing electrical substation in John Mullaly Park adjacent to the proposed stadium would not be affected.

The proposed project would occupy approximately 22 acres of parkland (includes the portion of Macomb's Dam Park at the corner of East 157th Street and Ruppert Place that is currently used for accessory parking for Yankee Stadium—Lot 14) containing recreational facilities, which, as described above, contains a total of 4 ballfields, 1 track with a soccer field, 32 handball courts, 2 basketball courts, 16 tennis courts, and passive recreation areas (see Figure 1-15). By 2010, the parkland and recreational facilities would be replaced with both a greater amount of total open space, as well as with a comparable number of recreational amenities in the project area, including a track, a soccer field, basketball courts, tennis courts, and ballfields. As a result of the relocation of facilities, the recreational facilities would not be clustered together as they are today. Most of the replacement parkland and recreational facilities would be reconfigured into one larger superblock site located south of East 161st Street and bounded to the east by River Avenue, to the west by the Macomb's Dam Bridge Approach and the Major Deegan Expressway, and to the south by East 157th Street. This unified 17.36-acre park area south of East 161st Street would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street. In addition, two ballfields and a publicly accessible esplanade would be located along the waterfront, within a ½-mile of the other recreational facilities (see Figure 1-17), which would increase access to the Harlem River waterfront and transform a dilapidated market to a public recreational area. There would be no adverse changes in the types of land uses in the project area, as there would continue to be a mixture of parking, parkland, and stadium uses, which are compatible with each other and consistent with the park designation of much of the project area. The replacement facilities would be new and the quality of these recreational spaces would be improved. Thus, the proposed project would not result in any significant adverse impacts to land uses in the project area.

As described above, in the future without the proposed project, approximately 2 acres of new public open space will be developed by the City on Pier 4, bordering the project area to the south—the programming of this open space has not been determined at this time. With the addition of the new parkland and waterfront esplanade to be built by the proposed project, there would be a total of over 7.8 acres of continuous waterfront open space in the future with the proposed project.

Ground-floor retail space that would be provided at proposed Parking Garage D along River Avenue would be compatible with existing retail along the avenue, as well as with the retail that is expected to be developed at the Gateway Center at Bronx Terminal Market. The public parking spaces that would be displaced by the proposed project—including the existing parking lots on the east side of River Avenue at East 151st and East 157th Streets that would be mapped and developed as parkland—would be replaced with spaces in new parking garages and in expanded surface parking lots. The replacement of surface lots with multi-level garages and the relocation of parking areas within the overall project area do not constitute major changes in land use, and would not result in significant adverse impacts. Furthermore, by consolidating and better organizing parking in the area, the proposed garages would have a positive land use impact in the project area.

Study Area

The relocation of existing land uses within the project area would not result in a significant adverse impact on the adjacent land uses. The study area currently contains a mix of land uses with Yankee Stadium being a major attraction that draws visitors to the area. This would continue to be the case with the proposed Yankee Stadium located one block to the north, although the proposed stadium and garages would be located closer than the existing stadium to the predominantly residential neighborhood located north of East 161st Street and west of Jerome Avenue. The addition of renovated recreational facilities and a net increase in open space would benefit the study area. The new waterfront park would provide new access to the waterfront beyond what would have been provided in the future without the proposed project and would improve the visual quality of the Harlem River shoreline.

A portion of the project area is currently used for parking and the area would continue to have a large parking element with the completion of the proposed project. East 162nd Street between River Avenue and Jerome Avenue, which would be closed as a result of the proposed project, is not part of the traditional grid street pattern in the area and its elimination would not be expected to have a major impact on area visitors or residents.

Overall, the proposed project would provide new, modern recreational facilities, with a net increase of open space and reconfigured orientation of stadium, recreational, and parking uses. As the types of uses would be the same as currently exist in the project area and in the study area, they would continue to be compatible with the surrounding residential, institutional, and commercial land uses. The proposed project is compatible with the roadway infrastructure improvements planned for East 149th Street, which would improve access to the area, as well as with the planned retail and community facility projects at Bronx Terminal Market, Hostos Community College, and the Department of Homeless Services. Given the overall compatibility of land uses and the proposed supplementing of public open space, the proposed project would not result in any significant adverse land use impacts. Furthermore, by increasing waterfront access, providing better organization and consolidation to area parking, and increasing the acreage of parkland in the area, the proposed project is expected to have a beneficial land use impact in the study area.

ZONING AND PUBLIC POLICY

The proposed project would require special permits pursuant to Sections 74-512 and 74-54 of the Zoning Resolution to permit Garage D, a site zoned for manufacturing use. The proposed parking garage would be compatible with the surrounding manufacturing, parking, and institutional land uses in the area. The special permits would also exempt the floors of the garage located below a height of 23 feet above street level from the definition of floor area, allow rooftop parking (which would be screened), and allow for modification of rear yard requirements. If approved, Garage D would also occupy a volume above the bed of East 151st Street.

The leasing of mapped parkland would be consistent with public policy, as it would facilitate uses found to be consistent with the park designation. Moreover, the proposed project would result in a net increase in open space, including improved recreational facilities. The proposed amendments to the City Map that would demap portions of Jerome Avenue, Macomb's Dam Bridge Approach, and East 161st Street and map Ruppert Place, East 162nd Street, the former Yankee Stadium, and the proposed waterfront ballfields and passive recreational facilities east of River Avenue at East 157th Street as new parkland, would follow the procedures authorized by the City's ULURP process which allow such amendments. The proposal to eliminate portions of East 162nd Street and Ruppert Place would follow procedures of the New York State Legislature. The proposed map changes would not conflict with public policy.

As per the New York City Zoning Resolution, special regulations guide development along the City's waterfront in order to, among other reasons, maintain and re-establish physical and visual public access to and along the waterfront; to promote a greater mix of uses in waterfront developments in order to attract the public and enliven the waterfront; and to create a desirable relationship between waterfront development and the water's edge, public access areas, and adjoining upland communities. Similarly, the WRP policies shape development within the coastal zone by requiring consideration of environmental effects and the provision of public use that a project affords. The proposed project would create a waterfront public park fronting on the Harlem River that would provide access to the waterfront where it is currently not available (new waterfront access and open space would be developed by the City, on Pier 4 south of the project area, in the future without the proposed project) and would thus be consistent with the goals of the Zoning Resolution and the WRP policies, as they pertain to waterfront areas.

The proposed project would change portions of the project area that are located within the First Amended Yankee Stadium Urban Renewal Plan. Specifically, the existing Yankee Stadium site would be changed to a public use—designated parkland with a public recreational baseball field. The two parcels located east of River Avenue along the north and south sides of East 157th Street would be changed from accessory parking for the stadium to a public use as new mapped parkland. The two surface parking lots located east of River Avenue along the north and south sides of East 151st Street would be replaced by proposed Parking Garage D, however, the use of these parcels as stadium accessory parking would remain unchanged. The proposed project would not change the parking use in the portion of the project area located north of the Bronx Terminal Market by restriping, repaving, and expanding the existing surface parking lots. Overall, one of the development objectives of the Yankee Stadium Urban Renwal Plan is to create additional parking facilities. Land uses permitted in the Urban Renewal Area include commercial uses and accessory parking to serve stadium patrons. The proposed disposition action would continue to carry out the development objectives as intended, as it would create additional parking areas to serve stadium patrons. Therefore, the proposed project would be consistent with the First Amended Yankee Stadium Urban Renewal Plan.

The proposed project would be consistent with the public policies that govern the site and surrounding area. The proposed project would be consistent with the goals of the *2002 New York State Open Space Conservation Plan*, as the plan seeks to provide urban open space and waterfront access on the site. This goal would be accomplished with the creation of the public waterfront park that would increase access to and use of the waterfront. The design of the waterfront park would also include stabilization of the existing shoreline to enhance the waterfront for park users and aquatic habitat, where possible. The existing concrete bulkhead would be reconstructed in kind and the existing timber crib bulkhead would be replaced with shoreline stabilization structures that create a softer shoreline. The proposed project would also be consistent with the Bronx Borough President's new Bronx Waterfront Plan and Yankee Stadium Neighborhood Development Plan, as it would provide publicly accessible waterfront recreational space, and provide a new stadium and publicly accessible fields on the existing stadium, thereby achieving several of the plans' goals.

Overall, the proposed project would not result in any significant adverse zoning or public policy impacts. ✷

Chapter 3: Socioeconomic Conditions

A. INTRODUCTION

This chapter describes the potential effects of the proposed project on the area's socioeconomic conditions, including population and housing characteristics, economic activity, and the commercial real estate market. In accordance with the guidelines presented in the 2001 *City Environmental Quality Review (CEQR) Technical Manual*, the chapter evaluates five specific factors that may create substantial socioeconomic change in a study area: (1) direct displacement of residential population, (2) direct displacement of existing businesses and institutions, (3) indirect displacement of residential population, (4) indirect displacement of businesses and institutions, or (5) adverse effects on specific industries not necessarily tied to the project area or study area. The study area for this analysis is defined as the ½-mile radius from the project area, and is the area in which the proposed project could potentially cause socioeconomic impacts.

The analysis concludes that the proposed project would not cause significant adverse impacts to the socioeconomic character of the project's study area. The proposed project would not directly displace any residential population, nor would it directly displace any businesses or institutional uses. The proposed project would not foster a change in residential market conditions that would lead to indirect residential displacement, nor would it significantly alter existing economic patterns in the study area that would result in indirect displacement of businesses and institutions. The proposed project would not significantly affect business conditions in any specific industry or category of business in The Bronx or the City as a whole. In addition, as described in the latter part of this chapter, the proposed project would result in considerable economic and fiscal benefits to New York City and New York State during both the construction and operating periods.

B. METHODOLOGY

This chapter follows the assessment methodologies established in the 2001 *CEQR Technical Manual*. The analysis begins with a preliminary assessment that addresses the five principal issues of concern with respect to socioeconomic change outlined in the introduction above. The approach of the preliminary assessment is to learn enough about the effects of the proposed project either to rule out the possibility of significant adverse impact or to determine that more detailed analysis would be required to resolve the question.

The study area for the socioeconomic analysis was defined to include several residential communities to the north and east of the project area and encompass the traffic study area, in a ½-mile radius from the project area. Demographic and economic data were collected for the project area, the study area, the borough, and New York City. Demographic characteristics, such as population, number of households, median household income, poverty status by age, median contract rent, and median house value, were gathered from the 1990 and 2000 U.S. Census. Data were analyzed at the census tract level, or at the block group level where a census tract was not entirely within the study area boundaries.

Information on commercial and residential rents within the study area were based on telephone interviews with local real estate brokers, as well as the classified sections of the *New York Times*, the *Daily News*, and the *New York Post*.

C. PRELIMINARY ASSESSMENT

Following *CEQR Technical Manual* guidelines, the socioeconomic conditions analysis begins with a preliminary assessment. This section examines each of the five areas of potential socioeconomic impact in relation to the proposed project. As indicated, the goal of a preliminary assessment is to learn enough about the potential effects of a proposed project either to rule out the possibility of significant impact or to establish that a more detailed analysis would be required to determine whether the proposed project would lead to significant adverse impacts. For each of the five areas, the preliminary assessment determined that the proposed project would not have significant adverse impacts; therefore, a detailed analysis is not required.

DIRECT RESIDENTIAL DISPLACEMENT

The project area contains no residential units. Therefore, the proposed project would not directly displace any residential population, and no further analysis of this issue is necessary.

DIRECT BUSINESS DISPLACEMENT

The *CEQR Technical Manual* defines direct business displacement as the involuntary displacement of businesses from the site of (or a site directly affected by) a proposed action. A preliminary assessment of direct business displacement looks at the employment and business value characteristics of the affected businesses to determine the significance of the potential impact. A significant direct displacement impact may occur if the businesses in question have substantial economic value to the City or region; are the subject of regulations or publicly adopted plans to preserve, enhance, or otherwise protect them; or substantially contribute to a defining element of the neighborhood character.

The proposed project would create new recreational facilities on a site west of Exterior Street. That site is currently occupied by two warehouse buildings used as wholesale food markets and an abandoned powerhouse building as part of the Bronx Terminal Market. In the future without the proposed project, it is anticipated that these existing wholesale food markets west of Exterior Street would be relocated by the City as part of the Gateway Center at Bronx Terminal Market development project; therefore, no further analysis of this issue is required.

INDIRECT RESIDENTIAL DISPLACEMENT

In most cases, the issue for indirect residential displacement is that an action would result in increased property values, leading to higher rents throughout the study area, thus making it difficult for some residents to afford their homes. The preliminary assessment is based on the screening criteria outlined in the *CEQR Technical Manual*, which describe circumstances that can generate potentially significant impacts. This section first presents a demographic profile of the study area, followed by responses to the CEQR assessment criteria, which are presented in italics below.

DEMOGRAPHIC PROFILE

As shown in Table 3-1, the ½-mile study area contains a total resident population of approximately 84,000 in 2000—an increase of over 11 percent since 1990. Similarly, the population increased in Bronx County (almost 11 percent) and New York City (almost 7 percent) between 1990 and 2000. Over the same decade, the median household income within the study area decreased by approximately 5 percent, from approximately $22,000 per year in 1990 to approximately $21,000 per year in 2000. The Bronx and New York City as a whole also experienced a decrease in median household income of 5 percent and 3 percent, respectively.

Table 3-1
Demographic Characteristics of ½-Mile Study Area

	Total Population			Median Household Income			Poverty Status		
	1990	2000	Percent Change	1990	2000	Percent Change	1990	2000	Percent Change
½-mile study area	75,497	84,059	11.3	$22,195	$21,063	-5.1	38.2	37.9	-0.9
Bronx County	1,203,789	1,332,650	10.7	$28,915	$27,611	-4.5	28.7	30.7	6.9
New York City	7,322,564	7,825,848	6.9	$39,297	$38,293	-2.6	19.3	21.2	9.2

Note: 1990 median household income is presented in year 2000 dollars.
Sources: 1990 and 2000 U.S. Census, Summary File 1 and Summary File 3

The number of study area residents living in poverty decreased slightly (0.9 percent) between 1990 and 2000, while the poverty level in The Bronx and in New York City increased by approximately 7 percent and 9 percent, respectively.

Similar to total population, household and housing characteristics within the ½-mile study area also showed increases between 1990 and 2000. As shown in Table 3-2, the number of households in the study area increased by 10.4 percent, from about 26,000 in 1990 to almost 29,000 in 2000. In comparison, the number of total households in Bronx County and New York City increased by 9.2 percent and 7.2 percent, respectively. Most of the households in the study area are located north of East 153rd Street where the land use is predominately residential. The residential communities of Highbridge, Concourse, and Concourse Village are located within this northern part of the study area. Highbridge, which is located northwest of the project area and sits at a slightly higher elevation, is generally characterized by a mix of five- and six-story apartment buildings and three-story detached homes, most of which are in good condition. The Concourse and Concourse Village neighborhoods are located east of the project area and contain a majority of the residential buildings in the study area. Residential buildings in these areas vary from six-story apartment buildings along the Grand Concourse to high-rise towers such as the 25-story Concourse Village and the 16-story Melrose Houses. In the southern portion of the study area, the area south of East 153rd Street has two- and three-story attached residential buildings concentrated along Walton Avenue between East 149th and East 151st Streets.

Table 3-2
Household and Housing Characteristics of ½-Mile Study Area

	Total Households			Median Contract Rent			Median Home Value		
	1990	2000	Percent Change	1990	2000	Percent Change	1990	2000	Percent Change
½-mile study area	26,138	28,868	10.4	$455	$492	8.2	N/A	$72,276	-
Bronx County	424,112	463,212	9.2	$517	$560	8.4	N/A	$183,800	-
New York City	2,819,401	3,021,588	7.2	$590	$646	9.4	N/A	$221,200	-

Notes: 1990 median contract rent is presented in year 2000 dollars.
The 1990 median home value is not reported because the 1990 value is based on "specified owner-occupied units" only, while the 2000 median was based on "all owner-occupied units." The two data sets are not comparable.
Sources: 1990 and 2000 U.S. Census, Summary File 1 and Summary File 3.

As of the 2000 Census, the monthly contract rent for the study area was approximately $492 per month—a real increase of slightly over 8 percent from monthly rents in 1990. Similar to the study area, The Bronx also had an approximate 8 percent real increase in the median monthly contract rent, though the 2000 monthly rents were higher, at $560 per month. The median contract rent in New York City increased by more than 9 percent between 1990 and 2000, to almost $650 per month.

CEQR SCREENING CRITERIA

Would the proposed actions add a substantial new population with different socioeconomic characteristics compared to the size and character of the existing population?

The proposed project does not contain a residential component, and therefore it would not add a new residential population with different socioeconomic characteristics.

Would the proposed actions directly displace uses or properties that have had a "blighting" effect on property values in the area?

Although there are active businesses currently located west of Exterior Street, all of the businesses will be relocated by the time construction begins on the proposed project. Therefore, the proposed project would not directly displace any business uses from the project area. The proposed project would directly displace vacant abandoned warehouse buildings and replace them with parkland and recreational facilities. The warehouse buildings are in poor physical condition and could be perceived as "blighted." However, the removal of the vacant warehouse buildings would not increase residential property values in the ½-mile study area. Most of the residential properties in the study area are located north of East 157th Street and are too far away to have their property values negatively or positively influenced by the vacant warehouse buildings.

South of East 157th Street, the residential areas are located along Gerard Avenue between East 153rd and East 157th Streets and along Walton Avenue between East 149th and East 151st Streets. In relation to these residential areas, the vacant warehouse buildings are relatively isolated by the Metro-North Railroad tracks and the existing Yankee Stadium, and by a change in grade between Exterior Street and River Avenue of approximately 29 feet. The above-mentioned physical and natural barriers provide sufficient separation from the vacant dilapidated warehouse buildings to prevent any significant change in residential property values.

Would the proposed actions directly displace enough of one or more components of the population to alter the socioeconomic composition of the study area?

Given that there is no housing in the project area, the proposed project would not directly displace any residents, and thus would not directly displace enough of one or more components of the population to alter the socioeconomic composition of the study area.

Would the proposed actions introduce a more costly type of housing compared to existing housing and housing expected to be built in the study area by the time the project is implemented?

The proposed project does not contain a residential component, and therefore it would not introduce new housing to the area.

Would the proposed actions introduce a "critical mass" of nonresidential uses such that the surrounding area would become more attractive as a residential neighborhood complex?

The proposed project includes three major components: a proposed stadium with a seating capacity for 54,000 spectators (53,000 seats and 1,000 standing spaces) for the New York Yankees, four proposed parking garages, and the development of approximately 27.05 acres of parkland containing replacement recreational facilities.

The proposed stadium would be located on the northern portion of Macomb's Dam Park and the southern portion of John Mullaly Park between River and Jerome Avenues. It would be located one block north of the existing stadium and extend from East 161st Street to the midblock between East 162nd and 164th Streets. Since the proposed project would replace the existing 56,928-seat stadium with the proposed state-of-the-art baseball facility, it would not introduce a "critical mass" of new stadium use within the study area.

The proposed project would develop four new parking garages containing approximately 4,735 spaces and would add spaces in existing and expanded surface parking lots, bringing the total number of spaces available for Yankee Stadium patrons to 10,310, for a net increase of 3,315 spaces. The additional parking would not have a substantial effect on the residential desirability of the study area. Within the parking component of the proposed project, approximately 12,000 gross square feet (gsf) of non-destination retail would also be developed in proposed Parking Garage D. Given the significant amount of retail shopping that currently exists in the study area, as well as the 957,700 gsf of additional retail that will exist in the future without the proposed project (as part of the Gateway Center at Bronx Terminal Market), the 12,000 gsf of additional retail would not be a critical mass of new retail.

The proposed stadium and parking garage facilities would displace recreational facilities on approximately 22.42 acres of existing parkland, which include such active recreational facilities as a 400-meter track; tennis, handball, and basketball courts; and baseball, softball, and soccer fields. To replace the recreational facilities, the proposed project would provide 27.05 acres of parkland containing replacement facilities on the site of the existing stadium, on surrounding parking lots, at the site of two warehouse buildings along Exterior Street that are used as wholesale food markets as part of the Bronx Terminal Market, an abandoned powerhouse building, and on paved areas along the Harlem River.

Although the open space and recreational facilities would be replaced to create a net increase in open space, the issue is whether the redistribution of the open spaces and amenities could potentially make certain areas more attractive residential neighborhoods and result in indirect residential displacement. Indirect residential displacement is not expected to occur as a result of this redistribution, because most of the open space would still be located within close proximity to its original location. For example, the track and baseball fields currently located on the northern portion of Macomb's Dam Park would be shifted one block south to the southern portion of the park and the existing stadium site. The residential neighborhoods located east of River Avenue and currently served by the existing layout of the open space and amenities would continue to benefit from being located close to an open space resource.

The neighborhoods west of Jerome Avenue would also not be affected by increasing property values due to the proposed redistribution of the open space and recreational facilities. Currently, residents have easy access to the Yancey track and soccer fields and two baseball fields, as well as open space located across the street at Macomb's Dam Park. With the proposed project, the approximately 2.89 acres of Macomb's Dam Park currently used for accessory parking for Yankee Stadium between Jerome Avenue and the Macomb's Dam Bridge Approach would be developed as a parking garage with tennis facilities on the roof. However, this addition would

not significantly affect the residential desirability of the neighborhood since it is already well served by other open spaces in close proximity.

The remaining open space and recreational facilities that are to be located approximately ½-mile from the existing facilities would be located in the southern portion of the study area, which, as mentioned earlier, is mostly made up of industrial and institutional uses. There are few residential uses in this part of the study area with the exception of Walton Avenue between East 149th and East 151st Streets and one block of East 150th Street. The 5.11 acres of proposed parkland along the waterfront would be an added benefit to existing workers and residents, but would not be immediately adjacent to the residential areas and therefore would not have a significant effect on residential property values.

Would the proposed actions introduce a land use that could have a similar indirect effect if it is large enough or prominent enough or combines with other like uses to create a critical mass large enough to offset positive trends in the study area, to impede efforts to attract investment to the area, or to create a climate for disinvestment?

The proposed project would not impede efforts to attract investments to the area or create a climate for disinvestment. Once complete, the proposed project would result in the development of 27.05 acres of parkland containing recreational facilities for a net increase of 4.63 acres over existing conditions. Included in the 27.05 acres are 5.11 acres of Harlem River waterfront parkland that would represent an important new community amenity that would serve the surrounding neighborhood and provide new public waterfront access. Overall, the proposed project would increase the net acreage of open space, modernize the existing older facilities and increase the quality of recreational spaces, and provide waterfront access.

The effective relocation of the proposed stadium one block north of East 161st Street would introduce a land use that is large enough to potentially affect property values for residential buildings along Jerome Avenue between West 161st and 164th Streets. Currently, three buildings face Macomb's Dam Park and the southern portion of John Mullaly Park. With the proposed project, residents living in these buildings would be subject to noise, bright lights, and large crowds during game nights. Living across the street from the stadium could make it less likely that someone would want to rent an apartment, thereby decreasing the value of the properties. However, the combined property value of the three residential buildings as of January 2005 was less than $10 million, which represents less than 2 percent of the total property value in the study area. In addition, the total number of units in the three buildings represents less than 2 percent of the roughly 27,000 residential units within the ½-mile study area. Even if the proposed project would reduce the value of these three buildings, they represent only a small portion of the overall value and investment in the study area, and would not offset positive trends in the study area, nor impede efforts to attract investment to the area.

INDIRECT BUSINESS DISPLACEMENT

Similar to indirect residential displacement, the issue for indirect business displacement is that an action may increase property values and thus rents in the study area, making it difficult for some categories of businesses to remain at their current locations. The preliminary assessment is based on the screening criteria outlined in the *CEQR Technical Manual*, which describe circumstances that can generate potentially significant impacts. This section first presents an economic profile of the study area, followed by responses to the CEQR assessment criteria, which are presented in italics below.

ECONOMIC PROFILE

The Bronx has traditionally contained a relatively small percentage of the City's manufacturing employment, never exceeding 5 percent of the total manufacturing employment in the City in the period between 1990 and 2000. Within the borough, manufacturing provided approximately 10 percent of all private sector jobs in 1990. However, by 2000 there were only 10,900 manufacturing jobs in the Bronx, accounting for less than 6 percent of total private sector employment in the borough (see Table 3-3). In 1990, manufacturing was the third-highest employer, compared with other industrial sectors. However, by 2000 the service sector, retail trade, Finance, Insurance & Real Estate (FIRE), and wholesale trade each provided more jobs than manufacturing. Overall, manufacturing employment in The Bronx declined by almost 40 percent between 1990 and 2000.

Table 3-3
Private Sector Employment, 1990–2000

Major Industrial Category	Bronx			New York City		
	Employment		Percent Change	Employment		Percent Change
	1990	2000	1990–2000	1990	2000	1990–2000
Manufacturing	18,000	10,900	-39.4	335,200	239,400	-28.6
Manufacturing percent of total employment	10.1	5.8		11.5	7.8	
Construction	12,400	10,800	-12.9	109,400	117,000	6.9
TCPU	8,800	9,400	6.8	219,900	206,100	-6.3
Wholesale trade	12,000	12,000	0.0	208,300	181,300	-13.0
Retail trade	30,000	30,800	2.7	382,200	424,600	11.1
FIRE	11,400	12,500	9.6	512,000	483,900	-5.5
Services	84,200	101,600	20.7	1,124,000	1,388,600	23.5
All other	700	900	28.6	11,900	18,500	55.5
Total industry	**177,500**	**188,900**	**6.4**	**2,902,900**	**3,059,400**	**5.4**

Source: New York State Department of Labor.

In addition to manufacturing, the construction sector also decreased by 13 percent from 1990 to 2000. In contrast, the service and FIRE sectors increased by approximately 21 percent and 10 percent, respectively.

Similarly, manufacturing employment in New York City has declined by approximately 29 percent since 1990. Data provided by the New York State Department of Labor (NYSDOL) indicates that the manufacturing sector lost almost 96,000 jobs in the City. During this same 10-year period, total private sector employment remained relatively stable, with a total of approximately 3 million private sector employees in the five boroughs in 1990 and again in 2000 (see Table 3-3). Wholesale trade lost approximately 27,000 employees (13 percent decrease) between 1990 and 2000 while the Transportation, Communications, and Public Utilities (TCPU) and FIRE sectors lost 14,000 (6.3 percent decrease) and 28,000 (5.5 percent decrease) employees each. The service sector was the only industry that experienced a significant increase in total employment, with a gain of almost 24 percent between 1990 and 2000.

Within the ½-mile study area, there are five major land uses: residential, retail, institutional, industrial, and open space. Institutional uses include hospitals, educational facilities, religious institutions, and court facilities. The southern portion of the study area is predominantly made up of industrial uses, such as auto body shops, warehouse buildings, storage facilities, and food and

beverage suppliers/distributors. Another dominant land use is open space, which makes up approximately 18 percent of the total land use within the study area.

As shown in Table 3-4, total private and public sector employment in the study area reached almost 30,000 workers in 2000. Approximately 37 percent of the total employment, or roughly 11,000 workers, came from the educational, health and social services sector, followed by public administration, and transportation and warehousing and utilities with almost 16 percent (or 4,700 workers) and 8 percent (2,300 workers) of total employment, respectively. Employment sectors with the least amount of employees in the study area included wholesale trade (1.4 percent), information (2.6 percent) and manufacturing (4.1 percent). The retail sector was the fourth-largest employer, with approximately 1,900 employees, representing roughly 7 percent of the total employment in the study area.

Table 3-4
Total Employment in the ½-Mile Study Area, 2000

Major Employment Category	Total Employment	Percent of Total
Agriculture, forestry, fishing, hunting, and mining	30	0.1
Construction	1,275	4.3
Manufacturing	1,210	4.1
Wholesale trade	424	1.4
Retail	1,929	6.5
Transportation and warehousing and utilities	2,253	7.6
Information	759	2.6
Finance, insurance, real estate, and rental and leasing	1,239	4.2
Professional, scientific, management, administrative, and waste management services	1,900	6.4
Educational, health and social services	10,950	36.9
Arts, entertainment, recreation, accommodation, and food services	1,457	4.9
Other services (except for public administration)	1,584	5.3
Public administration	4,653	15.7
Total	**29,663**	**10.6**
Bronx County	**280,940**	**-**
New York City	**3,755,130**	**-**

Source: U.S. Census Bureau, Census 2000; Reverse Journey to Work Data.

CEQR SCREENING CRITERIA

Would the proposed actions introduce enough of a new economic activity to alter existing economic patterns?

As described above, within the ½-mile study area, land uses include residential, retail, institutional, industrial, and open space. The existing stadium is located west of River Avenue between East 157th and East 161st Streets. The existing stadium hosts at least 81 games per year, with an average daily attendance of approximately 46,000 during the weekdays and 52,000 during the weekends in 2004. The study area is surrounded by open space and recreational uses. North of the existing stadium is the northern portion of Macomb's Dam Park, which contains two ballfields and a track and soccer field on 11.2 acres of parkland. The southern portion of Macomb's Dam Park has additional playing fields for baseball, basketball, and handball courts as well as parking for the existing Yankee Stadium. North of Macomb's Dam Park is the southern portion of John Mullaly Park, which contains 16 public tennis courts. During the winter months, the courts are covered with a bubble and managed by a concessionaire of the New York

City Department of Parks and Recreation. This portion of the park also contains the tennis concessionaire-associated office and parking facilities, as well as eight handball courts.

The proposed stadium, parking facilities, non-destination retail on the street level of proposed Parking Garage D, and replacement and new open space and recreational facilities are uses that already exist within the study area and would not be considered new uses.

Would the proposed actions add to the concentration of a particular sector of the local economy enough to alter or accelerate an ongoing trend to alter existing economic patterns?

The proposed stadium would have fewer seats than the existing stadium and would not introduce a new or increased population to the area, and would therefore not alter or accelerate economic trends. Similarly, the additional parking spaces proposed for the proposed stadium would not substantially affect the study area's economic conditions.

The study area contains approximately 1.2 million square feet of retail uses. East 161st Street is a heavy traffic area with high-density residential buildings, municipal buildings, law offices, and retail stores. The Grand Concourse, East 167th Street, and East 149th Street are other major retail areas that provide shopping and convenience goods to the larger community. Concourse Plaza Mall, which is located on East 167th Street, is home to about 17 establishments, such as apparel and shoe stores, restaurants, a supermarket, and a movie theater. The proposed project would add approximately 12,000 gsf of non-destination retail on the street level of proposed Parking Garage D, which represents approximately 2 percent of the existing 1.2 million square feet of retail already located in the ½-mile study area and less than 1 percent when the Gateway Center at Bronx Terminal Market development is completed in the future without the proposed project. This addition would not alter or accelerate an ongoing trend to alter existing economic patterns.

Would the proposed actions directly displace uses or properties that have had a "blighting" effect on commercial property values in the area, leading to rises in commercial rents?

Although there are active businesses currently located west of Exterior Street, all of the businesses will be relocated by the time construction begins on the proposed project. Therefore, the proposed project would not directly displace any business uses from the project area. However, the proposed project would directly displace vacant abandoned warehouse buildings and replace them with parkland and recreational facilities. As previously mentioned, the vacant warehouse buildings are in a poor condition and could be perceived as "blighted." However, the removal of these properties would not increase commercial property values in the study area. The commercial and industrial properties located elsewhere within the ½-mile study area are too far from the vacant, abandoned buildings for a significant effect on their property values to result.

Directly across the street from the vacant warehouse buildings is the remaining parcel of the Bronx Terminal Market, where rental rates currently range from $6.00 per square foot (psf) to $9.75 psf.[1] These rental rates are similar to other industrial properties in the study area as well as The Bronx. For example, rents at the Hunts Point and Bathgate In-Place Industrial Parks (IPIPs) in The Bronx range from $7 to $10 psf and $7 to $11 psf, respectively, and rents at the Jamaica IPIP in eastern Queens range from $8 to $15 psf. Therefore, the proposed project would not

[1] BTM Related Partners.

directly displace properties that have had a "blighting" effect on commercial property values in the study area.

Would the proposed actions directly displace uses of any type that directly support businesses in the area or bring people to the area that form a customer base for local businesses?

In creating the proposed stadium, parking garages, replacement and new open space, and recreational facilities, the proposed project would displace existing recreational facilities on 22.42 acres of portions of Macomb's Dam and John Mullaly Parks. The area west of the existing parkland along Jerome Avenue is predominantly residential and does not have any retail businesses that depend on the parkland for its customer base. However, the eastern side of Macomb's Dam Park along River Avenue between East 157th and East 164th Streets and East 161st Street between River and Walton Avenues has several business establishments that may receive a portion of their customers from park users. Under the proposed project, the majority of the open space and recreational uses in the northern portion of Macomb's Dam Park and the southern portion of John Mullaly Park would be relocated only one block south of their current location. As a result, the businesses adjacent to the existing parkland would not experience a decrease in their customer base under the proposed project as they would still be in close proximity to the proposed parkland. Instead, the expanded recreational offerings under the proposed project would likely increase visitation to these parks, thereby increasing the potential customer base for local retailers. Similarly, across the street from the existing stadium are several business establishments (i.e., restaurants, souvenir shops, bars) along River Avenue that cater to spectators during game nights. However, the proposed project would only locate the proposed stadium one block north of East 161st Street and, therefore, would not affect the customer base for the existing businesses along River Avenue.

Would the proposed actions directly or indirectly displace residents, workers, or visitors who form the customer base of existing businesses in the area?

Construction of the proposed stadium and parking garages would displace some of the existing recreational facilities and passive areas within Macomb's Dam and John Mullaly Parks, making them unavailable for various periods of time. Although the facilities would be replaced by new, permanent facilities, during construction almost all of the facilities would be unavailable for periods ranging from 3 months to 4 years, although only a limited number of facilities would actually be unavailable for the full your years. This gap and the temporary replacement facilities are described in more detail in Chapter 4, "Open Space and Recreation," and Chapter 19, "Construction Impacts."

During construction periods, businesses fronting a construction site could potentially lose some customers who would have otherwise come to use the above-mentioned recreational facilities. However, most of the businesses located directly adjacent to the parks consist of restaurants/bars or fast- food establishments that cater to Yankees fans, or apparel, accessory, and miscellaneous stores, and neighborhood services that receive the majority of their customer base from the local neighborhood residents and everyday shoppers along East 161st Street. Therefore, although the proposed project would temporarily directly displace visitors (park users) who contribute to the customer base of existing businesses along River Avenue, the displaced park users do not represent a significant amount of the total customer base for the existing businesses. Therefore, a detailed analysis is not necessary.

Would the proposed actions introduce a land use that could have a similar indirect effect, through the lowering of property values if it is large enough to create a critical mass large

enough to offset positive trends in the study area, to impede efforts to attract investment to the area, or to create a climate for disinvestment.

The proposed project would not impede efforts to attract investments to the area or create a climate for disinvestment. Once complete, the proposed project would develop 27.05 acres of parkland containing recreational facilities, for a net increase of 4.63 acres over existing conditions. Included in the 27.05 acres are 5.11 acres of new recreational facilities and parkland that would represent an important new community amenity that would serve the surrounding neighborhood and provide new public waterfront access. Local residents and those visiting the park from outside the neighborhood would continue to patronize businesses in the study area, particularly for purchases associated with leisure activities. Overall, the proposed project would increase the net acreage of open space, modernize the existing older recreational facilities and increase the quality of recreational spaces, and provide waterfront access. In addition to the parkland, the proposed project would provide a net increase of 3,315 parking spaces in an area where existing parking conditions are inadequate during game days. The lack of sufficient parking spills over to surrounding neighborhoods as stadium patrons park on local streets. The additional off-street parking to be provided by the proposed project would help reduce traffic congestion on game days, creating a better working environment for existing businesses, as well as a better living environment for area residents. All of the above-mentioned components of the proposed project are positive investments that would benefit the existing businesses within the ½-mile study area.

ADVERSE EFFECTS ON SPECIFIC INDUSTRIES

According to the *CEQR Technical Manual*, a significant adverse impact may occur if a proposed action affects the operation and viability of a specific industry that has substantial economic value to the City's economy.

The replacement of the existing stadium with the proposed state-of-the-art facility, additional parking spaces, and the replacement of the existing parkland and recreational facilities would not affect business conditions in any industry or any category of business within or outside the ½-mile study area. The proposed project would also not substantially reduce employment or impair the viability of any specific industry or category of business. Therefore, a detailed analysis of this issue is not required.

D. ECONOMIC AND FISCAL BENEFITS ANALYSIS

INTRODUCTION

This section estimates the net new economic and fiscal benefits that would be generated by the construction and operation of the proposed Yankee Stadium, parking garages, and park space. The analysis considers benefits to both New York City and New York State.

All estimates presented in this section are based on the proposed project, as detailed in Chapter 1, "Project Description," and construction costs and operational information provided by the New York City Department of Parks and Recreation (NYCDPR), the New York City Economic Development Corporation (NYCEDC), and the New York Yankees.

As described below, the analysis is the product of two separate modeling efforts. Economic benefits related to the stadium were estimated by Economic Research Associates (ERA) in a study commissioned by NYCEDC. Economic benefits related to the proposed park space and

parking garages were estimated by AKRF, Inc. Results from the ERA analysis are summarized in this report, but have not been independently verified by AKRF, Inc.

METHODOLOGY

An economic impact analysis estimates the effects of new economic activity on various sectors of the economy. Impact analyses are typically performed using input-output, or "I-O" models. I-O models are based on linkages in the economy—connections between industries and consumers—and describe how a change in one economic sector affects every other sector.

Economic impacts estimated using I-O models can be broken into three components: direct, indirect, and induced. *Direct effects* represent the initial benefits on the economy of new investment, e.g., changes in employment or spending.

Indirect effects represent the benefits generated by industries purchasing from other industries as a result of the direct investment (e.g., indirect employment resulting from construction expenditures would include jobs in industries that provide goods and services to the contractors). A direct investment triggers changes in other industries as businesses alter their production to meet the needs of the industry in which the direct impact has occurred. These businesses in turn purchase goods and services from other businesses, causing a ripple effect through the economy. The ripple effect continues until leakages from the region (caused, for example, by imported goods) stop the cycle. The sum of these iterative inter-industry purchases is called the indirect effect.

Induced effects represent the impacts caused by increased income in a region. Direct and indirect effects generate more worker income by increasing employment and/or salaries in certain industries. Households spend some of this additional income on local goods and services, such as food and drink, recreation, and medical services. Benefits generated by these household expenditures are quantified as induced effects.

OVERVIEW OF THE RIMS AND IMPLAN ECONOMIC MODELS

The economic and fiscal benefits analysis presented in this chapter is the product of two independent modeling efforts based on two discreet but similar models. The economic impacts related to stadium construction and operation were estimated by ERA using the Regional Input-Output Modeling System (RIMS II), developed by the U.S. Department of Commerce, Bureau of Economic Analysis. The model contains data for New York City and New York State on 490 economic sectors, showing how each sector affects every other sector as a result of a change in the quantity of its product or service.

Economic impacts related to construction and operation of the park space and parking facilities were estimated by AKRF using IMPLAN (IMpact analysis for PLANning), an input-output modeling system originally developed by the U.S. Department of Agriculture Forest Service in 1979 and subsequently privatized by the Minnesota IMPLAN Group (MIG). The IMPLAN model contains data for New York City and New York State on over 500 economic sectors. Similar to the RIMS-II model, IMPLAN shows how each sector affects every other sector as a result of a change in the quantity of its product or service.

In general, the two modeling systems produce similar results. They are both based on multipliers developed by the Bureau of Economic Analysis, but the models are structured differently and present results in a different format. For example, RIMS-II reports full-time equivalent (FTE) employment estimates while IMPLAN reports full- and part-time employment. In addition,

while the IMPLAN modeling system distinguishes between indirect and induced effects, the RIMS-II modeling system presents them together as a single number. Therefore, all tables in the report showing economic impacts related to the stadium and modeled using RIMS-II show a combined value for indirect and induced effects, while the tables showing economic impacts related to the parks and parking garages and modeled using IMPLAN present indirect and induced impacts separately.

ANALYSIS FRAMEWORK, DATA SOURCES, AND KEY ASSUMPTIONS

Economic and fiscal benefits related to each of the three proposed project components—the stadium, park space, and parking garages—are broken into two parts: impacts that would occur during project construction and impacts that would occur on an annual basis from ongoing operation. The impacts presented for project construction represent the cumulative economic benefits expected to occur over the course of the construction period, while impacts from ongoing operation are annual.

The data sources and general methodology used to estimate impacts related to the proposed stadium, park space, and parking garages are described below.

Stadium

The economic benefits related to the proposed stadium were estimated in a separate analysis conducted for the NYCEDC by ERA in Summer, 2005. Both the construction analysis and the operation analysis are driven by direct spending. The construction analysis is based on a total construction cost of $749.0 million (2006 dollars), which was provided to ERA by HOK, the architects for the stadium project. This total figure was broken out into hard costs (actual construction including labor and materials) and soft costs (engineering, architecture, and financial services). ERA applied sector-specific RIMS-II multipliers for New York City and State to the anticipated spending to estimate direct jobs and earnings along with indirect jobs, earnings, and spending.

The operation analysis is based on the *incremental* direct spending that would be generated by ticket revenues and attendee spending, i.e., the amount that would be spent over and above the baseline direct spending from existing stadium operations. Increases in direct spending are driven primarily by an incremental increase in attendance and higher per capita attendee spending. ERA breaks direct spending into three components: spending on tickets; in-stadium spending on concessions, merchandise, and parking; and out-of-stadium spending on restaurants, retail, entertainment, hotels, and other miscellaneous purchases. Table 3-5 presents the incremental direct spending forecast by ERA to occur in each of these areas.

The figures presented in Table 3-5 are based on data from a variety of sources including the New York Yankees, HOK, Turnkey Sports, NYC & Company, the NYC Independent Budget Office (IBO), and a 2004 economic impact analysis conducted by Price Waterhouse Coopers, along with informed assumptions made by ERA. Key assumptions include:

- ERA projects that the average weighted ticket price for the existing stadium would be $45 in 2009, and that the average weighted ticket price for the proposed ballpark would be $57 in 2009.

Table 3-5
Incremental Direct Spending from Stadium Operation, 2009

	Incremental Direct Spending
Ballgame Tickets	$19,101,548
In-Stadium Spending	
Concessions	$14,847,392
Merchandise	$2,215,727
Parking	$7,484,977
Out-Of-Stadium Spending	
Restaurant	$5,046,352
Retail	$4,931,047
Entertainment	$303,427
Hotel	$3,022,566
Miscellaneous	$814,488
Total**	**$57,768,000**

Notes:
* All dollar values are presented in 2009 dollars.
** Totals may not sum due to rounding
Sources: ERA, based on: data from New York Yankees, HOK, Turnkey Sports, NYC & Company; "Home Base for Mets and Yankees Fans," NYC Independent Budget Office, 1998; "Economic & Fiscal Impact of the NY Yankees & Proposed New Ball Park," Price Waterhouse Coopers, 2004.

- Based on the average annual attendance at Yankee Stadium between 1997 and 2004, ERA projects attendance at the existing stadium to be 3.3 million (70 percent occupancy) in 2009. Attendance at the new ballpark, which was based on attendance at comparable new MLB ballparks in other cities, is projected by ERA to be 3.9 million (95 percent occupancy) in 2009, decreasing to a steady-state 87 percent occupancy by its sixth year of operation.
- Based on a 1998 report published by the NYC IBO, ERA assumes that 33 percent of Yankees game attendees are New York City residents and 67 percent live outside the City.
- For in-stadium spending, the incremental direct spending includes only spending by non-local attendees whose primary trip reason is to attend a Yankees game. Based on attendee surveys at other MLB ballparks, ERA assumes that 90 percent of day-trippers and 30 percent of overnighters are primarily in the City to watch a Yankees game. ERA therefore includes 90 percent of non-resident day-tripper spending and 30 percent of non-resident overnighter spending, for a weighted average of 79 percent of all non-resident attendee in-stadium spending.
- Although there is anecdotal evidence to indicate that new stadiums draw higher spending attendees, ERA conservatively assumes that per capita out-of-stadium spending would be the same in 2009 with the proposed stadium and with the existing stadium. ERA projects that only 25 percent of day-trippers will spend money outside of the stadium while overnighters will extend their stay in the City by one additional day to see a Yankees game.
- To account for the fact that a substantial portion of the increase in stadium gate collections will leak out of the local economy, ERA includes only 25 percent of the increase in gate collections in the economic impact analysis.

Fiscal impacts during stadium construction and operation were estimated by ERA using tax rates and schedules from the New York City Department of Finance and the New York State

Department of Taxation. ERA projected total fiscal impacts from project construction and incremental fiscal impacts from project operation by applying the relevant City and State tax rates to the direct spending estimates described above.

Park Space and Parking Garages

As indicated above, economic benefits related to the proposed park space and parking garages were estimated by AKRF using IMPLAN. Similar to the stadium analysis, the analyses of economic benefits generated by the construction and operation of the park space and parking garages are driven by direct spending estimates. Estimated net total construction costs for the park space ($95.5 million in 2006 dollars) and parking garages ($234.8 million in 2006 dollars) were provided by NYCDPR and NYCEDC, respectively. These costs were organized into IMPLAN industry sectors, which are based on the U.S. Census Bureau's North American Industry Classification System (NAICS) and modeled accordingly. The economic impact of the park construction was modeled using Sector 41 (Other New Construction). The economic impact of the parking construction was modeled using IMPLAN Sector 39 (Highway, Street, Bridge and Tunnel Construction).

As described later in this chapter, the net economic benefits associated with the ongoing operation of the proposed park space would be marginal, and therefore were not quantified as part of the analysis. The net economic benefits related to the ongoing operation of the proposed parking garages were, like the construction benefits, estimated by AKRF using IMPLAN. The analysis is driven by the annual revenues that would be generated by the parking garages—approximately $3.8 million (in 2009 dollars), according to NYCDPR. The economic impacts were modeled using IMPLAN Sector 490 (Other Personal Services), which includes parking garage operations.

Similar to ERA's analysis of the proposed stadium impacts, AKRF's analysis is based on two models—one for New York City and one for New York State. The state model was modified so that the basic characteristics (employee compensation per worker and output per worker) of the affected sectors would be consistent between the city and state models. This ensures that the direct impacts are consistent while allowing the indirect and induced impacts to reflect differences in industry and employment characteristics at the city and state levels.

Fiscal benefits related to the proposed park space and parking garages were estimated using data from the New York State Department of Labor, New York City Department of Finance, and New York State Department of Taxation and Finance.

ECONOMIC IMPACTS FROM PROJECT CONSTRUCTION

STADIUM

As indicated above, the economic impacts associated with the proposed stadium construction were estimated in a separate study conducted by ERA for NYCEDC. The analysis of the stadium construction impacts is based on a total construction cost of $749 million (2006 dollars).

Employment

The $749 million in stadium construction costs represents direct expenditures during the development period. As a result of the direct construction expenditures, the direct employment generated over the course of the stadium construction period is estimated at 3,600 full time equivalent (FTE) jobs in New York City. ERA assumes that the $749 million in direct spending

would support some jobs located within New York City (i.e., construction workers at the stadium site) and some jobs outside of the city (i.e., engineers and stadium designers) but within New York State. Therefore, ERA estimates the total number of direct jobs in New York State to be 5,600, indicating that 2,000 of the direct jobs would be located outside of the City (see Table 3-6) but within New York State.

Table 3-6
Economic and Fiscal Benefits from Stadium Construction

	Portion in New York City	Total New York City and State
Employment (FTEs)		
Direct (Jobs in construction)	3,600	5,600
Indirect & Induced (Jobs in support industries)	2,000	4,800
Total	5,600	10,400
Employee Compensation (Millions of 2006 dollars)		
Direct (Earnings in construction)	$162.9	$251.6
Indirect & Induced (Earnings in support industries and from household spending)	$73.7	$181.8
Total	$236.7	$433.4
Total Economic Output * (Millions of 2006 dollars)		
Direct (Output from construction)	$749.0	$749.0
Indirect (Output from support industries and household spending)	$365.2	$688.6
Total	$1,114.2	$1,437.6
Non-Property-Related Tax Revenues (2006 dollars)		
New York City Taxes	$13,624,000	
New York State Taxes	$32,505,000	
Total	$46,129,000	

Notes:
* The economic output or total effect on the local economy derived from the direct construction spending.
Sources: Economics Research Associates, based on data from HOK, US Census Bureau, NYC Department of Finance, NYS Department of Taxation, and Bureau of Economic Analysis.

As discussed above, when new direct jobs are introduced to an area, those jobs lead to the creation of additional indirect and induced jobs. Indirect employment resulting from stadium construction expenditures would include jobs in industries that provide goods and services to the contractors, and induced employment would include jobs generated by new economic demand from households spending salaries earned through the direct and indirect jobs. Based on the RIMS-II economic multipliers for New York City, construction of the stadium would support an additional 2,000 indirect and induced jobs within New York City, bringing the total number of jobs from stadium construction to 5,600 (see Table 3-6). In the larger New York State economy, the construction would support approximately 4,800 indirect and induced jobs, bringing the total direct and generated jobs resulting from stadium construction to 10,400.

Employee Compensation

As shown in Table 3-6, direct worker earnings over the course of the construction of the stadium are estimated at $162.9 million in New York City and $251.6 million in New York State. Total direct, indirect, and induced employee compensation resulting in New York City is estimated at $236.7 million. In the broader New York State economy, total employee compensation from stadium construction is estimated at $433.4 million.

Total Effect on the Local Economy

Economic output is generally defined as the total economic effect on a local economy, or the value of final goods and services produced. As indicated above, construction costs for the proposed stadium are estimated at approximately $749 million. Based on RIMS-II multipliers for New York City and State, the total economic output resulting from construction of the stadium is estimated at $1.4 billion in New York State, of which $1.1 billion would occur in New York City (see Table 3-6).

Fiscal Impacts

As shown in Table 3-6, even though construction materials for the project would be exempt from sales tax, the fiscal effects of the stadium construction on the City and State would be significant. ERA estimates total tax revenues over the course of the stadium construction to be $13.6 million for New York City and $32.5 million for New York State.

PARK SPACE

Based on preliminary estimates, the net construction investments for the proposed park space would amount to approximately $95.5 million (2006 dollars). This figure includes site preparation and hard costs (actual construction), as well as design, legal, and other soft costs. It reflects the cost of physical improvements to the sites, and therefore excludes other values (such as the value of the land) not directly a part of the expenditures for construction. The total cost—including the value of the land—would be more. According to NYCDPR the total construction cost for the proposed park space would be $101.3 million. However, absent the proposed project, approximately $5.7 million would be spent on physical improvements to Macomb's Dam Park and these improvements would not take place in the future with the proposed project. Therefore, the net new funds spent on park construction in the future without the proposed project would be approximately $95.5 million. This net amount was used as the basis for the economic impact modeling.

Employment

The $95.5 million in net new park construction costs represents direct expenditures during the 5-year development period. As a result of the direct construction expenditures, the direct employment generated over the course of the stadium construction period is estimated at 1,031. Based on the IMPLAN model's economic multipliers for New York City, construction of the project's park component would support an additional 133 indirect jobs and 284 induced jobs within New York City, bringing the total number of jobs from park construction to 1,449 (see Table 3-7). In the larger New York State economy, the construction would support approximately 673 indirect and induced jobs, bringing the total direct and generated jobs resulting from park construction to 1,704.

Employee Compensation

Direct construction worker earnings over the course of the construction of the park space are estimated at $60.8 million (see Table 3-7). Total direct, indirect, and induced employee compensation resulting in New York City from this construction is estimated at $81.9 million. In the broader New York State economy, total employee compensation from park construction is estimated at $88.7 million.

Table 3-7
Economic and Fiscal Benefits from Park Construction

	Portion in New York City	Total New York City and State
Employment		
Direct (Jobs in construction)	1,031	1,031
Indirect (Jobs in support industries)	133	184
Induced (Jobs from household spending)	284	489
Total	1,449	1,704
Employee Compensation (Millions of 2006 dollars)		
Direct (Earnings in construction)	$60.8	$60.8
Indirect (Earnings in support industries)	$7.9	$8.8
Induced (Earnings from household spending)	$13.3	$19.2
Total	$81.9	$88.7
Total Economic Output or Demand* (Millions of 2006 dollars)		
Direct (Output from construction)	$95.5	$95.5
Indirect (Output from support industries)	$19.9	$23.5
Induced (Output from household spending)	$38.6	$58.2
Total	$154.0	$177.3
Non-Property-Related Tax Revenues** (Constant 2006 dollars)		
New York City Taxes	$1,749,700	
MTA Taxes	$92,600	
New York State Taxes	$4,152,100	
Total	$5,994,300	

Notes:
* The economic output or total effect on the local economy derived from the direct construction spending.
** Includes personal income taxes, corporate and business taxes, sales tax on indirect activity, and numerous other taxes on construction and secondary expenditures.
Sources: Total estimated construction cost from NYCDPR; IMPLAN economic modeling system; and tax rates by applicable jurisdiction.

Total Effect on the Local Economy

As indicated above, net new construction costs for the park space are estimated at approximately $95.5 million. Based on the IMPLAN models for New York City and State, the total economic output (or the total value of final goods and services produced) resulting from construction of the park is estimated at $177.3 million in New York State, of which $154.0 million would occur in New York City (see Table 3-7).

Fiscal Impacts

The park construction activity would generate tax revenues for New York City, MTA, and New York State. Construction of the park space is estimated to generate approximately $6.0 million in non-property-related tax revenues for New York City, MTA, and New York State. Of these tax revenues, the largest portion would come from personal income taxes, sales tax on indirect and induced expenditures, and related taxes on direct, indirect, and induced economic activity. New York State would receive about $4.1 million of the tax revenues, MTA (which collects a 0.25 percent sales tax and tax surcharges on business and utilities taxes within the City and the MTA 12-county region) would receive revenues of about $0.09 million, and New York City would receive tax revenues estimated at $1.7 million.

PARKING

Based on preliminary estimates, construction investments for the proposed parking garages would amount to approximately $234.8 million (2006 dollars). Similar to the park construction cost estimate, this figure includes site preparation and hard costs (actual construction), as well as design, legal, and other soft costs. It reflects the cost of physical improvements to the sites, and therefore excludes other values (such as the value of the land) not directly a part of the expenditures for construction. The total cost—including the value of the land—would be more.

Employment

The $234.8 million in construction costs for the parking garages represents direct expenditures during the 5-year development period. As a result of the direct construction expenditures, the employment generated over the course of the parking construction period is estimated at 1,837. Based on the IMPLAN model's economic multipliers for New York City, construction of the parking garages would support an additional 335 indirect jobs and 526 induced jobs within New York City, bringing the total number of jobs from construction of the parking garages to 2,698 (see Table 3-8). In the larger New York State economy, the construction would support approximately 1,442 indirect and induced jobs, bringing the total direct and generated jobs resulting from construction of the parking garages to 3,278.

Table 3-8
Economic and Fiscal Benefits from Parking Garages Construction

	Portion in New York City	Total New York City and State
Employment		
Direct (Jobs in construction)	1,837	1,837
Indirect (Jobs in support industries)	335	510
Induced (Jobs from household spending)	526	932
Total	2,698	3,278
Employee Compensation (Millions of 2006 dollars)		
Direct (Earnings in construction)	$107.1	$107.1
Indirect (Earnings in support industries)	$20	$24.6
Induced (Earnings from household spending)	$24.5	$36.5
Total	$151.6	$168.2
Total Economic Output or Demand* (Millions of 2006 dollars)		
Direct (Output from construction)	$234.8	$234.8
Indirect (Output from support industries)	$56.3	$74.5
Induced (Output from household spending)	$71.4	$111
Total	$362.5	$420.3
Non-Property-Related Tax Revenues** (Constant 2006 dollars)		
New York City Taxes	$5,375,784	
MTA Taxes	$342,637	
New York State Taxes	$11,195,401	
Total	$16,913,822	

Notes:

* The economic output or total effect on the local economy derived from the direct construction spending.

** Includes personal income taxes, corporate and business taxes, sales tax on indirect activity, and numerous other taxes on construction and secondary expenditures.

Sources: Total estimated construction cost from NYCEDC; IMPLAN economic modeling system; and tax rates by applicable jurisdiction.

Employee Compensation

Direct construction worker earnings over the course of the construction period is estimated at $107.1 million (see Table 3-8). Total direct, indirect, and induced employee compensation resulting in New York City from this parking construction is estimated at $151.6 million. In the broader New York State economy, total employee compensation from construction of the parking garages is estimated at $168.2 million.

Total Effect on the Local Economy

As indicated above, construction costs for the parking garages are estimated at approximately $234.8 million. Based on the IMPLAN models for New York City and State, the total economic activity resulting from construction of the parking garages is estimated at $420.3 million in New York State, of which $362.5 million would occur in New York City (see Table 3-8).

Fiscal Impacts

As with the other project elements, economic activity associated with construction of the parking garages would generate tax revenues for New York City, MTA, and New York State. Construction of the parking garages is estimated to generate approximately $16.9 million in non-property-related tax revenues for New York City, MTA, and New York State. New York State would receive about $11.2 million of the tax revenues, MTA (which collects a 0.25 percent sales tax and tax surcharges on business and utilities taxes within the City and the MTA 12-county region) would receive revenues of about $0.34 million, and New York City would receive tax revenues estimated at $5.4 million.

ECONOMIC IMPACTS FROM PROJECT OPERATION

STADIUM

As described above, the economic impacts associated with the ongoing operation of the proposed stadium were estimated in a separate study conducted by ERA for NYCEDC in Summer 2005. As shown in Table 3-9, total incremental direct spending associated with the new stadium—including in-stadium spending on concessions, merchandise and parking, out-of-stadium spending on restaurants, entertainment, retail, hotels, etc.—is estimated at $57.8 million annually (2009 dollars). This represents the annual net direct spending associated with the proposed stadium compared to the existing stadium.

Employment

Based on the annual direct spending estimate of $57.8 million, the incremental direct employment generated by the proposed stadium compared to the existing stadium would be 700 permanent FTE jobs in New York City and 800 permanent FTE jobs in the larger New York State economy (see Table 3-9). Total employment resulting from operation of the stadium would include jobs at businesses providing goods and services to the stadium and jobs supported by increased income from direct and indirect jobs. Based on RIMS-II economic multipliers for New York City industrial sectors, the proposed stadium would generate an additional 200 permanent jobs within New York City, bringing the total incremental direct and generated jobs from the annual operation of the stadium to 900 jobs within New York City.

Table 3-9
Incremental Permanent Annual Impacts of Stadium in 2009

	Portion in New York City	Total New York City and State
Employment (FTEs)		
Direct	700	800
Indirect & Induced	200	400
Total	900	1,200
Employee Compensation (Millions of 2009 dollars)		
Direct	$18.2	$21.0
Indirect & Induced	$ 7.7	$14.8
Total	$25.9	$35.8
Total Economic Output (Millions of 2009 dollars)		
Direct	$57.8	$57.8
Indirect	$38.5	$57.8
Total	$96.3	$115.6
Non-Property-Related Tax Revenues (2009 dollars) **		
New York City	$6,558,000	
New York State	$7,575,000	
MTA	$288,000	
Total	$14,421,000	

Notes:
* The economic output or total effect on the local economy derived from the direct construction spending.
** Tax revenues include: sales tax, personal income tax, hotel tax, parking tax, and miscellaneous taxes such as business income taxes, utility taxes, and administrative fees.
Sources: ERA, based on data from HOK, U.S. Census Bureau, NYC Department of Finance, NYS Department of Taxation, and Bureau of Economic Analysis.

In the larger New York State economy, the stadium would generate an estimated 400 jobs of indirect and induced employment, bringing the total incremental direct and generated jobs from the annual operation of the stadium to 1,200 jobs in New York State.

Employee Compensation

As shown in Table 3-9, direct net new employee compensation from the annual operation of the stadium is estimated at $18.2 million in New York City and $21.0 million in New York State. Total direct and generated employee compensation resulting in New York City and New York State is estimated at $25.9 million and $35.8 million, respectively.

Total Annual Effect on the Local Economy

The proposed stadium would generate an incremental $57.8 million annually in direct benefits on the local economy, measured as economic output. Based on RIMS-II multipliers for New York City and State, the total economic activity—including indirect and induced expenditures—that would result from operation of the proposed stadium compared to the existing stadium is estimated at $115.6 million annually in New York State. Of that amount, $96.3 million annually would occur in New York City (see Table 3-9).

Total Annual Effect Including Capital Savings to the City

New York City currently devotes considerable financial resources to the annual upkeep of Yankee Stadium. Over the next 30 years, without the proposed project, it is estimated that the

City would spend a cumulative total of $574 million on stadium upkeep. The proposed project would replace that stadium, and the City would experience a capital savings of $574 million over the next 30 years.

At the same time, the City currently collects rent on the existing Yankee Stadium. These are revenues that the City will no longer collect if the proposed stadium is constructed. According to ERA, this rent would amount to a cumulative total of $497 million over the next 30 years. This means that the net gain to the City (the capital savings less the foregone rent) would be approximately $77 million over the next 30 years.

Adding to that the economic benefits from stadium construction ($14 million) and the incremental annual economic benefit from stadium operation (estimated to be approximately $258 million between 2009 and 2028, based on ERA's economic impact modeling), the total economic benefit to New York City is estimated to be approximately $350 million over the next 30 years.

Fiscal Impacts

As shown in Table 3-9, ERA estimates that the operation of the proposed stadium would generate approximately $6.6 million in additional tax revenues for the City, $7.6 million for the State, and $288,000 for the MTA in 2009, for a total annual fiscal impact of $14.4 million. The fiscal impact estimate includes taxes such as sales tax on tickets and retail expenditures, income tax on payroll, hotel tax, and parking tax.

PARK SPACE

As described in Chapter 1, "Project Description," the proposed project would displace approximately 22.42 acres of park space containing recreational facilities at portions of Macomb's Dam Park and John Mullaly Park but would replace it with 27.05 acres of recreational facilities to be located in the immediate vicinity of the proposed stadium and to the south of the stadium along the Harlem River.

According to the NYCDPR, the number of full- and part-time jobs at the existing park space ranges from approximately 15 to 40, depending on the season. The NYCDPR expects that the number of jobs at the replacement park space would be equal to or slightly greater than the number of jobs at the existing park space. In addition, the project area currently hosts NYCDPR District office, which houses approximately 38 employees. These employees would be temporarily relocated to other existing NYCDPR facilities during park construction and moved into a new facility in the project area once construction is complete.

Because the proposed project would not result in any considerable change in park employment, economic effects related to the ongoing operation of the park space would be marginal and therefore have not been quantified as part of this analysis. However, NYCDPR has indicated that the new park space may require some additional maintenance staff. Therefore, any net change in economic effects associated with ongoing operation of the park space would be positive.

PARKING

Annual revenues from the operation of the new parking garages are estimated by NYCDPR to be approximately $4.5 million (2009 dollars). As described in Chapter 1, "Project Description," the proposed project would displace parking spaces located in existing lots. NYCDPR estimates the annual revenues generated by these spaces to be approximately $0.7 million (see Table 3-10).

Table 3-10
Incremental Permanent Annual Impacts from Parking Garages in 2009

	Portion in New York City	Total New York City and State
Employment		
Direct (Jobs at parking garages)	23	23
Indirect (Jobs in support industries)	6	14
Induced (Jobs from household spending)	4	9
Total	33	46
Employee Compensation (Millions of 2009 dollars)		
Direct (Earnings at parking garages)	$0.7	$0.7
Indirect (Earnings in support industries)	$0.4	$0.7
Induced (Earnings from household spending)	$0.2	$0.4
Total	$1.3	$1.8
Total Economic Output or Demand* (Millions of 2009 dollars)		
Direct (Output from parking garages)	$3.8	$3.8
Indirect (Output from support industries)	$1.1	$2.3
Induced (Output from household spending)	$0.5	$1.2
Total	$5.4	$7.3
Non-Property-Related Tax Revenues** (Constant 2009 dollars)		
New York City Taxes	$267,800	
MTA Taxes	$17,600	
New York State Taxes	$248,300	
Total	$533,700	

Notes:

* The economic output or total effect on the local economy derived from the direct spending.

** Includes parking tax, personal income taxes, and numerous other taxes on direct and secondary expenditures.

Sources: Total estimated net annual revenues from NYCDPR; IMPLAN economic modeling system; and tax rates by applicable jurisdiction.

Therefore, the net increase in annual revenues from the proposed parking garages is approximately $3.8 million. Economic impacts presented below are based on this net figure and represent the incremental benefits that would result from the ongoing operation of the proposed parking garages.

Employment

Based on the annual revenue estimate of $3.8 million, the incremental direct employment generated by the proposed parking garages compared to the existing parking areas would be 23 jobs (see Table 3-10). Based on the IMPLAN economic multipliers for New York City and State, the total employment resulting from operation of the parking garages (including jobs at businesses providing goods and services to the garages and jobs supported by increased income from direct and indirect jobs) is estimated to be 33 jobs within New York City and 46 jobs within New York State.

Employee Compensation

As shown in Table 3-10, direct net new employee compensation from the annual operation of the parking garages is estimated at $0.7 million. Total direct and generated employee compensation resulting in New York City and New York State is estimated at $1.3 million and $1.8 million, respectively.

Total Annual Effect on the Local Economy

As described above, the proposed parking garages would generate an incremental $3.8 million in annual revenues. Based on the IMPLAN multipliers for New York City and State, the total economic activity—including indirect and induced expenditures—that would result from this spending is estimated at $7.3 million annually in New York State. Of that amount, $5.4 million annually would occur in New York City (see Table 3-10).

Fiscal Impacts

As shown in Table 3-10, the operation of the proposed parking garages would generate approximately $0.27 million in additional tax revenues for the City, $0.25 million for the State, and $0.02 for the MTA in 2009, for a total annual fiscal impact of $0.53 million. ✷

Chapter 4: Open Space and Recreation

A. INTRODUCTION

According to the 2001 *City Environmental Quality Review (CEQR) Technical Manual*, an assessment of the effects on open space and its users is required if a proposed project would have either a direct effect on an open space through encroachment or displacement or an indirect effect through the introduction of a new user population. The proposed project would involve the displacement of existing recreational facilities on parkland (see Figure 4-1) and the creation of new replacement facilities and additional new parkland.[1] It would also create a new stadium; however, because the proposed stadium would have fewer seats than the existing Yankee Stadium, it would not introduce a new or increased population to the area or have an indirect effect on open space. The open space analysis therefore assesses the direct effects of the proposed recreational facilities displacement and the comparability and adequacy of the replacement facilities.[2]

This chapter also addresses the requirements of the Federal Land & Water Conservation Fund Act (LWCF), 16 U.S.C. §§ 460*l*-4 to 460*l*-11 (commonly referred to as Section 6(f), as the provision was originally contained in Section 6(f)(3) of the LWCF, Public Law 88-578 of 1962, before codification). This statute regulates the future use of parklands or open spaces that have been improved with funds received through the LWCF, and is applicable in this case because LWCF funds were used for the improvement of portions of Macomb's Dam Park.

New York State legislation enacted in June 2005 authorizes the alienation of certain areas of currently mapped parkland to allow for its disposition by the City, through leases, for operation of the proposed stadium and three of the proposed parking garages. Following that disposition, however, these areas would remain mapped parkland. The State legislation also requires that the City dedicate the existing Yankee Stadium site as parkland and acquire additional parklands and/or dedicate land for park and recreational purposes which are equal to or greater than the fair market value of the parkland being alienated.

As the recreational facilities that would be displaced by the proposed project would be replaced with similar and new recreational facilities, the proposed project would not result in any significant adverse impacts to open space. Furthermore, as there would be a net increase in the area's open space, and older, and in some cases worn facilities, would be replaced with new,

[1] In response to comments received on the Draft EIS (DEIS), including comments from the community and the Bronx Borough President, an alternative plan for the parkland program and recreational facilities has been developed and is examined in Chapter 22, "Alternatives," of this FEIS.

[2] During the construction period there would be effects on open space related to the temporary unavailability of certain recreational facilities to area residents and workers, while replacement facilities are being constructed on parkland. The potential for temporary open space impacts during this period are addressed below.

modern facilities, as well as new waterfront access, there would be a positive impact on the project area in terms of open space. The proposed project would also comply with the requirements of Section 6(f) and the State authorizing legislation.

B. APPLICABILITY OF SECTION 6(f)

The United States Department of the Interior (DOI), through the National Park Service (NPS), provides funding under the LWCF for State and local efforts to plan, acquire, or develop land to advance outdoor recreational activities. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) serves as the New York State agency that administers LWCF funds received from DOI. Using LWCF funds, however, creates certain limitations on future changes to LWCF-funded projects. Once LWCF funds are utilized for a particular recreation project, conversion of that park facility for any non-recreational purpose is prohibited unless alternatives are assessed and steps are taken to identify, evaluate, and supply replacement parkland. NPS must grant prior approval of the conversion and replacement parkland.

In particular, under the LWCF, a conversion of parkland may be approved if NPS finds that: (1) all practical alternatives to the proposed conversion have been evaluated; (2) the fair market value of the park property to be converted has been established and the property proposed for substitution is of at least equal fair market value, as established by an approved appraisal in accordance with the Uniform Appraisal Standards for Federal Land Acquisition, excluding the value of structures or facilities that will not serve recreational purposes; (3) the proposed replacement property is of reasonably equivalent usefulness and location as the converted property; and (4) the proposed conversion and substitution are in accordance with the applicable Statewide Comprehensive Outdoor Recreation Plan (SCORP). The LWCF regulations further require that the project comply with applicable Federal statutes, regulatory requirements, and policies, including the National Environmental Policy Act (NEPA). NPS must approve the conversion and consider the environmental evaluations in its review.

The location of the proposed stadium is on a portion of Macomb's Dam Park north of East 161st Street and east of Jerome Avenue that was improved with LWCF funds in the early 1980s. For purposes of the Federal LWCF conversion, the proposed Section 6(f) replacement parks would be developed on the existing stadium site, Ruppert Place, and along the Harlem River waterfront. Figure 4-2 shows the location of the Section 6(f) conversion and replacement parcels.

The appropriate environmental analyses are provided throughout this Final Environmental Impact Statement (FEIS), but particularly in this chapter. Similarly, the New York City Department of Parks and Recreation's (NYCDPR) compliance with the requirements of Section 6(f), including analyses of alternatives, usefulness and location, and consistency with the SCORP, are contained within this chapter.

C. DIRECT OPEN SPACE IMPACTS ANALYSIS

EXISTING CONDITIONS

The project area contains portions of two parks: Macomb's Dam Park and John Mullaly Park. Each is described in further detail below. The remainder of the project area shown on Figure 4-1 does not include open space uses.

MACOMB'S DAM PARK

The 28.4-acre Macomb's Dam Park, which is bounded roughly by East 162nd Street, Jerome Avenue, East 157th Street, River Avenue, and the Major Deegan Expressway, is divided into several segments, some of which are part of the project area, as described below.

The 11.2-acre northern portion of Macomb's Dam Park is part of the project area (see A on Figure 4-1). This portion of the park contains a little league ballfield with a 90-foot infield, a softball field with a 60-foot infield, and the 400-meter Joseph J. Yancey, Jr. track and soccer/football field, which is surrounded by bleachers (see Figures 4-3 and 4-4). The outfields of the two ballfields overlap. When games are held at the same time on adjacent fields, the outfield must be shared by each ballfield, hindering their use. Mowed turf forms the vegetative ground cover and trees, including large pin oak trees, which are confined to the perimeter of the park and to the southwest portion of the parcel near a rock outcrop. The field is in fair to poor condition and in need of renovation—the center field is barren dirt.[1] In 2004 the track was resurfaced and the sidewalk was repaired. This portion of the park is heavily used, particularly by teenagers, and is popular for soccer, baseball, football, and jogging.

The southern portion of Macomb's Dam Park, which is also part of the project area, is approximately 7.33 acres (see B on Figure 4-1). This portion of the park is sunken below the elevation of the surrounding streets. This space contains 24 handball courts, 2 basketball courts, 1 little league field with a 90-foot infield and another with a 60-foot infield, as well as the Macomb's Dam Park District Office, which also provides public restrooms, and passive recreation areas with benches and trees (see Figure 4-5). As in the northern portion of the park, the outfields of the two ballfields overlap. This portion of the park is well utilized, particularly by teenagers, and its nighttime lighting makes the basketball and handball courts available for use after dark. Park facilities are in good condition.

The Macomb's Dam Park ballfields are used regularly by numerous schools and community organizations during time periods for which NYCDPR issues permits (9 AM to 8 PM daily) as well as by local residents for "pick-up" games and free play. Permits for the park ballfields are issued from April to September. According to recent NYCDPR permit information, several groups currently holding permits for use of the Macomb's Dam Park fields use them during several days and time periods each week and one group uses two ball fields in the park at once. There is currently no waiting list for use of the Macomb's Dam Park ballfields.

Immediately west and south of this recreational portion of the park are areas that are currently used for parking for Yankee Stadium, although they are officially part of Macomb's Dam Park and are mapped parkland (see C and D on Figure 4-1).

Five additional parcels of the park are not located within the project area. These include several small, landscaped areas along Jerome Avenue and a portion of the park located west of the Major Deegan Expressway. The triangle between the Macomb's Dam Bridge Approach and Jerome Avenue contains trees and a lawn area with a walking path (see E on Figure 4-1). The trees on this parcel are largely a mix of pin oak, red oak, sycamore, and London plane. The triangle between Anderson and Woodcrest Avenues contains benches and game tables (see F on Figure 4-1). The triangle between Woodcrest and Ogden Avenues contains a grassy hill slope, fountain, game

[1] Existing conditions information was collected by AKRF, Inc. during field visits performed in October 2004, as well as from park surveys performed by Parsons Brinckerhoff, contained in a draft report of park surveys and park utilization prepared for Tishman Speyer Properties, dated November 2001.

tables, and benches (see G on Figure 4-1), and the portion between Ogden and Summit Avenues contains Summit Playground and a grassy hill (see H on Figure 4-1). An additional parcel is located north of Macomb's Dam Bridge, west of the Major Deegan Expressway, and east of the Metro North railroad line (see I on Figure 4-1). This 2.5-acre parcel connects to the portion of the park that contains Summit Playground (Parcel H on Figure 4-1) via a pedestrian bridge. Pedestrian access is also available from the north sidewalk of the Macomb's Dam Bridge Approach.

Under certain operational and security conditions, some existing park facilities within Macomb's Dam Park are closed to public use because of stadium parking overflow conditions and New York Police Department (NYPD) operational needs. These conditions affect the two ballfields on the north side of East 161st Street and the hard court areas located on the south parcel of Macomb's Dam Park.

JOHN MULLALY PARK

John Mullaly Park is bounded by Jerome Avenue to the west, McClellan Street to the north, River Avenue to the east and East 162nd Street to the south (see Figure 4-2). The 18.5-acre park is divided into three sections, the southernmost of which is part of the project area. The park is used for a mix of active and passive recreation and attracts users of all ages, with youths comprising a large proportion of park patrons.

The southernmost block of John Mullaly Park, located between East 162nd and 164th Streets, is part of the project area (see J on Figure 4-1). This parcel contains 16 public tennis courts. During winter months, the courts are covered with a bubble and managed by a concessionaire of NYCDPR. The site also contains 8 handball courts (see Figure 4-6). The perimeter of the park is lined with single and double lines of trees, including large pin oaks. This portion of John Mullaly Park is approximately 3.8 acres.

The northernmost section of the park contains play equipment, a marine animal-themed spray shower, two softball fields, a lawn, and benches (see K on Figure 4-1). The middle section of the park contains an outdoor pool, play equipment, basketball courts, swings, lawn, a skate park, and a recreation center (see L on Figure 4-1). Neither the northern nor the middle section of the park would be directly affected by the proposed project.

THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, the active recreational facilities in the portion of Macomb's Dam Park located north of East 161st Street (see A on Figure 4-1) would be improved with funds from the New York City Department of Environmental Protection (NYCDEP) water filtration plant project by 2009. The improvements would include installation of a synthetic turf soccer field, lighting around the track, reconstruction of the bleachers, and construction of a comfort station. The NYCDEP project, to be located in Van Cortlandt Park northeast of the Yankee Stadium project area in The Bronx, includes funding for improvements to other parks in The Bronx. Improvements to this portion of Macomb's Dam Park would include installation of artificial turf for the fields and new lighting around the track, replacement of the spectator stands, and construction of a comfort station. No other changes are anticipated on any other portion of the project area in the future without the proposed project.

Adjacent and to the south of the portion of the project area along the waterfront, the City will develop an approximately 2-acre waterfront public open space on Pier 4. It is anticipated that

this public open space would be maintained by NYCDPR. The City is committed to developing this public open space by 2009. The programming of this open space has not been determined at this time (see Figure 4-7).

Outside the project area, the fountain on the triangle portion of Macomb's Dam Park located between Woodcrest and Ogden Avenues (Parcel G on Figure 4-1) will be repaired. This NYCDPR project will restore the existing stone work, stairs, and pathways in the park. Additionally, improvements will be made to the northern portion of John Mullaly Park (see K on Figure 4-1), also with funds from the NYCDEP project, including reconstructing the playground and constructing a spray shower and comfort station. It is anticipated that both of the park improvement projects outside the project area will be completed by 2009.

PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed stadium would be located one block to the north of the existing stadium in the northern block of Macomb's Dam Park, the southern block of John Mullaly Park, and a demapped East 162nd Street between Jerome and River Avenues. The proposed stadium and its garages would result in the displacement of 22.42 acres of existing recreational facilities (including the portion of Macomb's Dam Park at the corner of East 157th Street and Ruppert Place that is currently used for accessory parking for Yankee Stadium—see C on Figure 4-1). Within Macomb's Dam Park, 4 ballfields, 1 track with a soccer field, 24 handball courts, 2 basketball courts, and passive recreation areas would be displaced (see Figure 4-3). As the section of Macomb's Dam Park that would be reconstructed in the No Build condition would be displaced with the proposed project, this renovation would not occur if the proposed project were to proceed. Within John Mullaly Park, 16 tennis courts and 8 handball courts would be displaced. The proposed project would retain most of the ballfield of the existing Yankee Stadium and adapt it to a baseball field called "Heritage Field," which would be available for public use. The proposed project would map this parcel as new parkland.

The BX13 bus route currently runs along East 162nd Street between River and Jerome Avenues. Since the proposed project would demap this street, the bus route would be rerouted, most likely to East 164th Street.

The proposed project would provide approximately 27.05 acres of replacement facilities in the project area to address the displacement (see Table 4-1 and Figures 4-8 and 4-9). This would include replacement facilities on 10.22 acres of existing parkland (including approximately 2.89 acres of Macomb's Dam Park currently used for accessory parking for Yankee Stadium), 15.82 acres of new parkland, and 1.01 acres of new open space (not mapped as parkland). The proposed project would create a unified 17.36-acre park area south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street. Although Figures 4-8 and 4-9 reflect NYCDPR's current plan for the replacement of recreational facilities, NYCDPR may choose to vary the new facilities to provide replacements that are not exactly the same as those displaced, but are equal in value or better than those being replaced. To this end, NYCDPR would undertake a broad community outreach program before deciding on a final plan for the new parkland and recreational facilities. The proposed facilities, which may be modified, include the following elements (see Figure 1-10 for location of proposed parking garages).

Table 4-1
Yankee Stadium Replacement Facilities

Reference Number[1]	Recreational Facility	Area (Acres)
1	400-meter running track with soccer field and spectator stands, 9 handball courts, 2 tennis courts, little league field, 2 basketball courts (one with stands), a tot-lot with play equipment and comfort station with restrooms	7.33
2[2]	Ruppert Plaza	1.13
3[2]	Heritage Field: Baseball Field with 90-foot infield	8.90
4	14 rooftop tennis courts and pavilion with restrooms	2.89
5	Passive park space	0.24
6	Passive park space	0.44
7	Passive open space	0.30
8[2]	Little League Field with 90-foot infield, softball field with 60-foot infield, and comfort station with restrooms	5.11
9	Harlem River Esplanade	0.71
	Total New Facilities	27.05

Note:
[1] Refers to Figure 4-8.
[2] Proposed 6(f) replacement.

- Heritage Field on the existing Yankee Stadium site (not currently parkland).
- The portion of Macomb's Dam Park west of Ruppert Place—currently sunken below the elevation of the surrounding streets—would be replaced with an at-grade park, beneath which would be a proposed parking garage (Parking Garage A). A 400-meter athletic track, full-size soccer field, and grandstand would be located in the southern portion of Macomb's Dam Park west of Ruppert Place. A comfort station with restroom facilities would be constructed beneath the grandstand. A tot-lot with climbing and play equipment, drinking fountain, and benches would be located at the corner of Macomb's Dam Bridge Approach and East 161st Street.
- 9 handball courts and 2 tennis courts would be located in the southern portion of Macomb's Dam Park west of Ruppert Place.
- 2 basketball courts (one with stands) would be located in the southern portion of Macomb's Dam Park west of Ruppert Place.
- 1 little league field built atop a proposed parking garage (Garage A) on the southern portion of Macomb's Dam Park.
- 14 tennis courts and a pavilion building with restrooms and other amenities on the rooftop of a proposed parking garage (Garage C) located in a portion of Macomb's Dam Park currently used for surface parking.
- A passive park with an allee way of trees on a realigned Ruppert Place (not currently parkland), which would be renamed "Ruppert Plaza."
- Passive park space comprised of benches and unique paving landscape east of River Avenue on either side of East 157th Street (not currently parkland). The northern park parcel would contain sculptured play elements.

- 1 little league baseball field (90-foot infield) and 1 softball field on the Harlem River waterfront (not currently parkland). A comfort station with restrooms would be constructed to the south of the fields.
- A 0.71-acre esplanade along the Harlem River waterfront (not currently parkland).

In total, the proposed project would result in a net increase of approximately 4.63 acres of parkland and recreational facilities, with 5.11 acres of recreational parkland along the Harlem River waterfront. The proposed waterfront parkland and esplanade has been designed to accommodate the future maintenance and operation of the reconstruction project for the Major Deegan Expressway. It would provide physical and visual waterfront access and recreational opportunities that are currently not available in the surrounding community. It would attract the public and enliven a waterfront area that is currently composed of degraded piers. As described above, in the future without the proposed project approximately 2 acres of new public open space will be developed by the City on Pier 4. With the addition of the new parkland and esplanade to be built by the proposed project, there would be a total of over 7.8 acres of continuous waterfront open space.

While the majority of the new open space would be mapped as parkland at the outset of the project, the recreational facilities and improvements would be implemented over the course of the construction period, ending in 2011.[1] By 2009, all of the replacement parkland and recreational facilities would be constructed with the exception of Heritage Field, which would be completed in 2010 (and in active use in the first quarter of 2011). When the final replacement facilities are completed on the site of the existing stadium, the displaced facilities would be replaced with a net increase of parkland and recreational facilities in the project area. As currently conceived, the displaced facilities would be replaced with an equal number of ballfields and tennis courts. NYCDPR would replace 18 of the existing handball courts with alternative recreational facilities that meet current community needs, because many of the existing handball courts remain unused during peak summer hours. In this case, basketball courts may be more useful to current recreational needs.

As indicated, during the 2009 to 2010 construction period, not all replacement recreational facilities would be available. The existing stadium site cannot be developed with replacement recreational facilities until the proposed stadium is completed and operational, because the Yankees would continue to play in the existing stadium until the proposed stadium is completed. As shown in Table 4-2, the majority of the active recreation facilities would, however, be replaced within 1 to 2 years of its displacement. The longest time of displacement caused by construction would be for the soccer field and the 400-meter track. These facilities would be displaced for 3½ years, although a temporary running course would be created for local residents during construction. Throughout the construction period, a temporary running course would be created for local residents. From the second quarter of 2006 until about the fourth quarter of

[1] Since publication of the DEIS, NYCDPR and the Yankees have been working to develop a revised construction schedule that would allow for certain interim and permanent replacement recreational facilities to be available sooner. This new schedule is reflected in the Alternative Park Plan analyzed in Chapter 22, "Alternatives," of this FEIS. As applied to the proposed project, a similar construction schedule would result in additional interim recreational facilities and some permanent replacement facilities becoming available sooner. This new construction schedule would not result in any significant adverse impacts not already identified for the construction schedule analyzed in Chapter 19, "Construction Impacts."

Table 4-2
Displacement and Replacement of Park Facilities

Facility	New Location	Date Closed	Date Operational	Years Closed
Passive recreation[1]	River Avenue Parks	New Facility	2007 4th Q	NA
Softball field 60-foot	Harlem River waterfront park	2006 2nd Q	2007 4th Q	1 ½
Baseball field 90-foot	Harlem River waterfront park	2007 4th Q	2007 4th Q	0
Harlem River Esplanade[1]	Harlem River waterfront park	New Facility	2008 3rd Q	NA
Tennis courts (16)	Macomb's Dam Park	2006 2nd Q	2008 4th Q (14)	2 ½
Babe Ruth Plaza	Macomb's Dam Park	2008 4th Q	2009 1st Q	½
Tennis courts (replace)	Macomb's Dam Park	2006 2nd Q	2009 2nd Q (2)	3
Basketball court (2)	Macomb's Dam Park	2007 4th Q	2009 2nd Q (2)	1 ½
Handball courts (24)	Macomb's Dam Park	2007 4th Q	2009 2nd Q (9)	1 ¾
Soccer field	Macomb's Dam Park	2006 2nd Q	2009 4th Q	3 ½
Competitive track[2]	Macomb's Dam Park	2006 2nd Q	2009 4th Q	3 ½
Baseball field 90-foot	Macomb's Dam Park	NA	2009 4th Q	NA
Baseball field 90-foot	Heritage Field	2007 4th Q	2011 1st Q	3
Baseball field 90-foot	NA	2006 2nd Q	NA	NA
Handball courts (8)	None[3]	2006 2nd Q	NA[3]	NA[3]

Notes:
[1] The Harlem River Esplanade and the River Avenue Parks would be new facilities.
[2] A temporary running course would be available throughout the construction period.
[3] The proposed project would not replace 23 of 32 existing handball courts.
One new basketball court and the soccer field/400-meter track would have spectator stands.
NA = Not Applicable.

2007, the temporary running course would be located around the two baseball fields next to and northwest of the existing Yankee Stadium. When construction displaces these ballfields, the esplanade surrounding the new ballfields in the Harlem River waterfront park would serve as a temporary running course and would be available until the permanent competitive track is available. The temporary running course would be about 15 feet wide and have a cinder surface and signage indicating distances. The temporary running course would be suitable for walking, jogging and recreational running, but would not be suitable for competitive track meets.

Competitive track meets that currently use Macomb's Dam Park would be held at other nearby tracks that meet standards. The New York City Department of Parks and Recreation (NYCDPR) operates 32 tracks in New York City that meet the standards for competitive track meets. Of these tracks 7 are located in The Bronx, 6 in Manhattan and 5 are located within 3 miles of the existing Macomb's Dam Park track. NYCDPR uses a permit system to schedule use of these tracks, and the agency states that time periods are available for track meets at the nearby NYCDPR tracks. In addition to NYCDPR tracks, other nearby tracks that can host competitive meets are operated by the New York City Department of Education and various private schools, colleges and universities. These tracks may be available for use by competitive meets that currently are scheduled in Macomb's Dam Park. Local residents my also be able to use thse tracks informally.

Like the running track for competitive meets, the soccer field in Macomb's Dam Park would be unavailable for scheduled games during a period of about 3½ years. NYCDPR operates 64 soccer fields in New York City. Of these, 27 are in The Bronx, 6 in Manhattan and 7 within 3 miles of the existing Macomb's Dam Park soccer field. NYCDPR uses a permit system to schedule use of the soccer fields, and the agency states that time periods are available for scheduled soccer games at the nearby fields. These fields may be available for use by clubs that use the Macomb's Dam Park field.

Finally, there are a number of parks containing recreational facilities within close proximity to the project area that would not be affected by the proposed project and would remain available to the community throughout the project's construction. These include: (i) Franz Sigel Park, 15.99 acres located 0.35 miles from the project area, which contains one little league field, one regulation-size baseball field and 2 basketball courts; (ii) the northern portion of John Mullaly Park, 18.5 acres located 0.35 miles from the project area, which contains two little league fields, one synthetic turf soccer field (youth size), a swimming pool, four basketball backboards, and one basketball court; (iii) Nelson Avenue Playground, 1.148 acres located 0.75 miles from the project area (i.e., from East 161st Street and the Macomb's Dam Bridge Approach), which contains two handball courts, one basketball court, and two basketball backboards; (iv) Claremont Park, 38.5 acres located 1 mile from the project area, which contains two basketball courts, two basketball backboards, two little league fields, and four handball courts; (v) St. Mary's Park, 35.3 acres located 1.3 miles from the project area, which contains four handball courts, six basketball courts, two regulation-size baseball fields, and one indoor swimming pool; and (vi) Crotona Park, 127.5 acres located 1.4 miles from the project area, which contains six basketball courts, three regulation baseball fields, 20 tennis courts, 26 handball courts, six basketball courts, and three basketball backboards.

The majority of the other recreational facilities would be unavailable for short periods of time, about 1 to 2 years. NYCDPR would also work with displaced baseball and softball field user groups to find playing time at nearby recreational fields as close as possible to Macomb's Dam Park. A temporary running course, which would be appropriate for recreational use by local residents, would be available throughout the construction period. As discussed above, other tracks and fields are available nearby. Therefore, the interim unavailability of certain park facilities is not considered to be a significant adverse impact.

As under current conditions, under certain operational and security conditions, some of the existing or replacement recreational facilities located near the proposed stadium could be used by the NYPD to meet operational needs during the baseball season and could be closed to public use.

As a result of the relocation of facilities described above, more than adequate replacement of existing facilities would occur, although the facilities would not be clustered together as they are today. Two of the ballfields and some passive recreational space would be located along the waterfront, within approximately ½-mile of the other recreational facilities. However, the continuous area of parkland south of East 161st Street that would include Heritage Field, Ruppert Plaza, and the replacement recreational facilities atop Parking Garage A would be 3.86 acres larger than the portions of Macomb's Dam and John Mullaly Parks located north of East 161st Street that would be displaced by the proposed project. This continuous area of parkland would be located in the same general vicinity as the displaced facilities.

The increased net acreage for the recreational facilities with the proposed project would benefit park users. For example, there would be more space for individual ballfields and their outfields would not overlap, as they do at the four existing ballfields. The ballfields could continue to accommodate groups using multiple fields at a location simultaneously. In addition, the two ballfields along the waterfront and the ballfield atop Parking Garage A would be made of artificial turf. As compared to the existing ballfields, the artificial turf would provide all-weather fields with much improved conditions over the long-term. The artificial turf would have minimal periods of interrupted play for field maintenance. The use of artificial turf would also reduce expenses for maintenance as compared to natural grass. The life cycle for artificial turf is also much greater than natural turf. There would be no change in the types of recreational uses in the

project area and no significant adverse impacts on open space would result with the completion of the replacement spaces.

Overall, as the replacement facilities would be new, whereas many of the existing facilities are in fair to poor condition, the quality of the recreational spaces would be improved. In addition, all trees that would be removed would be replaced within either the parks or on surrounding streets, based on NYCDPR's basal area replacement formula, which is designed to ensure that, in sum, the replacement trees are of the same ecological functionality as the original trees. (Multiple smaller, younger trees may be used to replace an older, larger tree.) The proposed project would also seek to retain the existing native mature trees closest to the curbline along East 164th Street, Jerome Avenue, and the rest of the project area, as possible. Furthermore, with the provision of 5.82 acres of new waterfront open space (including 5.11 acres of new parkland and a 0.71-acre esplanade), there would be increased visual and physical access to the Harlem River waterfront, which is not available today.

D. LWCF SECTION 6(f) COMPLIANCE

Because LWCF funds were used to finance certain improvements to facilities in portions of Macomb's Dam Park, the requirements of Section 6(f), as described beginning on page 4-1, must be satisfied before these facilities are replaced by the proposed project. Most particularly, the loss of these facilities must be mitigated by the creation of replacement facilities.

NYCDPR has committed to taking all steps required to comply with Section 6(f), and the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and NYCDPR have agreed to the steps to be taken in this regard. In consultation with OPRHP, NYCDPR would provide replacement facilities (described above) as necessary to mitigate the impacts on the portion of Macomb's Dam Park with recreational facilities that would be displaced, which take into account the substitute resources provided by the replacement properties in accordance with the requirements of Section 6(f).

IDENTIFICATION OF SECTION 6(f) PARCELS

The portion of Macomb's Dam Park that received LWCF funds and would be developed with the proposed Yankee Stadium ("conversion parcel") is shown on Figure 4-2, and is generally bounded by East 161st Street to the south, River Avenue to the east, Jerome Avenue to the west, and East 162nd Street to the north. The conversion parcel, which is approximately 11.2 acres, is mapped parkland under the ownership of the City of New York and the control of NYCDPR (see Table 4-3). Three parcels are proposed as replacement parkland ("replacement parcels"), which in total would comprise 15.14 acres. The first replacement parcel is the site of the existing Yankee Stadium, which is owned by the City of New York. Although NYCDPR administers the lease for Yankee Stadium, the site is not mapped parkland. The second replacement parcel is Ruppert Place, located adjacent to the existing Yankee Stadium (see Figure 4-2). Ruppert Place is also owned by the City of New York and is mapped as a public street. The third replacement parcel is located along the Harlem River waterfront and currently contains paved areas and three partially occupied warehouse buildings used as wholesale food markets as part of the Bronx Terminal Market. This waterfront replacement parcel is comprised of lots owned by both the City of New York and State of New York but is not mapped parkland. The State-owned land is associated with the abutting Oak Point Link rail connection. The New York State legislation enacted in June 2005 authorizes the State to dispose of and the City to acquire the parcels of waterfront property owned of the State. Although the replacement parcels are owned by the City and State, the parcels, currently and

previously, have not been dedicated or managed for public outdoor recreation purposes. Table 4-3 provides a summary of the property information for each parcel.

Table 4-3
Section 6(f) Parcels: Existing Property Information

Site #[1]	Type of 6(f) Parcel	Size Acreage	Ownership/ Control	Existing Use
1	Conversion	11.2	NYCDPR	Parkland: Macomb's Dam Park
2	Replacement	8.9	New York City	Yankee Stadium
3	Replacement	1.13	New York City	City Street
4	Replacement	5.11	New York City New York State	Waterfront Parcel: Vacant Warehouses and Paved Areas
Total Replacement		**15.14**		

Notes: [1] See Figure 4-2.
Sources: NYCDPR.

As part of the proposed project, the three replacement parcels would be mapped as parkland, under the control of NYCDPR.

ALTERNATIVES TO CONVERSION OF THE SECTION 6(f) RESOURCE

Section 6(f) requires an evaluation of all practical alternatives to the proposed conversion of the Section 6(f) resource. As described in detail in Chapter 1, viable alternatives to the proposed project must meet several goals and objectives. These include: providing a modern stadium that can comfortably accommodate fans, players, and the press, and locating the new stadium close to the traditional home of the New York Yankees in The Bronx. Meeting these goals requires a location with enough land area to accommodate a modern stadium with service areas removed from public streets, as well as for adequate parking to support the stadium. In addition, the proposed project aims to maximize utilization of mass transit, as well as minimize impacts to parks, and to avoid and minimize displacement of residences and businesses, respectively.

ALTERNATIVES CONSIDERED

Three alternative stadium locations outside the local neighborhood were found to be unsuitable, as described below.[1] In addition, any proposal to remove Yankee Stadium from its historic location would strongly affect the surrounding area. Although the relocation of the stadium from its current community would greatly reduce traffic, parking demand, pedestrian activity, and associated noise, its removal would change neighborhood character substantially and would result in a significant adverse effect on the stores, restaurants, and other businesses along River Avenue that rely on the visitors to the stadium as part of their customer base.

VAN CORTLANDT PARK

The use of Van Cortlandt Park was not considered feasible for a number of reasons. The site is not easily accessible. Transit service to the site is extremely limited. It is estimated that only 5

[1] As further described in Chapter 22, "Alternatives," additional alternatives that involved renovation or reconstruction of the existing Yankee Stadium were considered and rejected, because there is insufficient space within the existing stadium for renovation and at the existing site for a footprint size to accommodate the needs and requirements for a modern-day stadium, and for this and additional reasons these alternatives would not satisfy the project objectives.

percent of stadium visitors would arrive by mass transit. Bus service in the area is locally oriented and not a viable option. Improvements would be needed at the Woodlawn Station so that trains could be stored for post-game service. Subway service would stop at 13 local stops in The Bronx before reaching the stadium.

In addition, the existing vehicular and mass transportation networks would not be expected to be able to handle the demand required by a stadium use without substantial delays and congestion since a much higher volume of fans would drive to this site as opposed to the proposed project site. Significant ramp and highway upgrades would be required because there is only one primary route to the site. The Major Deegan Expressway, which provides access to the site has available traffic capacity but does not have a sufficient number of exits/entrances or ramp capacity for stadium needs. Secondary routes and local streets have limited capacity to accommodate average or sellout crowds at the site. Major interchange improvements would be needed on the Major Deegan Expressway. Furthermore, new direct access from the Henry Hudson Parkway might be needed, and existing ramp connections to and from the Bronx River Parkway at West 233rd Street would need to be upgraded. Existing ramp connections to and from the Bronx River Parkway at 233rd Street would need to be upgraded. Substantial upgrading of the feeder network along Jerome Avenue and 233rd Street would also be needed. Even with an expanded/improved roadway network, the traffic network would not be able to accommodate a high attendance game and there would be unacceptable vehicular circulation and numerous pedestrian vehicular conflicts. In addition, because of the low share of visitors expected to arrive by public transit, substantial parking would be required. There is no major source of available parking near the site. All new parking would be required, which would occupy a large area of the park.

The construction of the stadium and parking fields at this location would require the loss of approximately 140 acres of landscaped parkland, including 12 acres of high-quality wetlands. Existing facilities (a heavily utilized golf course and recreation area with ballfields and picnic grounds) would be displaced. The impacts on freshwater wetlands would require mitigation. Furthermore, any loss of park for highway purposes would require alienation as well as additional compliance for procedures for converting parkland.

The alternatives analysis concluded that the site was not feasible for the above reasons. Moreover, since conducting the analysis, the City has begun clearing the site for the construction of a water filtration plant that was approved by State and City officials in 2004. The City will replace the driving range and clubhouse on top of the completed facility, and thus it would be unavailable for stadium use.

PELHAM BAY PARK

The alternatives analysis concluded that the use of Pelham Bay Park for a stadium was not suitable. The site is poorly served by public transit, and it is expected that only 5 percent of visitors would arrive by mass transit. No. 6 subway service would have to be extended north (from the southern portion of the park) to provide sufficient service to the site. Bus service in the area is locally oriented and not a viable option. Because of the low share of visitors expected to arrive by public transit, substantial parking would be required, which would occupy a large area of the park.

The existing transportation network would not be sufficient to accommodate the demand from a stadium use. Access to the general area is from the Hutchinson River Parkway and the New England Thruway, which do have capacity for additional vehicles in this location. Additional

ramp connections to the Hutchinson River Parkway and the New England Thruway, new interchanges, and peripheral roads would be needed to access the site.

Siting the stadium within Pelham Bay Park would require the loss of substantially more landscaped parkland (for relocated facilities), including 12 acres of wetlands, for which mitigation would be required. A heavily used public golf course would also be displaced. Furthermore, any loss of park for highway purposes would require alienation as well as additional compliance for procedures for converting parkland.

WEST SIDE RAIL YARD

This site was considered in the late 1990s, and was determined to be a feasible alternative, but was not pursued because of a lack of funding at the time. Subsequently, and during the proposed project's planning process, the site was committed by the City and State for the development of a new multi-use facility, including a stadium to be used by the New York Jets football team and the 2012 Olympics. While these two projects are no longer under consideration, the City and State will likely continue to pursue development of the site that would not contemplate a new Yankee Stadium. Furthermore, the use of this site would not be consistent with the New York Yankees' objective of remaining in a location near the historical home of the Yankees in The Bronx.

APPRAISAL OF FAIR MARKET VALUE

Section 6(f) requires that the fair market value of the park property to be converted has been established and that the property proposed for substitution is of at least equal fair market value, as established by an appraisal performed in accordance with the Uniform Appraisal Standards, excluding the value of structures or facilities that would not serve recreational purposes. An appraisal of the fair market value of both the portion of Macomb's Dam Park that would be utilized for the project, as well as that of the properties proposed for substitution has been conducted as part of the formal conversion proposal, to satisfy this requirement.

EVALUATION OF REASONABLY EQUIVALENT USEFULNESS AND LOCATION

The conversion parcel currently contains a 400-meter running track with a soccer field inside the track and spectator stands at the edge of the track, a baseball field (90-foot infield), and a softball field (60-foot infield). The proposed project would retain the playing field of the existing Yankee Stadium as a replacement ballfield, to be called Heritage Field. It is anticipated that the dugouts and portions of the field seating (no more than 3,000 seats) in the existing stadium would be retained for the replacement ballfield. Although Heritage Field would retain some of the existing field seats, these seats would not normally be used for ticketed events. In rare instances, such as intercollegiate baseball games, ticketed events may be considered. The primary purpose of Heritage Field, however, would be for public uses consistent with programming currently available at Macomb's Dam Park. In addition, Ruppert Place would be redesigned as a passive park and called Ruppert Plaza. It would be an important recreational element integrated with Heritage Field. The design of Ruppert Plaza would include significant landscaping, including shaded areas and passive park amenities, such as benches, resting areas, and pedestrian walkways.

A softball field (60-foot infield) and little league baseball field (90-foot infield) would be located on the Harlem River waterfront replacement parcel. In total, the replacement parcels would provide three ballfields (one softball field having a 60-foot infield and two baseball fields having

90-foot infields) and a pedestrian promenade (see Table 4-4) to replace the running track with interior soccer field, the baseball field, and the softball field.

Table 4-4
Section 6(f) Parcels: Recreational Facilities

Site #[1]	Type of 6(f) Parcel	Recreational Facilities
1	Conversion	400-meter Track with Soccer Field and Spectator Stands[2] Softball Field (60-foot infield) [2] Baseball Field (90-foot infield) [2]
2	Replacement	Baseball Field (90-foot infield)[3]
3	Replacement	Passive Park-Ruppert Plaza [3]
4	Replacement	Little League Baseball Field (90-foot infield)[3] Softball Field (60-foot infield)[3]

Notes:
[1] See Figure 4-2.
[2] See Figure 4-3.
[3] See Figures 4-8 and 4-9.
Source: NYCDPR.

Section 6(f) requires that the proposed replacement facilities are of reasonably equivalent usefulness and location as the converted property. As described above, the replacement facilities, three ballfields, and a pedestrian promenade, would provide equal recreational usefulness to the public.

All of the replacement facilities would be located within ½-mile of the converted facilities. One baseball field would be located across the street, approximately 600 feet, from the existing baseball field. A softball field would be replaced along the Harlem River waterfront, approximately 2,100 feet from the existing facility. An additional little league baseball field would also be located on the waterfront, in close proximity to the existing fields. Subway access to the replacement parcels would generally be equivalent to that of the conversion parcel (see Figure 4-10). As the Heritage Field and Ruppert Place replacement parcels are located across the street from the conversion parcel, they would use the same subway access at River Avenue and East 161st Street. Although the Harlem River waterfront replacement parcel is located farther west and south, subway access is also available to the south at East 149th Street and Grand Concourse. Pedestrian access to the Harlem River waterfront replacement parcel would be available by the existing pedestrian bridge from East 157th Street, which would be improved and made ADA-compliant by the proposed project, and from the esplanade associated with the proposed project. To facilitate game-day pedestrian flow, the proposed project would also extend this bridge to connect to the second level of Parking Garage 8 (located between East 157th Street, East 153rd Street, and River Avenue) and span over East 157th Street onto Ruppert Plaza. The proposed esplanade would connect to the existing ferry landing and extend east to the pedestrian connection at Exterior Street beneath the Major Deegan Expressway, which provides pedestrian connections east to the remaining portions of the project area, including the remaining replacement parkland. Public bus access to the vicinity of the waterfront parcel would be provided by the existing Bx6 (along the Macomb's Dam Bridge Approach and East 161st Street), Bx19 (along East 149th Street), Bx13 (along East 161st Street), and Bx1 (along the Grand Concourse) bus routes. Therefore, the replacement facilities are expected to serve the same general user group and would be in a reasonably equivalent location.

As previously described, although all of the replacement parcels would be mapped as parkland at the outset of the project, the recreational facilities and improvements would be implemented

over the course of the construction period, ending in 2010. By 2007, the Harlem River waterfront replacement parcel would be completed and the recreational facilities available to the public, one year after the ballfields on the conversion parcel would be displaced. However, during the 2009 to 2010 construction period, replacement facilities would not be available at the existing Yankee Stadium replacement parcel because the existing stadium cannot be converted to Heritage Field as a replacement ballfield until the proposed stadium is completed and operational. However, this gap in the availability of the replacement facilities would be temporary and the replacement facilities would ultimately provide reasonably equivalent recreational usefulness to the public.

CONSISTENCY OF THE PROPOSED CONVERSION AND SUBSTITUTION WITH THE STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN (SCORP)

As per Section 6(f), the proposed conversion and substitution must be in accordance with the applicable SCORP. The proposed use of a portion of Macomb's Dam Park and its substitution with a replacement park area and facilities described above has been reviewed for consistency with the "Final Statewide Comprehensive Outdoor Recreation Plan and Final Environmental Impact Statement for New York State 2003." This document was prepared by OPRHP and identifies a number of programs and initiatives that address recreation and open space needs. Numerous programs and agency initiatives are identified with varying open space goals ranging from preserving and protecting wetlands and other water bodies, to creating trails pursuant to the New York State Heritage Program, to hosting a number of sports and athletic competitions. Ongoing commitments to the over 300,000 acres of recreation and open space managed by OPRHP, and the over 3 million acres managed by the New York State Department of Environmental Conservation (NYSDEC) are also identified as open space priorities. The SCORP notes that the greatest level of need for recreation facilities within the State exists within its metropolitan areas, especially in the New York City area. Rehabilitation of existing facilities and the acquisition of new facilities are required to satisfy this demand.

Planning processes have been developed by both the OPRHP and NYSDEC to respond to public needs and involve public input throughout the planning and implementation process. The SCORP is intended to provide an overall framework for making decisions regarding the protection, management, and development of the State's natural, cultural, and recreation resources.

The SCORP does not provide any specific commentary on Macomb's Dam Park. Instead, among other things, it identifies goals and actions designed to meet a range of objectives. Among the goals articulated in the SCORP are to improve delivery of recreation services to particular subpopulations of New York, including urban residents and to provide additional programs and resources for them.

According to the Relative Index of Needs in the 2003 SCORP, Bronx County experiences a high demand for field games and general park uses, which include relaxing in the park and picnicking. Every county in New York is rated a score from one to 10, with a score of one indicating a large availability of recreation resources relative to demand with little or no crowding, and a score of 10 indicating that most facilities are heavily used. For Bronx County, field uses are rated seven and general park uses are rated eight. Based on that rating, the recreational usefulness of the existing ballfields on the conversion parcel is indicated to be very high. This usefulness would be replaced on the replacement parcels. Although not proposed for the replacement parcels, the running track and interior soccer field would be located on existing parkland in the project area. Therefore, the

proposed project would meet recreational needs in Bronx County by replacing the affected facilities with new and upgraded recreational facilities serving the park needs of Bronx County. The new facilities would be of equivalent usefulness—and, as they would be new facilities, in some cases greater usefulness—than those they would be replacing.

The proposed use of a portion of Macomb's Dam Park would be consistent with the SCORP in that it is NYCDPR's intention that recreational resources providing services to the affected area's urban population be maintained in perpetuity in the replacement locations. NYCDPR would construct replacement park facilities of equal or greater value in close proximity to the existing facilities that would be affected.

E. NEW YORK STATE LEGISLATION COMPLIANCE

New York State legislation enacted in June 2005 authorizes the alienation of certain areas of currently mapped parkland to allow for its disposition by the City, through leases, for operation of the proposed Yankee Stadium and several parking garages. Specifically, the legislation authorizes the alienation of portions of Macomb's Dam Park and John Mullaly Park (Parcels A and portions of Parcel J respectively, on Figure 4-1) for the proposed stadium, and portions of Macomb's Dam Park (Parcels B, C and D on Figure 4-1) and John Mullaly Park (portions of Parcel J on Figure 4-1) for the proposed parking garages and other stadium-related facilities. Following that disposition, however, these areas would remain mapped parkland. The State legislation also requires that the City dedicate the existing Yankee Stadium site as parkland and acquire additional parklands and/or dedicate land for park and recreational purposes which are equal to or greater than the fair market value of the parkland being alienated.

As previously described, portions of Macomb's Dam Park (Parcels C and D on Figure 4-1) are currently used for parking for the existing stadium. As part of the proposed project, replacement recreational facilities would be developed on these parcels and would include a little league field (60-foot infield) on Parcel C and 14 tennis courts and a tennis pavilion building with restrooms and other amenities on Parcel D. Replacement parkland would also be developed on two surface parking lots (not currently mapped as parkland) at River Avenue and East 157th Street (Parcels 5 and 6 on Figure 4-8), and recreational facilities would be developed at the site of three warehouse buildings and paved areas along Exterior Street within the Bronx Terminal Market (Parcel 8 on Figure 4-8). Additionally, an esplanade would also be developed on paved areas located along the Harlem River waterfront (Parcel 9 on Figure 4-8). Consistent with the preceding analyses, as a result of the development of these new recreational facilities, together with the dedication of the existing Yankee Stadium site as public recreational parkland, the proposed project would comply with the replacement parkland requirements of the State authorizing legislation. ✷

Chapter 5: Shadows

A. INTRODUCTION

According to the 2001 *City Environmental Quality Review (CEQR) Technical Manual*, an assessment of shadows is necessary if shadows from the proposed project are expected to fall on public open spaces, historic resources with significant sun-sensitive features, or important natural features. Since the project area is located in and adjacent to portions of Macomb's Dam Park and John Mullaly Park, potential shadows impacts on these resources are analyzed in this chapter. Existing open spaces that would remain, as well as open spaces that would be created or refurbished by the proposed project, are considered in the analysis.

As discussed below, shadows from the proposed stadium would fall on portions of Macomb's Dam Park during the morning throughout the year. Additional incremental shadows would also reach Macomb's Dam Park in the afternoon during the fall through early spring months. The triangular portion of the park bounded by East 161st Street, Jerome Avenue, and the Macomb's Dam Bridge Approach, which contains walkways and a large rock outcropping surrounded by trees, would be in the shadows of the proposed stadium for most of the morning throughout the year. Additional shadows would be cast on Macomb's Dam Park in the afternoon from fall through spring by Parking Garage C. The proposed project would also cast shadows on the proposed open space located in Macomb's Dam Park west of Ruppert Plaza built atop a new subterranean garage (Parking Garage A) and the proposed open space entrance plaza to Heritage Field (to be mapped as parkland as part of Macomb's Dam Park).

John Mullaly Park would also receive shadows from the proposed project. Incremental shadows from proposed Parking Garage B along East 164th Street would fall on the southern portion of the park in the afternoon for about three hours during the early spring and early fall months. During the winter months, proposed Parking Garage B as well as the proposed stadium would cast incremental shadows on the southern portion of John Mullaly Park throughout the entire analysis period. The portion of John Mullaly Park affected by shadows contains a skate park (for skateboards, rollerblades, and rollerskates), a recreation center (enclosed building), a playground, and passive park areas.

No significant adverse impacts are expected to occur to any open spaces as the duration and coverage of shadows are not long enough or large enough to affect vegetation or park usage. Portions of the parks that would be in shadow contain mostly active recreation uses, which are less affected by shadow than passive uses. In addition, several other portions of these parks are available for recreational use during the times the incremental shadows from the proposed project would occur.

B. METHODOLOGY

Following the guidelines of the *CEQR Technical Manual*, shadow analyses focus on public open spaces (uses, users, landscaping, and vegetation), significant natural features, and historic

resources with significant sunlight-dependent features. Analyses are performed for four representative days of the year: March 21, which is the equivalent of September 21 (the equinoxes); May 6, the equivalent of August 6 (midpoints between the summer solstice and the equinoxes); June 21 (the summer solstice); and December 21 (the winter solstice). Since the CEQR methodology does not consider shadows and incremental increases in shadows within 1½ hours of sunrise or sunset, the analysis period on each analysis day begins 1½ hours after sunrise and ends 1½ hours before sunset.

The *CEQR Technical Manual* identifies the following situations when a proposed action may result in a significant shadow impact:

- Substantial reduction in sunlight where a sensitive use is already subject to substandard sunlight (i.e., less than the minimum time necessary for survival);
- Reduction in sunlight available to a sensitive use from more to less than the minimum time necessary for its survival;
- Substantial reduction in sunlight to a sun-sensitive use or feature; and
- Substantial reduction in the usability of open space.

The determination of impact significance is based on an assessment of how a project's shadows specifically affect individual open space resources; that is, the analysis considers the incremental and combined shadows on open space resources, and for each resource assesses the potential impact.

The shadow diagrams and analysis presented in this chapter were developed using building envelope and topographical information derived from Sanborn Fire Insurance Maps and U.S. Geographical Survey (USGS) data. Shadows were modeled using the solar rendering capabilities of MicroStation V8 software.

C. SCREENING

At a height of approximately 138 feet, the maximum shadow sweep of the proposed stadium would be approximately 589 feet to the east and west and 285 feet to the north. The four proposed parking garage structures would be lower, reaching a maximum height of 70 feet. The maximum shadow sweep for the proposed parking garage structures would be approximately 299 feet to the east and west and 145 feet to the north. The proposed structures associated with Heritage Field would be 18 feet tall reaching approximately 77 feet to the east and west and 37 feet to the north. Within the shadow sweeps of these buildings, the existing resources of concern are Macomb's Dam Park and John Mullaly Park. The proposed project would create Heritage Field on the existing Yankee Stadium site, which would be mapped as parkland, and it is considered in this analysis. The shadow sweep from the proposed project does not extend as far southwest to reach the proposed Harlem River Esplanade or waterfront ballfields and open space. There are no historic resources with significant sunlight-dependent features within the shadow sweep. Although the Macomb's Dam Bridge Approach historic resource falls within the maximum shadow sweep of the proposed project, it does not contain sunlight dependent features.

While the rock outcropping in Macomb's Dam Park is an important visual resource, it is also not considered a sun-sensitive important natural feature. In addition, the portion of John Mullaly Park affected by shadows contains a skate area that is for active recreation (skateboards,

rollerblades, and rollerskates) that would not be affected by the shadow as well as a playground and passive park areas. The park also contains a recreation center that would not be affected as it is an enclosed structure.

The proposed project would also create passive open space parks east of River Avenue on either side of East 157th Street. None of the proposed structures are tall enough to cast shadow on these proposed open spaces. There are no open spaces, historic resources with sun-sensitive features, or important natural resources within the shadow sweep of proposed Parking Garage D.

D. POTENTIALLY AFFECTED RESOURCES

The screening analysis identified both existing and proposed open space resources in the shadow sweep of the proposed project. As described in Chapter 1, "Project Description," the proposed project would develop recreational facilities and create new parkland to replace those being displaced by the proposed project. Although the proposed replacement facilities described below reflect the New York City Department of Parks and Recreation's (NYCDPR) current plan, NYCDPR may choose to modify the new facilities to provide facilities that are not exactly the same as those displaced, but are equal in value or better than those being replaced.

MACOMB'S DAM PARK

The 28.4-acre Macomb's Dam Park, which is bounded roughly by East 162nd Street, Jerome Avenue, East 157th Street, River Avenue, and the Major Deegan Expressway, is divided into several segments, some of which would fall within the shadow sweep of the proposed project.

The park contains a variety of recreational uses, including little league ballfields, a softball field, a track, soccer/football field, handball and basketball courts. There are several small, landscaped areas along Jerome Avenue, as well as lawn areas and walking paths.

Macomb's Dam Park Triangle

A triangular portion of Macomb's Dam Park—located directly west of the proposed stadium between Jerome Avenue, East 161st Street, and Macomb's Dam Bridge Approach—is landscaped with lawns, bushes and trees, and has winding walkways. A large rock outcropping is a defining feature.

West of Ruppert Plaza

As currently contemplated, a full-size, artificial-turf soccer field would be located south of East 161st Street between the Macomb's Dam Bridge Approach and Ruppert Plaza in the southern portion of Macomb's Dam Park. This at-grade park would be located above a new subterranean garage (Parking Garage A). A 400-meter athletic track would encircle the soccer field. A grand-stand would overlook these two facilities. To the south of the track would be an artificial-turf little league field and nine handball courts, and to the north would be two basketball courts (one with stands) and two tennis courts. A tot-lot with climbing and play equipment, drinking fountain, and benches would be located at the corner of the Macomb's Dam Bridge Approach and East 161st Street. In total, the open space would comprise 7.33 acres.

Parking Garage C Rooftop Open Space

Fourteen tennis courts are currently planned for the rooftop of proposed Parking Garage C in Macomb's Dam Park, south of East 161st Street, west of Jerome Avenue, and north of a ramp from the Major Deegan Expressway. Adjacent to the tennis courts would be a pavilion building

with restrooms and other amenities serving the tennis court program. The total area of this open space would be 2.89 acres.

Heritage Field

The proposed project would retain the ballfield of the existing stadium, adapt it to a baseball field (90-foot infield) and map it as parkland as part of Macomb's Dam Park. It is anticipated that some of the stands in the existing stadium may be retained for the replacement ballfield (no more than 3,000 seats), while most of the existing stadium would be demolished.

JOHN MULLALY PARK

John Mullaly Park is an 18.5-acre park immediately north of proposed Parking Garage B and the proposed stadium. The park is used for a mix of active and passive recreation and attracts users of all ages. The portion of the park affected by shadows contains a skate park (skateboards, rollerblades, rollerskates) a recreation center, a playground, and a passive park area.

E. SHADOW EFFECTS BY SEASON

In its yearly cycle, the height of the sun in the sky and the time and directional location at which it rises and sets varies by season. In the winter, the sun travels in a low arc across the southern sky, rising late in the southeast and setting early in the southwest. Because it is so low in the sky, it casts longer shadows. In the spring and fall, the sun arcs through the sky at a somewhat higher angle, rises earlier in the east, and sets later in the west. In these seasons, shadows are of moderate length. In the summer, the sun arcs through the sky at its highest angle, rising almost directly overhead at noon. For this reason, summer shadows are shortest. However, in the summer, the sun rises earliest and sets latest; it also travels farther, from the northeast to the northwest. Thus, the summer sun casts shadows in more directions than in other seasons, and its early sunrise and late sunset creates shadows earlier in the morning and later in the evening than in other seasons.

This section considers the overall incremental shadows at specific times on each analysis day. The duration of the shadows by analysis day and by resource is shown on Table 5-1.

Table 5-1
Shadow Durations on Sun-Sensitive Receptors

Open Space Resource	March 21 7:36 AM – 4:29 PM	May 6 7:27 AM – 6:18 PM	June 21 6:57 AM – 7:01 PM	December 21 8:51 AM – 2:53 PM
Macomb's Dam Park Triangle	7:36 AM - 12:00 PM, 3:30 - 4:29 PM	7:27 - 11:45 AM	6:57 - 10:45 AM	8:51 AM - 2:53 PM
Macomb's Dam Park: Heritage Field	7:36 AM - 4:29 PM	7:27 AM - 6:18 PM	6:57 AM - 7:01 PM	8:51 AM - 2:53 PM
Macomb's Dam Park: West of Ruppert Plaza	-	7:27 AM - 8:00 AM	6:57 - 8:15 AM	-
Macomb's Dam Park: Parking Garage C Rooftop Open Space	7:36 AM - 9:30 AM	7:27 - 9:45 AM	6:57 - 10:00 AM	8:51 AM - 9:30 AM
Macomb's Dam Park: Parking Garage C Rooftop Tennis Courts	7:36 AM - 10:00 AM	7:27 AM - 11:15 AM	6:57 AM - 11:30 AM	8:51 AM - 9:30 AM
John Mullaly Park	2:15 - 4:29 PM	-	-	8:51 AM - 2:53 PM

Notes:
September 21 is the equivalent of March 21, except one hour later.
August 6 is the equivalent of May 6.
March and December are EST (Eastern Standard Time).
May, June, August and September are DST (Daylight Savings Time).

MARCH 21/SEPTEMBER 21—ANALYSIS PERIOD: 7:36 AM TO 4:29 PM EST

On the March analysis day the proposed stadium would cast incremental shadows on Macomb's Dam Park from the 7:36 AM start of the analysis period, lasting all morning until 12:00 PM, and again for an hour later in the afternoon. During the morning the Macomb's Dam Park triangle—between Jerome Avenue, East 161st Street, and the Macomb's Dam Bridge Approach—would receive incremental shadows from the proposed stadium (see Figures 5-1 and 5-2)[1]. This portion of the park contains walking paths with a large rock outcropping surrounded by trees. The proposed landscaped area between the Major Deegan Expressway ramps and Parking Garage C would also be covered by incremental shadows from Parking Garage C in the early morning (see Figure 5-1). The tennis pavilion would cast shadow on the tennis courts until 10:00 AM.

Throughout the day the proposed structures associated with Heritage Field would cast incremental shadows on the proposed open space entrance plaza to the field (see Figures 5-1 through 5-4). These shadows would not be large or cover much of the open space entrance plaza. The majority of the open space would remain in full sun throughout the day.

Shadows from Parking Garage B would reach a portion of John Mullaly Park on the March analysis day for more than two hours in the afternoon from 2:15 PM until the end of the analysis period at 4:29 PM (see Figures 5-3 and 5-4). The incremental shadows would fall on the middle portion of the park which contains a playground, skateboard park, and a small area of passive park space.

MAY 6/AUGUST 6—ANALYSIS PERIOD: 7:27 AM TO 6:18 PM DST

On May 6 and August 6, the proposed stadium would again cast shadows onto a few sections of Macomb's Dam Park. The sections of the park that would receive incremental shadows during the morning in May and August are located west of the proposed stadium along Jerome Avenue. The proposed stadium would cast the largest shadows in the early morning, and would cover most of the Macomb's Dam Park triangle at the beginning of the analysis period (see Figure 5-5). The proposed stadium would also cast a small incremental shadow on the northeast portion of the proposed open space located in the portion of Macomb's Dam Park west of Ruppert Plaza in the early morning at the beginning of the analysis period. The incremental shadow on the Macomb's Dam Park triangle would decrease in size until it leaves this open space just after 11:30 AM (see Figure 5-6).

Parking Garage C would cast shadows on the proposed landscaped area between along the Major Deegan Expressway ramps and Parking Garage C in the early morning (see Figure 5-5). This portion of Macomb's Dam Park would not contain any public passive recreation amenities. The proposed tennis pavilion would cast incremental shadow on the tennis courts throughout the morning.

Similar to the March analysis day the proposed structures associated with Heritage Field would cast incremental shadows on the proposed open space entrance plaza during the May/August analysis period (see Figure 5-5). These shadows would be small and would not cover much of the open space entrance plaza. The majority of the open space would remain in full sun throughout the day.

[1] All figures can be found at the end of this chapter.

No incremental shadows from the proposed project would reach John Mullaly Park on the May analysis day.

JUNE 21—ANALYSIS PERIOD: 6:57 AM TO 7:01 PM DST

On June 21, the proposed stadium would cast incremental shadows on Macomb's Dam Park during the morning from the start of the analysis period at 6:57 AM and last just under four hours casting the last incremental shadow at 10:45 AM (see Figures 5-7 and 5-8). Incremental shadows would mostly fall on the portions of the park west of the proposed stadium. Figure 5-7 shows the incremental shadows at 7:15 AM when the proposed stadium would cover portions of the Macomb's Dam Park triangle along Jerome Avenue as well as the portion of Macomb's Dam Park west of Ruppert Plaza. By 10:30 AM incremental shadows would decrease in size and cover a much smaller area of the Macomb's Dam Park triangle (see Figure 5-8). Garage C would cast incremental shadows on the proposed landscaped area between the Major Deegan Expressway ramps and Garage C in the early morning from the start of the analysis period to around 10:30 AM (see Figures 5-7 and 5-8). Throughout the morning the proposed tennis pavilion would cast incremental shadows on the tennis courts.

The proposed stadium would cast incremental shadows on the northern section of the portion of Macomb's Dam Park west of Ruppert Plaza in the early morning of the June 21 analysis day. The shadow would cover a section of the soccer field and track as well as the tot-lot. The shadow would decrease quickly and exit the open space within 33 minutes. The proposed structures associated with Heritage Field would cast incremental shadows on the open space entrance plaza throughout the day. The shadows would be small, leaving most of the field in full sun throughout the day (see Figures 5-7 and 5-8).

Incremental shadows from the proposed project would not reach John Mullaly Park on the June analysis day.

DECEMBER 21—ANALYSIS PERIOD: 8:51 AM TO 2:53 PM EST

On December 21 shadows from the proposed project would fall on portions of Macomb's Dam Park, Heritage Field, and John Mullaly Park for the entire analysis period lasting from 8:51 AM until 2:53 PM. The proposed stadium would cast the largest shadow of the day on the Macomb's Dam Park triangle at the start of the analysis period (see Figure 5-9). In the afternoon, Garage C would cast a small incremental shadow on the Macomb's Dam Park triangle (see Figures 5-10 and 5-11). Garage C would cast a small incremental shadow on the proposed landscaped area located between the Major Deegan Expressway ramps and Garage C from 8:51 AM until 9:30 AM (see Figure 5-9). The tennis pavilion would cast shadow on the tennis courts until 9:30 AM.

The proposed structures associated with Heritage Field would cast small incremental shadows on that open space throughout the analysis period (see Figures 5-9 through 5-11). The shadows would be small, leaving the majority of the open space open to receive full sun throughout the day.

Garage B would cast incremental shadows on John Mullaly Park. The shadow would be approximately the same size at 9 AM and 12 Noon but would cover more of the open space at 2:30 PM near the end of the analysis period when the shadows of the proposed stadium also reach the park (see Figures 5-9 through 5-11). The portion of the park affected by shadows contains the skate park, playground, recreation center, and passive park space.

F. SHADOW EFFECTS BY RESOURCE

MACOMB'S DAM PARK

MACOMB'S DAM PARK TRIANGLE

The proposed project would cast incremental shadow on the Macomb's Dam Park triangle throughout the year. It is the open space that would experience the greatest shadow increase due to the proposed project. During the spring and fall the proposed stadium would cast shadows on the Macomb's Dam Park triangle from about 7:30 AM until noon. Parking Garage C would also cast shadows on the triangle in the late afternoon from about 3:30 PM to the end of the analysis period. The proposed stadium would cast morning shadows on the Macomb's Dam Park triangle from late spring to early summer lasting around four hours.

Shadows from the proposed project would reach further during the winter months than at other times of the year. The proposed stadium would cast incremental shadows on the Macomb's Dam Park triangle from the beginning of the analysis period until around 1:15 PM. Proposed Parking Garage C would cast shadow on the open space from around noon until the end of the analysis period.

In general, the shadow increment would stretch across the Macomb's Dam Park triangle in the beginning of the analysis periods but would quickly diminish, allowing most of the open space to be in the sun for the remainder of the day. The open space consists of walking paths with no benches thus making the use of the park more active than passive. Therefore, the increase in shadow would not be a significant adverse impact.

WEST OF RUPPERT PLAZA

The proposed stadium would cast early morning shadows on the proposed track, soccer field, and tot-lot in the portion of Macomb's Dam Park west of Ruppert Plaza on the May/August and June analysis days. The open space contains mostly active recreation and its use would not be affected by the shadows.

PARKING GARAGE C ROOFTOP OPEN SPACE

Parking Garage C would cast incremental shadows on the western portion of the landscaped area located between the Major Deegan Expressway ramps and Parking Garage C. This section of the park would be a visual resource and not function as recreational open space. Therefore, shadows are not expected to be a significant adverse impact. The tennis pavilion would also cast shadow on the tennis courts on the roof of Parking Garage C from the beginning of the analysis period until around 11:15 AM. This would not affect the use of the tennis courts since it is an active sport.

HERITAGE FIELD

Proposed structures associated with Heritage Field would cast incremental shadows on a portion of the entrance plaza to Heritage Field throughout the day for the entire year. The shadows would be small, leaving the majority of the open space entrance plaza in full sunlight for most of the day throughout the year. Since this area would be a paved open plaza and not a recreational open space, its use would not be affected by shadows.

JOHN MULLALY PARK

Parking Garage B would cast incremental shadows on John Mullaly Park during the afternoon in March and September for around three hours. Because it is a relatively low structure, shadows from Parking Garage B would not reach John Mullaly Park during the May/August or June analysis periods. In December, the Parking Garage B shadows would be on the park longer and the shadow from the proposed stadium would be long enough to also reach the park in the afternoon. The portion of the park that would receive shadow contains a skate park, playground, recreation center, and passive park space. The skate park and playground are for active recreation, which would not be affected by the shadow. In addition, the shadows would occur the longest on this portion of the park during the winter months, when use of the skate park, playground, and passive park space would be diminished. Since it is enclosed in a building, the recreation center would also not be affected by shadow. Therefore, the increase in shadow would not be a significant adverse impact.

Overall, no significant adverse impacts are expected to occur to any open spaces as the duration and coverage of shadows are not long enough or large enough to affect vegetation or park usage. Portions of the parks that would be in shadow contain mostly active recreation uses, which are less affected by shadow than passive uses. In addition, several other portions of these parks are available for recreational use during the times the incremental shadows from the proposed project would occur. ✷

Chapter 6: Historic Resources

A. INTRODUCTION

This chapter considers the potential for the proposed project to affect historic resources on the sites in the project area and in the surrounding study area. The project area is located in The Bronx and comprises several independent parcels, including the existing Yankee Stadium, portions of Macomb's Dam Park to the north and west of the stadium, the southern portion of John Mullaly Park, part of the Bronx Terminal Market, and paved parking facilities along River Avenue and west of Exterior Street along the waterfront.

The historic resources analysis has been prepared in accordance with the New York City Environmental Quality Review (CEQR), the New York State Environmental Quality Review Act (SEQRA), the New York State Historic Preservation Act of 1980 (SHPA), and Section 106 of the National Historic Preservation Act of 1966 (NHPA). These laws and regulations require that City, State, and Federal agencies, respectively, consider the effects of their actions on historic properties. This technical analysis follows the guidelines of the 2001 *CEQR Technical Manual*.

In general, potential impacts on historic resources can include both direct physical impacts and indirect impacts. Direct impacts include demolition of a resource and alterations to a resource that cause it to become a different visual entity. A resource could also be damaged from vibration (i.e., from construction blasting or pile driving) and additional damage from adjacent construction that could occur from falling objects, subsidence, collapse, or damage from construction machinery. Adjacent construction is defined as any construction activity that would occur within 90 feet of an architectural resource, as defined in the New York City Department of Buildings (DOB) *Technical Policy and Procedure Notice* (TPPN) #10/88.[1]

Indirect impacts are contextual or visual impacts that could result from project construction or operation. As described in the *CEQR Technical Manual*, indirect impacts could result from blocking significant public views of a resource; isolating a resource from its setting or relationship to the streetscape; altering the setting of a resource; introducing incompatible visual, audible, or atmospheric elements to a resource's setting; or introducing shadows over a historic landscape or an architectural resource with sun-sensitive features that contribute to that resource's significance (e.g., a church with stained glass windows).

Significant adverse direct or indirect impacts can occur if a project would cause a change in the quality of a property that qualifies it for listing on the State and National Registers of Historic Places (S/NR) or for designation as a New York City Landmark (NYCL). To assess the potential

[1] TPPN #10/88 was issued by DOB on June 6, 1988, to supplement Building Code regulations with regard to historic structures. TPPN #10/88 outlines procedures for the avoidance of damage to historic structures resulting from adjacent construction, defined as construction within a lateral distance of 90 feet from the historic resource.

impacts of the proposed project, an inventory of historic architectural resources in the project area and study area that could be affected was compiled based on the methodology described below. The existing setting of each historic resource, including its visual prominence and significance in publicly accessible views, sun-sensitive features, and visual and architectural relationship to other historic resources, was taken into consideration for this analysis.

As described below, the study concludes that the proposed project would result in significant adverse impacts on Buildings G, H, and J of the Bronx Terminal Market through the proposed demolition of these structures. Therefore, as discussed in Chapter 21, "Mitigation," the proposed project would develop mitigation measures in consultation with the New York State Historic Preservation Officer (SHPO), which would be set forth in a Memorandum of Agreement (MOA).

This assessment also found that the proposed project could result in adverse impacts to the Macomb's Dam Bridge Approach span between the Major Deegan Expressway and East 161st Street through the development of Parking Garages A and C. However, these impacts are not expected to be significantly adverse. As currently planned, these garages would be set back approximately 12 feet to the east and west of the Macomb's Dam Bridge Approach, essentially eliminating the visibility of this section of the landmarked structure within the project area. However, the most prominent features of the Macombs Dam Bridge roadway system—the Macombs Dam Bridge Pratt truss spanning the Harlem River and the camelback truss spanning the Metro-North Railroad right-of-way—would remain unaltered by proposed Parking Garages A and C. Changes to the approach structure itself include widening the existing pedestrian walkways at East 161st Street and constructing vehicular and pedestrian access between the approach and Parking Garages A and C. To avoid adverse impacts to these portions of the Macomb's Dam Bridge Approach resulting from the widening of the east crosswalk at East 161st Street and pedestrian and vehicular access points at the approach, these new elements would be designed in consultation with SHPO, pursuant to the MOA, as well as the New York City Landmarks Preservation Commission (LPC). The potential impacts to this historic resource are discussed in greater detail below under "Probable Impacts of the Proposed Project."

Within the study area, it is not expected that the proposed project would have significant adverse impacts to any architectural resources. Where there is potential for a construction-related impact, a Construction Protection Plan would be developed in consultation with SHPO and LPC pursuant to the MOA, as well as LPC, and implemented to protect resources within 90 feet of proposed construction activities, including architectural resources in the project area and study area.

Apart from the anticipated adverse impacts to Buildings G, H, and J of the Bronx Terminal Market and the section of the Macomb's Dam Bridge Approach identified above, the proposed project would not block significant views of any other known or potential historic resources, significantly alter the visual setting of any other resource, or introduce incompatible contextual elements to any other historic resource's setting in the project area or study area.

B. METHODOLOGY

ARCHAEOLOGICAL RESOURCES

STUDY AREA

The study area or area of potential effect (APE) for archaeological resources is the area of planned construction and disturbance on the project area sites. Since the proposed project involves in-ground disturbance for the development of the proposed stadium and parking facilities, there is a potential for impacts to archaeological resources. LPC was contacted for its preliminary determination of the site's archaeological sensitivity. In a letter dated March 29, 2005, LPC determined that the project area has no archaeological significance. Correspondence can be found in Appendix D. Likewise, in a letter dated August 10, 2005, SHPO has indicated that it has no further archaeological concerns for this project.[1]

ARCHITECTURAL RESOURCES

STUDY AREA

The study area for architectural resources is generally based on the APE where proposed construction activities may physically alter historic structures or be close enough to them to potentially cause structural damage and to account for visual or contextual impacts. The APE for the proposed project has been defined as a 400-foot radius from the project area. It is bounded to the north by the section of John Mullaly Park at East 165th Street and portions of Woodycrest Avenue and Ogden Avenue; to the west by the Harlem River; to the south by East 150th Street; and to the east by Walton Avenue (see Figure 6-1).[2]

Within the study area, architectural resources that were analyzed include S/NR properties or properties determined eligible for such listing, and designated NYCL and Historic Districts and properties determined eligible for landmark designation. Additionally, a survey was conducted to identify any previously undesignated properties in the study area that were then evaluated for their potential S/NR or NYCL eligibility.

CRITERIA AND REGULATIONS

Once the APE was determined, an inventory of officially recognized architectural resources in the APE was compiled ("Architectural Resources").

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[1] It should be noted that the west side of Exterior Street within the project area was previously evaluated for its archaeological potential as part of the environmental analyses prepared for a separate project, the Gateway Center at Bronx Terminal Market project (FEIS December 7, 2005). The archaeological study prepared for the Gateway Center project, *Phase 1A Archaeological Study of the Gateway Center at Bronx Terminal Market*, prepared by Historical Perspectives, Inc., January 7, 2005 determined that sections of the northern portion of the project area west of Exterior Street, including Piers 1 and 2, were sensitive for precontact resources that could be present at depths ranging from 20 to 70 feet below the surface. Though that report was accepted by SHPO on January 31, 2005, SHPO as well as LPC subsequently indicated that they have no archaeological concerns for the Yankee Stadium project area, as described above.

[2] All figures and a photo locator table can be found at the end of this chapter.

Criteria for inclusion on the National Register are listed in the Code of Federal Regulations, Title 36, Part 63. LPC and SHPO have adopted the criteria listed below for use in identifying architectural resources for CEQR and SEQRA review. Following these criteria, districts, sites, buildings, structures, and objects are eligible for the National Register if they possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

A. Are associated with events that have made a significant contribution to the broad patterns of history;

B. Are associated with significant people;

C. Embody distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic value, or represent a significant and distinguishable entity whose components may lack individual distinction; or

D. May yield [archaeological] information important in prehistory or history.

Properties that are less than 50 years of age are ordinarily not eligible, unless they have achieved exceptional significance. Determinations of eligibility are made by SHPO.

In addition, LPC designates historically significant properties or areas in New York City as NYCLs and/or Historic Districts, following the criteria provided in the Local Laws of the City of New York, New York City Charter, Administrative Code, Title 25, Chapter 3. Buildings, properties, or objects are eligible for landmark status when they are at least 30 years old. Landmarks have a special character or special historical or aesthetic interest or value as part of the development, heritage, or cultural characteristics of the City, State, or nation. There are four types of landmarks: individual landmarks, interior landmarks, scenic landmarks, and historic districts.

In addition to identifying architectural resources officially recognized in the APE, an inventory was compiled of other buildings that could warrant recognition as architectural resources (i.e., properties that could be eligible for S/NR listing or NYCL designation) in compliance with CEQR and SEQRA guidelines ("Potential Architectural Resources"). For this project, potential architectural resources were those that appeared to meet one or more of the National Register criteria (described above). These were identified based on site visits and by using historical sources including local repositories, texts, images, and maps.

Once the historic resources in the APE were identified, the proposed project was assessed for its potential for direct physical impacts and indirect contextual impacts on architectural resources.

C. BACKGROUND HISTORY

The area including and surrounding the project area was largely undeveloped in the late 1890s. Development in the area included several private residential estates located primarily in the area north of Jerome Avenue. Between Gerard and Walton Avenues and north of East 157th Street (formerly Juliet Street) a few two- and three-story residential properties had been developed. Between 1890-1895 the Macombs Dam Bridge and its Manhattan and Bronx approaches (NYCL, S/NR-eligible) were built (discussed below in greater detail under "Known Architectural Resources" and "Existing Conditions"). The bridge's 155th Street elevated steel viaduct on the Manhattan side gradually descends toward and connects to the Macombs Dam Bridge that spans the Harlem River. Connecting to the bridge on the Bronx side is the long expanse of the Macomb's Dam Bridge Approach viaduct that was built over what was marshland at the time of construction.

Beginning around the turn of the century and continuing until the 1910s, The Bronx marshland near the Macombs Dam Bridge was filled in for the creation of Macomb's Dam Park which opened in 1899 and was later expanded.[1] Today, the park occupies areas that are located within the project area—sites east and west of the Macomb's Dam Bridge Approach/Jerome Avenue and an area north of the existing stadium and East 161st Street.

Historic maps indicate that a one-story recreational building was located at the southwest corner of East 161st Street and Ruppert Place by 1923. Development north and west of Jerome Avenue was primarily residential, and included courtyard apartments. Portions of the Bronx Terminal Market (S/NR-eligible), a wholesale food market, located to the southwest of the existing stadium and partially in the project area, were built beginning in 1917.

In 1923, Yankee Stadium was built at its present site at East 157th Street, River Avenue, East 161st Street, and Ruppert Place. Within the next several years, John Mullaly Park was developed between River and Jerome Avenues north of East 162nd Street on land acquired by the City in 1924. This park is named for late 19th century journalist, reformer, and founding member of the New York Parks Association, John Mullaly. Mullaly was greatly influenced by comparative studies of parkland in foreign cities and had predicted the need for parks in New York City as the population and land values continued to increase rapidly. A large, one-story recreational building, discussed in greater detail below under "Known Architectural Resources," was built in the early 1930s on the western section of the park between East 164th and 165th Streets in the study area. In the same section of the park, its first playground opened in 1932.

During the 1930s, recreational facilities at Macomb's Dam Park underwent several modifications and enhancements. These included the addition of a new two-story field house built in 1933-1934 at the southwest corner of East 161st Street and Ruppert Place which is in the project area, and a small comfort station (no longer extant) on Sedgewick Avenue opposite Jerome Avenue built in 1935. The new field house building (now known as the Macomb's Dam Park District Office) was built by the City of New York, Department of Parks—Borough of The Bronx (now the New York City Department of Parks & Recreation). The District Office was built as a full, two-story structure and was connected via a small pavilion at the building's southwest parkside corner to the existing one-story Shower and Locker House that had been built at some time before 1923. At the time of the District Office's completion in 1934, the park had stairs leading down to the building's eastern entrance from East 161st Street and Ruppert Place because of a gradual downward slope from the sidewalk elevation.

By 1935, development in the study area had accelerated. Apartment buildings lined Walton, Gerard, and River Avenues. The IRT had been extended into The Bronx along River Avenue. Other blocks and lots had been developed with industrial structures, garages, and other commercial facilities.

Also in 1935, the Department of Parks re-landscaped the section of Macomb's Dam Park west of Ruppert Place.[2] The Shower and Locker House and connecting pavilion west of the District

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[1] The Macombs Dam Bridge and Macomb's Dam Park were named after the Macomb family, which operated a dam and mill on the site of the park earlier in the 19th century.

[2] The New York City Department of Parks and Recreation files do not clearly indicate the reason for the significant 1935-1936 re-landscaping of this section of Macomb's Dam Park (personal communication with John Krawchuk, Director of Historic Preservation, New York City Department of Parks and Recreation, June 22, 2005).

Office were also razed at that time. The elevation of the park east of the District Office along East 161st Street and Ruppert Place was raised and filled, covering the District Office's entire original first floor. The elevation slopes down toward the rear of the building making the entire two-story structure visible from the west elevation. The ballfields and rear of the building are accessible by stairs flanking the building's north and south elevations. Because of these landscaping changes, the District Office's east elevation appears as a single-story structure. With these changes, the building's east façade was altered to create a central primary entrance on the building's original second floor. Other alterations to the District Office include the creation of a secondary entrance on the east elevation near the building's northeast corner and, on the west elevation, the creation of two additional new entrances and window openings.

Sections of Macomb's Dam Park were further altered in 1936. The section of the park west of Ruppert Place was re-landscaped and new baseball fields were created, removing the running track from this section of the park. Other additions to the park included basketball courts, paddle tennis courts, and horse shoe pitching fields. Macomb's Dam Park was further enhanced with the addition of the Macomb's Dam Fountain. This large granite fountain with ornamental limestone dolphins and a lion's head was designed by Martin Schenck and Arther V. Waldegren and is located on a terrace situated in the park along the north side of Jerome Avenue between Ogden and Woodycrest Avenues in the study area. Also in 1936, bleachers were erected in the portion of the park north of East 161st Street between Jerome and River Avenues.

Modifications have also been made to the southern section of John Mullaly Park, located within the project area and study area, including the addition of basketball, handball, and ice skating facilities. In the late 1960s a wading pool, swimming pool, and bathhouse were added to the portion of the park in the study area and in the early 1970s tennis courts and softball fields were added to the section of the park in the project area. In 1988 a new skate park for skateboarders, rollerbladers, rollerskaters, and BMX-riders was opened. In 2000 the renovation of the Mullaly Recreation Center was completed as part of a $3.1 million overhaul of the entire John Mullaly Park that also included upgrades to ballfields, the resurfacing of playgrounds, and the addition of two small soccer fields within the project area and study area.

The Macombs Dam Bridge and its Bronx and Manhattan approaches have been modified over time to accommodate changing uses and needs. In 1920 two ramps were built on the east side of East 161st Street. As a result, the abutment on the southeast side of East 161st Street was dismantled and reconstructed on the southwest side of East 161st Street. Between 1949-1951 when the Major Deegan Expressway was being built, sections of the Macomb's Dam Bridge Approach were demolished and replaced with concrete piers and steel decks spanning the expressway. Four new highway entrance and exit ramps were also built and trolley tracks were removed from the bridge and approaches. Between 1960-1964 the road decks of the entire bridge span and approaches were replaced. Also during that time frame most of the original fascias, railings, and lampposts were removed and replaced with similar steel fascias and railings. Chainlink fencing was installed along sections of the railings that line the cantilevered sidewalks on both sides of the entire bridge span.

Most recently, beginning in 2000 and continuing through the present, the New York City Department of Transportation (NYCDOT) has invested $145 million into a three-stage renovation of the Macombs Dam Bridge and its approaches. Work on the structural system within the project area and study area has included the installation of structural components, replacement of the middle one-third section of the bridge, replacement of the structural deck, rehabilitation of the superstructure steel and concrete substructure members on the bridge's

southern portion, and reinforcement of truss members in the swing span and the camelback span. The entire project is scheduled for completion in late 2005.

YANKEE STADIUM

The most prominent structure located in the project area is the existing Yankee Stadium. The land that was developed for the stadium had been, by 1891, sparsely developed with single-story structures and a stone yard and related structures. The property that was purchased for the stadium had been part of the estate of William Waldorf Astor. Adjacent properties were also owned by the Astors.[1]

Built in 1922-1923, the stadium is a primarily concrete and steel structure (see Views 1 and 2 of Figure 6-2). The stadium occupied the full block bounded by East 157th Street, River Avenue, Ruppert Place, and East 161st Street. It was designed with a triple-tiered grandstand on its western portion and a one-tiered bleachers section that makes up the eastern end of the stadium. The original concept by the designers, the Osborn Engineering Company, envisioned the triple-tiered grandstand surrounding the entire baseball field. However, this plan was scaled back in the final design and the existing stadium became the first ballpark to have triple-tiered seating (with a seating capacity of approximately 58,000 seats). At that time, the stadium was the largest ballpark of its kind, with its original dimensions measuring 281 feet from home plate to left field, 490 feet to center field, and 295 feet to right field; due to its then enormous distance from home plate, left center field became known as "Death Valley."

The Yankees were originally formed as the New York Highlanders in 1903. They played at Hilltop Park,[2] a ballpark formerly located in Washington Heights, until 1912. That year, the team was invited to lease space at the Polo Grounds, the home of the New York Giants (now the San Francisco Giants). Upon moving to the Polo Grounds in Harlem, the team became known as the Yankees, and remained there until 1922.[3] Apparently, at that time, the popularity of the Yankees (enhanced by the arrival of Babe Ruth in 1920) greatly exceeded that of the Giants, and it has been conjectured that the New York Giants evicted the Yankees in the hope that they would leave the City and thereby eliminate competition with the Giants.

However, the team found its current approximately 10-acre site roughly ½-mile away from the Polo Grounds and invested $3.2 million dollars to build the new stadium. Ground was broken for the stadium on May 5, 1922; Opening Day was held less than one year later on April 18, 1923 in the new Yankee Stadium.

The original stadium's design, which has been significantly modified since its original construction, consisted of the triple-decked grandstands which extended from behind home plate and up to the first and third base lines, included a copper frieze that adorned the existing stadium's third tier deck, and had wood seating. In 1928, the triple-decked grandstand was

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[1] _____. "Yankees to Build Stadium in the Bronx," *The New York Times*, February 6, 1921; ProQuest Historical Newspapers The New York Times (1851-2001).

[2] Hilltop Park was the first ballpark used by the American League and was built in 1903 at Broadway and West 168th Street. Hilltop Park was demolished in 1914 and the site is presently occupied by the Columbia-Presbyterian Medical Center.

[3] The Polo Grounds were located in Harlem between West 155th and 157th Streets. This ballpark was also designed by Osborn Engineering and in coordination with Henry B. Herts. The Polo Grounds were demolished in 1964 and redeveloped with the Polo Grounds Towers, a residential development.

extended into left field. Nine years later, it was extended into right field. This increased the seating capacity to approximately 80,000. During this time, the bleacher seating was changed from wood to concrete.

In 1932, the first of several plaques and monuments that now make up present day "Monument Park" at the existing stadium was erected—a granite monument to former manager Miller Huggins that was placed near the flag pole in center field. Others monuments, including those honoring Lou Gehrig (1941) and Babe Ruth (1949), followed and were grouped in the same location.

During the 1940s, night baseball was introduced with the addition of lights to the existing stadium. A new electronic scoreboard was added in 1959.

In the early 1970s, the team proposed moving to New Jersey. To retain the Yankees in New York, the City signed a 30-year lease with the Yankees in 1972, the same year that George Steinbrenner bought the team and agreed to renovate the stadium. Two years later, the stadium was given an approximately $160 million dollar renovation by Praeger-Kavanagh-Waterbury, also the designers of Shea Stadium, which included the demolition of portions of the stadium and resulted in a substantial reengineering of the structure to allow for the removal of steel columns that supported the second and third tiers and blocked views. The renovation also included new seating, the addition of concessions, and the remodeling of the press box and bathrooms. At that time, the decorative frieze at the upper deck was removed and a similar architectural element made of concrete was created at the top of a new scoreboard that extends from center to right field. The monuments and plaques were removed from centerfield and placed behind the left centerfield wall between the Yankees and visiting team bullpens to create "Monument Park." A 138-foot-tall bat—a replica of a Louisville Slugger baseball bat that serves as a venting structure—was placed at the new southwestern entrance to the stadium. The stadium reopened in April 1976. Other alterations have included the addition of new escalator and elevator towers at the entrances and the addition of luxury suites. With additional renovations carried out in the 1980s, the stadium's dimensions were altered to its present configuration of 318 feet from home plate to left field, 408 feet to center field, and 314 feet to right field.

D. EXISTING CONDITIONS

ARCHITECTURAL RESOURCES

PROJECT AREA

The project area includes the existing Yankee Stadium, portions of Macomb's Dam Park to the west and north of the stadium, portions of the Macomb's Dam Bridge Approach to the west of the stadium, and portions of John Mullaly Park to the north of the stadium. The project area also contains part of the Bronx Terminal Market west of Exterior Street that is located to the southwest of the stadium, and at-grade parking lots located north of the Bronx Terminal Market and on sites to the southeast of the existing Yankee Stadium along River Avenue.

As the third oldest Major League baseball stadium in the country and the home of the team that has had the most Hall of Famers and championship seasons than any other baseball team, the existing stadium has figured prominently in The Bronx's and New York City's history and popular culture. Though a well recognized cultural icon, the existing stadium structure itself has been dramatically altered and essentially rebuilt from its original design. The east end of the

existing stadium was originally a one-story structure. This design has been substantially modified through the rebuilding of the grandstands and bleachers section along East 161st Street, East 157th Street, and River Avenue. Alterations to the façade to accommodate the extension of the grandstands into left and right fields in the 1920s and 1930s, removal of the original copper frieze at the third tier, construction of the elevator/escalator towers, and reconstruction of the grandstands in the 1970s, have resulted in a structure that is of a substantially different character than what was originally built. Therefore, although the existing Yankee Stadium is fondly still known as the "House that Ruth Built," the extensive renovations have resulted in the loss of stadium's original design and architectural integrity. As such, in a comment letter dated April 25, 2005, LPC concluded that the existing Yankee Stadium is not eligible for NYCL designation. Likewise, in a comment letter dated July 15, 2005, SHPO concluded that "Yankee Stadium does not meet the criteria for listing to the National Register of Historic Places due to its lack of integrity." SHPO suggested that it might nonetheless be appropriate to retain some elements of the stadium. As currently conceived, NYCDPR would retain the existing stadium's playing field, as well as some portion of the surrounding seating, as publicly accessible parkland to be known as Heritage Field.

The portions of Macomb's Dam Park in the project area consist of passive and active recreational facilities including baseball fields, handball and basketball courts, and a parking lot (see View 3 of Figure 6-3). A one- and two-story recreational building is located in the project area at the southwest corner of East 161st Street and Ruppert Place. This small building (now known as the Macomb's Dam Park District Office) was built by the New York City Department of Parks in 1933-1934 as a full two-story structure with two centrally located Palladian doors separated by a similarly-styled window. The building is clad in red brick and designed in the neo-Georgian style, with symmetrical window openings that flank centrally located entrances on the east and west façades. At the time of the building's completion, the park had stairs leading down to the building's eastern entrance because of a gradual downward slope from the East 161st Street and Ruppert Place sidewalk elevation. The District Office was significantly modified in 1935 and 1936 when Macomb's Dam Park was altered (see Views 4 and 5 of Figure 6-4). In a comment letter dated July 11, 2005, SHPO determined that the Macomb's Dam Park District Office does not meet the criteria for listing to the National Register. LPC concurred with SHPO's determination of nonsignificance in a comment letter dated July 26, 2005.

A portion of the Macomb's Dam Bridge Approach (NYCL, S/NR-eligible) spans the section of Macomb's Dam Park to the west of the existing stadium. This historic resource will be discussed below in "Known Architectural Resources."

The portion of John Mullaly Park in the project area—the block bounded by River and Jerome Avenues between East 162nd and 164th Streets—contains several small and nondescript brick structures and tennis courts enclosed in bubbles during the winter (see View 6 of Figure 6-5).

A portion of the Bronx Terminal Market, a wholesale food market, also lies within the project area southwest of the existing stadium and will be discussed below in "Known Architectural Resources" (see Views 7 and 8 of Figure 6-6).

Known Architectural Resources

There are two known architectural resources in the project area—the Macombs Dam Bridge and 155th Street Viaduct and the Bronx Terminal Market.

The **Macombs Dam Bridge and 155th Street Viaduct** (NYCL, S/NR-eligible) were built between 1890-1895. The bridge and viaducts span the Harlem River between West 155th Street

and St. Nicholas Place in Manhattan and Jerome Avenue and East 162nd Street in The Bronx. The consulting engineer for the bridge and its viaducts was Alfred Pancoast Boller, one of the late-19th/early 20th century's most distinguished American structural engineers. This structure, known until 1902 as Central Bridge, is New York City's oldest metal truss swing bridge and its third-oldest bridge. The landmarked structure includes a Pratt through-truss swing bridge that spans the Harlem River, stone end piers with shelter houses, a camelback truss span over the Metro-North Railroad right-of-way in The Bronx, a long 155th Street steel viaduct on the Manhattan side, and a shorter steel approach road on the Bronx side, the Macomb's Dam Bridge Approach (see Views 9 and 10 of Figure 6-7).

The section of the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street spans Macomb's Dam Park. This span has steel double intersection Warren fixed deck truss spans and is carried by pairs of battered rectangular rock-faced granite piers (see Views 11 and 12 of Figure 6-8). The western-most section of the Macomb's Dam Bridge Approach that abuts the eastern side of the Macombs Dam Bridge also has steel double intersection Warren fixed deck trusses and spans a surface parking lot along the eastern bank of the Harlem River. Between 1960-1964 the road decks of the bridge and viaducts (the Manhattan and Bronx viaducts) were rehabilitated, resulting in the loss of the original fascias and most of the original railings and lampposts, including those on the Macomb's Dam Bridge Approach. Chain link fencing was installed at this time along sections of the cantilevered pedestrian walkways that line both sides of the approach.

The other known architectural resource is the **Bronx Terminal Market** which consists of several low-scale warehouse buildings located west of Cromwell Avenue between the Major Deegan Expressway access ramps to the north and East 150th Street to the south. SHPO has determined that the buildings of the Bronx Terminal Market (Buildings B, D, F, G, H, and J) are eligible for S/NR listing as part of a historic district. Three of the Bronx Terminal Market Buildings—Buildings G, H, and J (refer to Views 7 and 8 of Figure 6-6)—are in the project area.

Buildings G and H were designed by Samuel Oxhandler with John D. Churchill and Albert W. Lewis in 1934-35. They are located directly south of Building J on the west side of Exterior Street. These buildings are composed of a group of small, connected spaces within a concrete-block structure. These two-story buildings are unpainted and have few decorative elements beyond a stucco corbel course running along the top. Large openings covered in metal gates are on the first floor, while large, multi-paned rectangular window openings are on the second floor. The second floor windows have been sealed with a variety of materials, mainly concrete block. The buildings are built to the street line, are in fair condition, and are partially occupied.

Building J is a two-story former power house that is currently vacant. It was built in 1925 to support the Bronx Terminal Market's original cold-storage warehouse (Building A), which is no longer extant. It is the northernmost building of the Bronx Terminal Market, located on the west side of Exterior Street at the entrance/exit ramps for the Major Deegan Expressway. Building J has two-story pavilions on each end and a three-story central pavilion. The structure is clad in red brick with a corbel course running beneath a small parapet wall. There are large arched openings on the first story and large square openings on the second story. All of the openings are sealed with concrete or concrete block. Building J is set back from the street line and views to it are partially obscured by the elevated Major Deegan Expressway that extends above Exterior Street. Since the building is currently vacant, it has a dilapidated appearance and has graffiti on the first floor.

STUDY AREA

Known Architectural Resources

There are seven previously known architectural resources within the study area (refer to Figure 6-1). Sections of the **Macombs Dam Bridge and 155th Street Viaduct** (NYCL, S/NR-eligible) lie within the study area.[1] Within the study area, one of the Macombs Dam Bridge's defining features is a 19-panel Pratt through-truss structure with a 415-foot steel central swing bridge that spans the Harlem River (refer to View 9 of Figure 6-7). Another defining feature of the bridge structure is a 221-foot steel camelback through-truss that spans the Metro-North Railroad right-of-way (refer to View 10 of Figure 6-7). East of these spans are replacement concrete "bents" and steel deck spans that were built over the Major Deegan Expressway between 1949-1951. The spans over Macomb's Dam Park and the span that abuts the Macombs Dam Bridge lie within the project area and are described above in "Existing Conditions." The eastern terminus of the Macomb's Dam Bridge Approach is south of East 162nd Street and has a limestone and granite abutment on the north side of East 161st Street.

As mentioned above in "Background History," the Macombs Dam Bridge and approaches have been modified over time to accommodate changing needs. One of the earliest changes was the addition of two ramp connections built in 1920 at East 161st Street on the east side of the Macomb's Dam Bridge Approach. The construction of these ramps involved the removal of the southeast face of the masonry abutment and stairway and their reinstallation on the southwest side of East 161st Street. The two ramps are not contributing features of the landmarked structure. The construction of the Major Deegan Expressway between 1949-1951 involved the replacement of three original truss spans and two pairs of masonry piers with six steel and concrete spans and four new entrance/exit ramps; these are not contributing features of the landmarked structure. Between 1960-1964 the road decks of the bridge and viaducts (the Manhattan and Bronx viaducts) were rehabilitated and resulted in the loss of the original fascias and most of the original railings and lampposts. Chain link fencing was installed at this time along sections of the cantilevered pedestrian walkways that line both sides of the entire bridge and approaches.

Buildings B, D, and F of the **Bronx Terminal Market** (S/NR-eligible) are located in the study area southwest of the project site. These buildings were designed by Samuel Oxhandler with John D. Churchill and Albert W. Lewis in 1934-1935. Building B is composed of 19 small, connected spaces within a two-story reinforced concrete structure on the east side of Exterior Street north of East 150th Street (see View 13 of Figure 6-9). The building's design is much like Building J of the market in the project area except that Building B is clad in stucco whereas Building J is faced in brick.

Building D, the Bronx Terminal Market's flagship structure, was designed to serve as a bank, restaurant, and a hotel for farmers. Building D is a two-story stucco-clad polygonal building that was built in 1934-1935 as part of Mayor LaGuardia's expansion of the Bronx Terminal Market. Building D is at the southeast corner of the Bronx Terminal Market at the corner of East 149th Street and Exterior Street. The building is similar in design to Buildings B, F, G, and H but has "Bronx Terminal Market, City of New York, 1935" painted in large, Art Moderne lettering on its southern façade.

[1] The Manhattan side 155th Street viaduct does not lie within the project area or study area. This description, therefore, focuses on the sections of the Macombs Dam Bridge within the study area only.

Building F is the southernmost Bronx Terminal Market building on the west side of Exterior Street, with frontage on East 150th Street. This building was built at the same time as Buildings B and D and is similar in form, decoration, and massing.

The **American Female Guardian Society and Home for the Friendless Woody Crest Home** (NYCL, S/NR-eligible), located at 936 Woodycrest Avenue west of the project area, was designed by William B. Tuthill in 1901-1902. It originally housed the American Female Guardian Society, an institution that served needy children. The architect, who also designed Carnegie Hall in Manhattan, designed this institutional building to resemble a large Beaux-Arts mansion featuring an arched entrance, decorative window surrounds, and a mansard roof defined by dormers and chimneys (see View 14 of Figure 6-9). The property was converted in 1991 to a residential care facility for families and individuals with AIDS.

The **Park Plaza Apartments** (NYCL, S/NR), designed by Horace Ginsberg and Marvin Fine (1929-31), are located at 1005 Jerome Avenue between East 162nd and 165th Streets, directly across Jerome Avenue from the proposed stadium site. The Park Plaza, clad in orange brick accented by multi-colored terra-cotta ornamentation, was one of the first and most prominent Art Deco apartment houses in The Bronx (see View 15 of Figure 6-10). Its design spearheaded the proliferation of Art Deco buildings that significantly altered the appearance of The Bronx during the 1930s. It is located approximately 100 feet from the project area.

The **Bronx House of Detention** (S/NR-eligible), formerly the Bronx County Jail, is located at 653 River Avenue at the southwest corner of East 151st Street. It was built in 1938 as a Works Progress Administration project. Designed by architect Joseph H. Freelander, it is an 8-story rectangular building with small pavilions at each end and a 10-story central pavilion. The building is clad in gray brick and stone with vertical recessed windows that form uninterrupted columns above the building's base (see View 16 of Figure 6-10). The building has an eight-story addition perpendicular to the original building along the structure's western façade. The addition uses similar gray brick and horizontal bands of windows as used in much the original building. Also on the site of the Bronx House of Detention are several trailers and temporary structures. The Bronx House of Detention currently does not house inmates and has taken on a derelict and abandoned appearance. It is located approximately 75 feet from proposed Parking Garage D in the project area across River Avenue.

145th Street Bridge (S/NR-eligible) was designed and constructed in 1905 by Alfred Pancoast Boller, the same engineer responsible for the Macombs Dam Bridge and 155th Street Viaduct. The 145th Street Bridge is a steel truss wing bridge that spans the Harlem River with reinforced concrete and steel approaches at 145th Street in Manhattan and 149th Street in The Bronx (see View 17 of Figure 6-11). It is located well over 90 feet from the project area.

The **Bronx County Building**, also known as the Bronx County Courthouse (NYCL, S/NR), lies just outside of the study area to its east, but is prominently visible from within Yankee Stadium and other portions of the study area. The Bronx County Building, designed by Max Hausle and Joseph H. Freedlander (1931-1935), is at 851 Grand Concourse, which is The Bronx's major thoroughfare, lined by prominent buildings. This monumental building's limestone cladding contributes to its austere classical appearance that was popular for public buildings during the 1930s (see Views 18 and 19 of Figure 6-12). Among the building's most prominent features are its sculptural reliefs designed by sculptors Charles Keck, Adolph Weinman, Edward F. Sanford, George H. Snowden, and Joseph Kiselewski.

Nine structures identified as potential architectural resources were determined by LPC (August 26, 2005) and/or SHPO (September 20, 2005) to meet eligibility criteria for listing on the S/NR and/or designation as NYCLs, respectively, as part of their review of the proposed project.

The **Mullaly Recreation Center** (NYCL-eligible, S/NR-eligible) dates from the early 1930s and is located in the western section of John Mullaly Park between East 164th and East 165th Streets. This free-standing, one-story brick building fronts both Jerome Avenue to the west and the park to the east. The building's western façade is symmetrical with two entries featuring decorative terra cotta paneling and the Bronx County seal above each entryway. The building's parapet is accented by a terra cotta string course which is further enhanced by a running ornamental feature also in terra cotta. The building was renovated in 2000 as part of a $3.1 million overhaul of John Mullaly Park (see Views 20 and 21 of Figure 6-13).

The apartment building at **1001 Jerome Avenue** (S/NR-eligible), sited across Jerome Avenue from John Mullaly Park, was built in 1937. This Art Deco building is clad in gray brick, rises eleven stories, and is divided into three expressed bays alternating with two recessed bays (see Views 22 and 23 of Figure 6-14). The windows of each bay are arranged in columns accenting the building's verticality. Decorative brickwork also draws the viewer's eyes upward. It is located approximately 100 feet from the project area.

The **Church of God** (NYCL-eligible, S/NR-eligible), located at 923 Woodycrest Avenue, was built in 1927. It is a small, three-story church clad in gray brick. The primary façade is divided into five bays; the three center bays are defined by arched stained glass windows on the second story (see View 24 of Figure 6-15). It is located approximately 200 feet from the portion of Macomb's Dam Park in the project area.

An Art Deco building at **58 East 161st Street** (NYCL-eligible, S/NR-eligible) dates to 1936. It originally served as the entrance and lobby to the Semi Earl Theatre that occupied the middle of the block. The theater has been closed and the building's former lobby is now occupied by the Unity Bar and Restaurant. The theater's former auditorium space is now used for flea markets. The building's existing marquee dates from the 1970s (see View 25 of Figure 6-16). The theater's architect is unknown. This building is located approximately 100 feet from the existing Yankee Stadium site and is separated from it by the elevated subway viaduct structure on River Avenue.

An eight-story apartment building dating to the 1930s is located at **825 Gerard Avenue/90 East 158th Street** (S/NR-eligible). It is clad in tan brick with darker bricks used to accent the façade. The building has columns of windows at each corner whereas the windows along the exposed façades are grouped together to create blocks of vertical, column-like windows common to this period of building design. Jewelry-like decorative pendants appear to "dangle" from the building's roofline (see View 26 of Figure 6-16). The building is located approximately 160 feet from the existing Yankee Stadium site.

The building at **675 Walton Avenue** (NYCL-eligible, S/NR-eligible) at the northwest corner of Walton Avenue and East 153rd Street is a six-story, Art Moderne apartment building that likely dates to the 1930s, as do many other Art Deco and Art Moderne apartment buildings in the neighborhood. The building is clad in yellow brick and features streamline motifs characteristic of the building's style. The apartment building's design is reminiscent of the prow-like Flat Iron Building in Manhattan (see View 27 of Figure 6-17). It is located over 375 feet from proposed Parking Garage D to be located across East 151st Street between Gerard and River Avenues.

At the northeast corner of Gerard Avenue and East 153rd Street, the six-story apartment building at **690 Gerard Avenue** (S/NR-eligible) was built in 1936. It is similar in style to many of the other Art Deco apartment buildings along the Grand Concourse and neighboring areas. The building is clad in light-colored brick that is accented by darker-colored brick forming geometric patterns. The building's windows are vertically divided by dark and light bricks creating column-like patterns (see View 28 of Figure 6-17). It is located over 300 feet from proposed Parking Garage D to be located across East 151st Street between Gerard and River Avenues.

A through-block building at **876-878 Gerard Avenue/893-895 Walton Avenue** (S/NR-eligible) dates from 1927-1928 (see Views 29 and 30 of Figure 6-18). This two-story building's primary façades are defined largely by their highly decorative terra cotta designs. The Gerard Avenue façade has three bays on the upper floor and is clad in painted white bricks in a stretcher bond pattern. The building's ground floor is occupied by two small businesses and has been altered to accommodate those uses. The second floor is clad in highly stylized white terra cotta featuring horses' heads, facial masks, and floral patterns, all of which create a sense of verticality. The building's east façade fronts on the northwest corner of Walton Avenue and East 161st Street and houses a Burger King. Despite the alterations that have been made to accommodate the fast food chain, the building's second-floor terra cotta detailing remains its defining feature. This building is located approximately 200 feet from the project area.

The **Oxford Knolls**[1] (S/NR-eligible) , located at 691 Gerard Avenue/109 East 153rd Street, is a complex of three six-story apartment buildings that span the full block of East 153rd Street between River and Gerard Avenues (see Views 31 and 32 of Figure 6-19). The mock Tudor-designed buildings are clad in coarse red brick and feature half-timbering, steeply pitched gables, crenellated parapets, and a rusticated stone base and details. The buildings were built around 1930. They are located over 200 feet from both the proposed passive recreation park at the southeast corner of River Avenue and East 157th Street and proposed Parking Garage D to be located across East 151st Street between Gerard and River Avenues.

The row of seven houses at **615, 621, 625, 629, 633, 637, and 641 Walton Avenue** south of East 151st Street do not appear to meet criteria for listing on the N/R or for designation as NYCLs (see Views 33 and 34 of Figure 6-20).

E. THE FUTURE WITHOUT THE PROPOSED PROJECT

ARCHAEOLOGICAL RESOURCES

Without the proposed project, it is assumed that there will be no subsurface disturbance of the project area. In any case, the site was determined not sensitive for archaeological resources by LPC and SHPO.

ARCHITECTURAL RESOURCES

PROJECT AREA

There are no projects planned for construction in the project area by the project's analysis year of 2009.

[1] On January 1, 2006, a fire in this building damaged several apartment units on the 6th floor. www.NY1.com

STUDY AREA

In the future, the status of historic resources could change. Properties found eligible for designation as NYCLs could be designated and S/NR-eligible architectural resources could be listed on the Register. It is also possible, given the project's analysis year of 2009, that additional sites could be identified as architectural resources in this time frame.

Changes to the historic resources identified above or to their settings could occur irrespective of the proposed project. Future projects could also affect the settings of architectural resources. It is possible that some architectural resources in the project area could deteriorate, while others could be restored. In addition, future projects could accidentally damage architectural resources through adjacent construction.

Historic resources that are S/NR-listed, or that have been determined eligible for listing, are given a measure of protection from the effects of Federally sponsored or Federally assisted projects under Section 106 of the National Historic Preservation Act. Although preservation is not mandated, Federal agencies must attempt to avoid adverse impacts on such resources through a notice, review, and consultation process. Properties listed on the registers are similarly protected against impacts resulting from State-sponsored or State-assisted projects under the State Historic Preservation Act. Private owners of properties eligible for, or even listed on, the registers using private funds, can, however, alter or demolish their properties without such a review process. Privately owned properties that are NYCLs, in New York City Historic Districts, or pending designation as Landmarks are protected under the New York City Landmarks Law, which requires LPC review and approval before any alteration or demolition can occur. Publicly owned resources are also subject to review by LPC prior to the start of a project; however, LPC's role with other City agencies is advisory only.

The proposed Gateway Center at Bronx Terminal Market project would result in the demolition of Building B (S/NR-eligible) of the Bronx Terminal Market. It would also result in the demolition of the Bronx House of Detention (S/NR-eligible). Measures to mitigate these adverse impacts to architectural resources would be developed by the Gateway Center at Bronx Terminal Market project sponsors in consultation with SHPO.

NYCDPR's proposed construction of a park south of the proposed project's waterfront park, west of Exterior Street, would presumably require the demolition of Building F of the Bronx Terminal Market.

The New York City Department of Parks and Recreation will undertake site work in the Macomb's Dam Park parcel at the northwest corner of Jerome and Woodycrest Avenues where the Macomb's Dam Fountain is located. The site work will include the restoration of the fountain's stone work and associated plumbing to return the fountain to operation. The stairs and pathways in this parcel of the park will also be repaired. The completion year for this project is fall 2005 or spring 2006. No adverse impacts are anticipated.

As described in Chapter 2, "Land Use, Zoning, and Public Policy," the City of New York proposes to expand its existing Bronx Emergency Assistance Unit located at the northwest corner of Walton Avenue and East 151st Street. This would result in the construction of a new 60,000-square-foot facility at that location. The completion year for this project is 2008. This site is located approximately 70 feet from the group of seven late 19th century rowhouses at 615-641 Walton Avenue. As such, this project could potentially result in inadvertent construction-related damage to the rowhouses from ground borne construction-period vibrations, falling debris, and collapse.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

ARCHITECTURAL RESOURCES

PROJECT AREA

The proposed project anticipates the retention of the existing stadium ballfield and its conversion into one of the replacement baseball fields. It is also anticipated that some of the field seats in the existing stadium would be retained for the replacement ballfield. The proposed project would also remove the baseball bat at the corner of East 157th and East 153rd Streets. The proposed project would result in a new, state-of-the-art stadium to be erected on the blocks to the north of the existing stadium that would visually evoke the original 1923 Yankee Stadium. Since the existing stadium has been determined ineligible for NYCL designation and S/NR listing, the removal of the existing stadium would not result in any significant adverse impacts to architectural resources. The Macomb's Dam Park District Office at the southwest corner of Ruppert Place and East 161st Street has also been determined not eligible for S/NR listing or NYCL designation. Therefore, the proposed removal and replacement of this building with new recreational facilities would also not result in any significant adverse impacts to architectural resources.

The proposed Parking Garages A and C would result in adverse impacts to the Macomb's Dam Bridge Approach. As described above, the proposed garages would be set back approximately 12 feet to the east and west of this portion of the Macomb's Dam Bridge Approach, visually eliminating the viaduct span between East 161st Street and the Major Deegan Expressway. The proposed Parking Garage A, a two-story partially below grade garage, would be built to the east of the viaduct span on the site of the existing western section of Macomb's Dam Park. The elevation of the landscape to the east and west of the approach viaduct is depressed in relation to the Macomb's Dam Bridge Approach. By raising the elevation in this portion of the project area, the roof of Parking Garage A would be at the level of the Macomb's Dam Bridge Approach roadway and would be developed with recreational facilities. It is expected that there would be one ramp to connect to Garage A and two ramps to connect to Garage C. The ramp closest to East 161st Street would connect to the third level of Garage C. Farther west, another ramp would connect to the fourth rooftop parking level. The proposed ramps would be designed to touch, but not require material alterations to the bridge structure with the exception of removing curbs and railings to make the connections. Each ramp would be supported on a new pier that would be designed to match those of the existing bridge. Since the modifications to the viaduct structure are expected to be minor and the ramps self-supporting, it is not expected that the new ramps would adversely impact the integrity or historical character of the bridge or additionally burden the load-bearing capacity of the existing structure. The existing surface parking lot that is west of the Macomb's Dam Bridge Approach would be developed with Parking Garage C, a four-level parking garage. Despite the lower grade in this section of the project area, this multi-level structure would rise approximately 11 feet above the approach viaduct. The roof of this garage would be developed with new outdoor tennis courts. The existing pedestrian walkway on the east side of the span of the Macomb's Dam Bridge Approach over East 161st Street would be widened by 5 feet to accommodate anticipated increases in pedestrian use. The sidewalk extension would be supported by a new truss structure over East 161st Street that would be designed to match the profile and appearance of the existing trusses spanning East 161st Street. To avoid adverse impacts to the Macomb's Dam Bridge Approach, the methods by which

vehicular and pedestrian access would be created between Parking Garages A and C and the walkways would be designed in consultation with SHPO, pursuant to the MOA, as well as LPC.

As described above, the development of Parking Garages A and C east and west of the Macomb's Dam Bridge Approach between East 161st Street and the Major Deegan Expressway would have indirect adverse impacts to this historic resource because the approach span would be obscured from view and isolated from its setting and its relationship to the streetscape. Further, because the construction of proposed Parking Garages A and C would be within 90 feet of the Macomb's Dam Bridge Approach, a Construction Protection Plan would be developed in consultation with SHPO, pursuant to the MOA, as well as LPC, and implemented prior to construction to protect this resource from construction-related activities and to avoid any inadvertent physical damage to this historic resource. However, it is not anticipated that the development of Parking Garages A and C would result in a significant adverse impact to this historic resource for several reasons. Although the visibility of the approach span between the Major Deegan Expressway and East 161st Street would be reduced from the surrounding area, this historic resource would be retained and would remain a viable section of the bridge's roadway system. The visibility of the Macombs Dam Bridge spanning the Harlem River and the camelback truss spanning the Metro-North Railroad right-of-way—two of the most visible and significant features of the roadway system—would remain unaffected by the proposed project. Further, the visual connection between the section of the approach spanning Macomb's Dam Park and the two trusses to the west is already obscured by large trees and the Major Deegan Expressway to the south of the park. Additionally, pedestrian access would be maintained and would continue to allow the public to experience the landmarked bridge. Therefore, the proposed project is not expected to result in significant adverse impacts to this historic resource.

The proposed replacement of the other surface parking lots with parking garages would not result in any significant adverse contextual impacts to architectural resources as there are no such resources in close proximity to these sites and there is also no meaningful relationship between the known architectural resources and vacant sites used for surface parking.

The proposed project would result in the construction of a new park with baseball fields on the west side of Exterior Street at the Bronx Terminal Market in the area of Buildings G, H, and J. Therefore, to build the new park and baseball fields associated with the proposed project, these buildings would be demolished. The proposed project would undertake mitigation measures in consultation with SHPO to mitigate any significant adverse effects on architectural resources. The mitigation measures would include Historic American Building Survey (HABS)-level photographic documentation with an accompanying narrative, and interpretive design elements, such as a fence and plaques/historic markers. The mitigation measures would be set forth in an MOA to be entered into among NYCDPR, the National Park Service (NPS), and SHPO. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among the parties, is included in Appendix G.[1]

The proposed project would include a new 0.71-acre esplanade that would extend from the northern end of the proposed waterfront park, wrap around the waterfront to the existing ferry

[1] As set forth in the Foreword, because the Alternative Park Plan analyzed in Chapter 22, "Alternatives," is the preferred park plan that is anticipated to be adopted and approved by NYCDPR, the Draft MOA applies to that alternative program. Bronx Terminal Market Building J, rather than being demolished by the proposed project, would be retained and adaptively reused in connection with the tennis facilities to be located at the waterfront park under this alternative.

landing, and extend east to the pedestrian connection at Exterior Street beneath the Major Deegan Expressway. It is anticipated that the proposed esplanade would not have any significant adverse contextual impacts to architectural resources.

STUDY AREA

The proposed stadium site is located more than 90 feet (the anticipated area of potential impacts from construction) from the known architectural resources in the study area. However, the Park Plaza Apartments, located at 1005 Jerome Avenue, and the apartment building located at 1001 Jerome Avenue, adjacent to the Park Plaza Apartments, are directly across Jerome Avenue, a 100-foot-wide street, from the proposed stadium site. Due to the scale of the proposed project in this location and the fragility of the terra cotta ornament that adorns the Park Plaza Apartments, a Construction Protection Plan would be developed to protect these resources from construction-related activities. This Construction Protection Plan would be developed in consultation with SHPO and LPC and implemented prior to construction to avoid any inadvertent damage to these historic structures.

It is not anticipated that the proposed project would have any significant adverse contextual impacts on any other known architectural resources in the study area. It is expected that the proposed project would shift the visual focus of the neighborhood from its current location south of East 161st Street to the proposed stadium location north of East 161st Street. The scale of the existing structure and that of the proposed structure are and would continue to be significant features in the neighborhood's skyline. Rising approximately 138 feet, the proposed stadium would rise to a height similar to the existing stadium, and as such, would not result in a structure of a significantly larger mass or height than presently exists in the area. The proposed stadium would not obstruct views to known architectural resources. It is anticipated that the new structure would be visible from the Macombs Dam Bridge as is the existing stadium.

Parking Garage B, to be built along the south side of East 164th Street, would be more than 90 feet from the Mullaly Recreation Center. Although Parking Garage B would be visible from the Mullaly Recreation Center, the parking garage is not expected to significantly affect this known historic resource since the proposed garage would not create significant shadows or otherwise alter the building's context or significant features. Further, the garage would not block any significant views to the south. The Mullaly Recreation Center would remain prominently visible from within the park block, from Jerome Avenue, and from portions of the park to the north (see Chapter 5, "Shadows," and Chapter 7, "Urban Design").

Parking Garage D, to be built north and south of East 151st Street spanning over that street, would be located to the east of the former Bronx House of Detention. It is expected that the former Bronx House of Detention would be demolished in the future without the proposed project. Absent this known historic resource, it is anticipated that Parking Garage D would not significantly alter the context or visibility of architectural resources in this portion of the project area or study area (see Chapter 5, "Shadows" and Chapter 7 "Urban Design").

As has been described above, the most prominent change to the area would be the construction of the proposed stadium north of East 161st Street. It is expected that the proposed stadium would be visible from the Mullaly Recreation Center, since it would be built across East 164th Street. However, the Mullaly Recreation Center is oriented west towards Jerome Avenue, and its setting on its block and the setting across Jerome Avenue would remain unchanged. As with the introduction of proposed Parking Garage B, the Mullaly Recreation Center would still remain prominently visible from within the park block from Jerome Avenue, and from the portions of

Table 6-1
Photo Locator for Figure 6-1

Figure No.	Photo No.	Location	S/NR	S/NR-eligible	NYCL	NYCL-eligible
6-2	1	Yankee Stadium from the Harlem River				
6-2	2	Yankee Stadium, north façade				
6-3	3	Macomb's Dam Park, north of the stadium				
6-4	4	Macomb's Dam Park District Office, northeast façade				
6-4	5	Macomb's Dam Park District Office, southeast façade				
6-5	6	John Mullaly Park, northwest corner				
6-6	7	Bronx Terminal Market, Buildings G/H		x		
6-6	8	Bronx Terminal Market, Building J		x		
6-7	9	Macombs Dam Bridge, Harlem River span	x		x	
6-7	10	Macombs Dam Bridge, Metro-North right-of-way span	x		x	
6-8	11	Macomb's Dam Bridge Approach	x		x	
6-8	12	Macomb's Dam Bridge Approach	x		x	
6-9	13	Bronx Terminal Market, Building B		x		
6-9	14	American Female Guardian Society, west façade		x	x	
6-10	15	Park Plaza Apartments, east façade	x		x	
6-10	16	Bronx House of Detention, east façade		x		
6-11	17	145th Street Bridge		x		
6-12	18	Bronx County Building, north façade	x		x	
6-12	19	Bronx County Building, south façade	x		x	
6-13	20	Mullaly Recreation Center, west façade		x		x
6-13	21	Mullaly Recreation Center, east façade		x		x
6-14	22	1001 Jerome Avenue, east façade		x		
6-14	23	1001 Jerome Avenue, entry detail		x		
6-15	24	Church of God, east façade		x		x
6-16	25	58 East 161st Street, north façade		x		x
6-16	26	825 Gerard Avenue/90 East 158th Street, southeast corner		x		
6-17	27	675 Walton Avenue at East 153rd Street		x		x
6-17	28	690 Gerard Avenue at East 153rd Street		x		
6-18	29	876-878 Gerard Avenue/893-895 Walton Avenue, west façade		x		
6-18	30	876-878 Gerard Avenue/893-895 Walton Avenue, west façade details		x		
6-19	31	Oxford Knolls, west façade		x		
6-19	32	Oxford Knolls, southeast façades		x		
6-20	33	Walton Avenue at East 151st Street				
6-20	34	Walton Avenue rowhouses, east façade				

Notes: Corresponds to Figure 6-1.
NHL: National Historic Landmark.
SR: New York State Register of Historic Places.
NR: National Register of Historic Places.
S/NR-eligible: Site has been found eligible for listing on the New York State and National Registers of Historic Places.
NYCL: New York City Landmark.
NYCL-eligible: LPC has determined that the site appears eligible for NYCL designation.

the park to the north. Therefore, the proposed project would not be anticipated to have any significant adverse impacts on this resource. In addition, the proposed stadium would be located across Jerome Avenue from two architectural resources, the Park Plaza Apartments at 1005 Jerome Avenue and the apartment building at 1001 Jerome Avenue. However, the proposed project is not expected to have any adverse contextual impacts on these resources. Though the proposed context of the project area between East 164th Street and East 161st Street would change from one containing parks and recreational facilities to one that contains a new stadium, garage, and new open spaces, the significance of these buildings lies primarily in their Art Deco designs. In addition, the park-like settings of these resources would be maintained through the retention of other portions of John Mullaly Park and Macomb's Dam Park, most specifically the portion of John Mullaly Park north of East 164th Street directly across from the Park Plaza Apartments and the triangular portion of Macomb's Dam Park south of Jerome Avenue, as well as through the addition of new parkland in the project area.

It is also anticipated that portions of the proposed stadium would be visible above the subway viaduct on River Avenue from the Art Deco building at 58 East 161st Street and the through block building at 876-878 Gerard Avenue/893-895 Walton Avenue that front onto East 161st Street. However, these resources presently exist in a context of old and new buildings that includes the existing stadium and subway viaduct. Since the subway viaduct serves as a physical and visual barrier between the areas east and west of River Avenue, the construction of the proposed stadium and modification of the existing stadium site would not be anticipated to result in significant adverse impacts to these resources. It is not expected that the proposed stadium would be prominently visible from other architectural resources in the study area. ✷

Chapter 7: Urban Design and Visual Resources

A. INTRODUCTION

This chapter considers the potential of the proposed project to affect the urban design characteristics and visual resources of the surrounding area. The project area contains the existing Yankee Stadium site, portions of Macomb's Dam Park and John Mullaly Park adjacent to the existing stadium, the site of three warehouse buildings between the waterfront and Exterior Street within the Bronx Terminal Market, and several parking lots located on River Avenue between East 158th and East 150th Streets and west of Exterior Street along the waterfront (see Figure 7-1).[1] The proposed project would develop a new stadium, as well as associated new open spaces (including retaining the existing Yankee Stadium baseball field for community use) and parking garages. Since the proposed project would result in development that differs in use, height, bulk, form, materials, and arrangement from that currently existing in the project area, an urban design and visual resources analysis is appropriate.

This chapter has been prepared in accordance with New York City Environmental Quality Review (CEQR) and the State Environmental Quality Review Act (SEQRA), which require that City and State agencies, respectively, consider the effects of their actions on urban design and visual resources. This technical analysis follows the guidelines of the 2001 *CEQR Technical Manual.* As defined in the manual, urban design components and visual resources determine the "look" of a neighborhood—its physical appearance, including the size and shape of buildings, their arrangement on blocks, the street pattern, and noteworthy views that may give an area a distinctive character. The following analysis addresses each of these characteristics for existing conditions and the future without and with the proposed project for the year 2009, the analysis year for the proposed project. The future baseline conditions ("the future without the proposed project") assume that the same conditions as currently exist in the project area will continue.

As described below, the proposed project would be expected to develop buildings and recreational facilities of a comparable design as those presently found in the area. As such, the proposed project would have no significant adverse impacts on the urban design of the study area. On balance, the proposed project would have a positive effect on visual resources; it would remove two segments of Macomb's Dam Park and one of Mullaly Park that together constitute a visual resource for the area, but it would introduce new visual resources. These include new waterfront elements along the Harlem River, including the baseball fields, landscaped areas, and an esplanade, providing new public amenities and locations from which to view the river and its shorelines; the proposed stadium, which would constitute a new visual landmark in the area, and the proposed new green areas and public plazas to be developed at the existing and proposed stadium sites would also generate new visual resources in the area.

[1] All figures can be found at the end of this chapter.

Although the proposed project would seek to retain mature trees wherever possible, it is expected that the removal of mature trees, which are approximately 40 feet tall, within Macomb's Dam Park and John Mullaly Park could result in unavoidable adverse impacts. Some of these trees would have to be removed due to the scope of the construction. Although the replacement trees would not achieve comparable size for several decades, the number of replacement trees would be extremely large and equivalent in total mass to the trees that would be lost. The addition of a significantly expanded canopy of trees to the project area and surrounding neighborhoods, in addition to the mature trees that would be retained, would mean that the change would not be significantly adverse. In addition, the proposed project would remove green areas within portions of Macomb's Dam Park and John Mullaly Park, affecting views east from Jerome Avenue. However, since views on Jerome Avenue north of East 164th Street of the northern portions of John Mullaly Park would not be altered, and new visual resources would be created in the project area, this change is not expected to result in significant adverse impacts to visual resources.

It is also expected that the development of Parking Garages A and C would obscure the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street, resulting in adverse impacts to visual resources. Since the most prominent and distinguished portions of the bridge—namely, its two differently configured truss structures that are west of the project area—would remain unaffected, this change would not be expected to be significantly adverse. The development of Parking Garages B and D is not expected to result in adverse impacts to visual resources.

B. METHODOLOGY

In accordance with the *CEQR Technical Manual*, this analysis considers the effects of the proposed project on the following elements that collectively form an area's urban design:

- *Block Form and Street Pattern.* This urban design feature refers to the shape and arrangement of blocks and surroundings streets, such as a grid pattern with regularly sized, rectangular blocks. These features set street views, define the flow of activity through an area, and create the basic format on which building arrangements can be organized.
- *Building Arrangement.* This term refers to the way that buildings are placed on zoning lots and blocks. The buildings can have small or large footprints, be attached or detached and separated by open uses, and varied in their site plans. This urban design feature helps to convey a sense of the overall form and design of a block or a larger area.
- *Building Bulk, Use, and Type.* Buildings are usually described by these characteristics. A building's bulk is created from an amalgam of characteristics that include its height, length, and width; lot coverage and density; and shape and use of setbacks and other massing elements. The general use of a building (e.g., residential, manufacturing, commercial office) gives an impression of its appearance and helps to understand its visual and urban design character.
- *Streetscape Elements.* Streetscape elements are the distinctive physical features that make up a streetscape, such as street walls, building entrances, parking lots, fences, street trees, street furniture, curb cuts, and parking ribbons. These features help define the immediate visual experience of pedestrians.

- *Street Hierarchy.* Streets may be classified as expressways, arterials, boulevards, collector/distributor streets, or local streets, and they may be defined by their width, type of access, and the presence or absence of at-grade pedestrian crossings. Street hierarchy helps convey a sense of the overall form and activity level of a neighborhood.
- *Topography and Natural Features.* Topographic and natural features help define the overall visual character of an area and may include varied ground elevation, rock outcroppings and steep slopes, vegetation, and aquatic features.

This analysis also considers the effects of the proposed project on the area's visual resources, which the *CEQR Technical Manual* defines as unique or important public view corridors, vistas, or natural or built features. Visual resources can include waterfront views, public parks, landmark structures or districts, or natural features, such as a river or geologic formations.

As recommended by the *CEQR Technical Manual*, this technical analysis evaluates impacts in two areas—the project area and a surrounding study area (see Figures 7-1 and 7-2). Photographs referenced in this report are keyed to photo locator tables, presented as Tables 7-1 and 7-2 at the end of this chapter. As more fully described in Chapter 1, "Project Description," the project area is composed of several independent parcels, including the existing stadium, portions of Macomb's Dam Park to the north and west of the stadium, the southern portion of John Mullaly Park, part of the existing Bronx Terminal Market site, and paved parking facilities along River Avenue and west of Exterior Street.

Due to barriers that surround the project area and limit views within the area, namely the elevated Major Deegan Expressway and the elevated subway viaduct above River Avenue, the urban design and visual resources study area for this project in The Bronx is defined as being within an approximately 400-foot radius of the project area. Due to the project area's proximity to the Harlem River shoreline, views of the proposed project have also been considered from nearby Harlem River crossings and from across the Harlem River in Manhattan (see Figure 7-2).

C. EXISTING CONDITIONS

PROJECT AREA

URBAN DESIGN

Yankee Stadium, Ruppert Place, and East 157th Street

The existing stadium occupies the full block bounded by East 161st Street, River Avenue, East 157th Street, and Ruppert Place. Constructed in 1922-23, the existing stadium is a concrete and steel open air structure built around a grass baseball field. The existing stadium stands approximately 130 feet tall on its western side, which is composed of triple tier grandstands. The eastern portion consists of a single deck of bleachers (see view 1 of Figure 7-3). Seating is primarily arranged in sections divided by concrete staircases that contain rows of metal chairs. There are also enclosed suite seats, as well as the press box, which is located behind home plate at the second tier level. There are large advertisements affixed to the wall above the bleachers seating.

The exterior of the existing stadium presents a rounded façade (see view 2 of Figure 7-3, Figure 7-4, and view 5 of Figure 7-5). On River Avenue, which consists of the bleachers seating, the façade has a smooth cladding above the ground floor with no windows (see view 3 of Figure

7-4). The ground floor, clad in concrete, has numerous street level openings, including a retail shop for team merchandise. Above the façade is a replica of a historical frieze that once adorned the stadium's third deck. Lights and flagpoles project above the façade.

The north, west, and south façades, which enclose the grandstand seating, are clad in concrete. Full height vertical piers of smooth concrete divide window bays. Between the piers, the façade is of textured concrete (see view 2 of Figure 7-3 and view 4 of Figure 7-4). Numerous openings, including for maintenance staff, the Yankee Clubhouse, Yankees offices and press entrances, patron entry "gates" and ticket windows, are on the ground level. The openings for the offices and ticket windows have small canopies; the "gates" consist of a series of openings sealed with roll down metal gates above which the gate numbers are prominently written. Above ground level, triple height round arched openings span the second through fourth stories of the existing stadium. These are infilled with louvers that are separated by concrete spandrels of a geometric design. Above this are blind square windows, also infilled with textured concrete. Below the parapet are additional openings with louvers. Above the façade projects the top of the grandstand, consisting of stepped seating supported by reinforced concrete ribs. The words "Yankee Stadium" are spelled out in large letters on the side of the grandstand facing west.

Around the perimeter of and attached to the existing stadium are three elevator/escalator towers which are located at the entrance gates of the stadium. These are located on the north (East 161st Street) façade between the grandstand and bleacher seating sections, at the southwest corner of the existing stadium at the corner of Ruppert Place and East 157th Street, and at the southeast corner of the existing stadium at the corner of River Avenue and East 157th Street. These structures, which provide access from the gates at ground level to seating in the existing stadium, have curved façades that are clad in alternating rows of concrete and glass (see view 2 of Figure 7-3 and view 3 of Figure 7-4). On East 161st Street, there is a small gap between the exterior façade of the bleachers seating and the elevator/escalator tower, which contains a maintenance entrance set within a low wall.

The sidewalks surrounding the existing stadium, which are wide in locations where the curve of the existing stadium creates a setback from the street, are paved in geometric patterns. Former East 157th Street, a pedestrian walkway, is also paved in this manner between Ruppert Place and River Avenue (see view 4 of Figure 7-4). A number of rectangular concrete planters are placed along the sidewalks surrounding the stadium. There are also a few benches on East 161st Street. A 138-foot-tall replica of a baseball bat, standing bat side down, is located at the southeast corner of former East 157th Street and Ruppert Place (see view 6 of Figure 7-5).

West of the existing stadium is an approximately 60,000-square-foot surface parking lot (see view 5 of Figure 7-5). It is situated between concrete handball courts associated with Macomb's Dam Park to the north (described below); Ruppert Place, a one-way street to the east that separates this lot from the existing stadium and which extends north-south between East 157th and East 161st Streets; East 157th Street to the south; and the Major Deegan Expressway access ramps to the west. The paved lot has rows of parking spaces and is enclosed by a chain-link fence with vehicular gates on Ruppert Place.

Macomb's Dam Park Sites, Macomb's Dam Bridge Approach, John Mullaly Park Site, and East 162nd Street

The project area contains three parcels that make up Macomb's Dam Park. These are located north and south of East 161st Street and east and west of Jerome Avenue/Macomb's Dam Bridge Approach. The parcel adjoining the existing Yankee Stadium parking lot (described above) to the north is sunken and at a lower elevation than most of the surrounding roadways—Ruppert

Place, East 161st Street, the Macomb's Dam Bridge Approach, and the Major Deegan Expressway; it is located approximately 20 feet below the Macomb's Dam Bridge Approach roadway. It primarily contains two baseball fields that are enclosed by a tall chain link fence (see view 7 of Figure 7-6). There are rows of low bleachers facing the field along the northern edge of the larger field on the north portion of the site. South of the field are approximately one-story concrete walls and paved surfaces that serve as handball courts. To the east along Ruppert Place are several paved basketball courts, also enclosed by a chain link fence and with small bleachers. These courts are at a higher elevation and accessed by a wide and shallow flight of stone stairs. The northeast corner of the site contains a one- to two-story red brick park building, or "field house," with a peaked roof (see view 8 of Figure 7-6). This building is set back at an angle from the southwest corner of East 161st Street and Ruppert Place behind paved walkways with small landscaped areas (see view 9 of Figure 7-7). There are similarly landscaped areas with benches behind the building in the park (see view 7 of Figure 7-6). In this portion of the park, the land slopes upward sharply to the north to East 161st Street. This results in the Ruppert Place/East 161st Street façade of the building being one story and the park façade of the building being two stories. Sets of stairs with metal railings provide access on either side of the building from East 161st Street and Ruppert Place to the recreation areas below (see view 8 of Figure 7-6). Located mostly along the perimeter of the site are large, approximately 40-foot-tall leafy trees.

West of Jerome Avenue/Macomb's Dam Bridge Approach is one irregularly shaped parcel that is also part of Macomb's Dam Park. Bounded by East 161st Street, Jerome Avenue, the Macomb's Dam Bridge Approach, and the Major Deegan Expressway ramp, this parcel primarily contains a flat and large surface parking lot that is also located at a lower elevation than most of the surrounding elevated roadways, including approximately 20 feet below the elevated Macomb Dam Bridge Approach structure, but at the same grade as East 161st Street (see view 10 of Figure 7-7). There is also a small one-story structure near Jerome Avenue. The Macomb Dam Bridge Approach between East 161st Street and Major Deegan Expressway is carried on a metal truss set on stone piers.

The large block across East 161st Street from the existing Yankee Stadium and bounded by East 162nd Street, River Avenue, East 161st Street, and Jerome Avenue/Macomb's Dam Bridge Approach, contains outdoor athletic facilities associated with Macomb's Dam Park. These include a large track, athletic field, and several baseball fields. The track, which is oval-shaped, occupies roughly the eastern half of the block along River Avenue (see view 12 of Figure 7-8). It encircles a grassy field that is used for a variety of sports such as soccer. To the west are two baseball diamonds that are surrounded by grassy areas.

Separating this portion of Macomb's Dam Park from John Mullaly Park to the north is East 162nd Street. This street extends east-west between Jerome and River Avenues. It carries two-way traffic and has curbside parking. Concrete sidewalks line both sides of the street, which are planted with smaller street trees than those found in Macomb's Dam Park. The block north of East 162nd Street and bounded to the east by River Avenue, to the west by Jerome Avenue, and to the north by East 164th Street, contains a portion of John Mullaly Park. Occupying the majority of this block along East 164th Street and Jerome Avenue are 16 paved tennis courts. Along East 164th Street, the tennis courts are two rows deep. These are surrounded by chain link fencing; black netting is used to separate the rows of courts. The tennis courts are enclosed in inflatable structures in the winter and bounded by a few small, one-story brick buildings to the west (see view 13 of Figure 7-9). There are a number of concrete handball courts along River Avenue. This portion of John Mullaly Park has large, approximately 40-foot-tall mature trees at its perimeter. On East 164th Street, which is a local street, these trees are planted in a narrow grassy area between the tennis courts and sidewalk. This area also contains standard wood and

concrete park benches, which face south to the tennis courts. Though located on the project block south of the handball courts, a one-story New York City Transit substation is not part of the project area.

Bronx Terminal Market Site

The project area includes a portion of the Bronx Terminal Market that is roughly bounded by Exterior Street, also known as Major Deegan Boulevard, to the east, the Harlem River to the west, Bronx Terminal Market Building F to the south, and the Major Deegan Expressway ramp to the north. This portion of the project area is occupied by three warehouses buildings—Buildings J, H, and G—that are associated with the Bronx Terminal Market, a wholesale food market. They are oriented north-south between Exterior Street and the Harlem River. The northernmost building, Building J, is a rectangular-shaped brick building that is somewhat set back from Exterior Street. It has a three-story central pavilion flanked by two-story end pavilions. This building has had most doorway and window openings sealed in concrete or cement brick. Graffiti also covers the first floor of the building and gives it a derelict appearance (see view 14 of Figure 7-9).

South of Building J, Building H is a long, narrow building approximately 450 feet long and 70 feet wide. Building G has similar dimensions and is located south of Building H. Both structures are built to Exterior Street and are similar in form, decoration, and massing. Each structure consists of a group of small, connected spaces within a reinforced concrete structure. The buildings are two stories, are unpainted, and have few decorative elements beyond a stucco corbel course running along the tops of the buildings (See view 15 of Figure 7-10). Large openings covered with metal grates are on the first floor facing Exterior Street, while large, multi-paned rectangular windows are on the second floor; some of these openings have been sealed. The buildings are partially occupied and are painted with signs advertising the vendors. Metal walkways placed at the second-story level connect the buildings. The spaces between the buildings are not landscaped and are strewn with garbage and debris. West of the buildings are unused, partially obscured railroad tracks running parallel to the buildings. Beyond the tracks the Harlem River piers are used for delivery truck parking with paved and unpaved areas that are rutted and not well maintained (see view 16 of Figure 7-10). Low, concrete Jersey barriers and chain-link fencing border the piers on the water. These conditions give this portion of the project area an industrial, rundown appearance.

Parking Lot Sites North of the Bronx Terminal Market and on River Avenue

Located along the Harlem River between the Bronx Terminal Market and the Macomb's Dam Bridge Approach are a series of interconnected parking fields. These are broad expanses of pavement that are bordered by chain-link fences along the river and a service road that borders the lots to the east (see view 17 of Figure 7-11). The parking lots extend out onto the Harlem River piers and therefore have an irregular edge along the river. Metal signs indicating that the parking lots are for use by Yankee Stadium visitors are posted at the entrances to the lots.

There are four parking lot sites on the east side of River Avenue. These are paved and are surrounded by chain-link fences. Two of these are located north and south of East 157th Street and two are located north and south of East 151st Street. The parking lot at the northeast corner of River Avenue and East 157th Street is a square, 100-by-100-foot parcel. The south wall of the building adjacent to the site on the north has been painted with a large mural of the existing Yankee Stadium, players' faces, and graffiti-type lettering, and has faded (see view 18 of Figure 7-11). The site at the southeast corner of River Avenue and East 157th Street is triangle-shaped.

Its western edge is bordered by the elevated subway structure that veers east of River Avenue and declines in elevation as it approaches a tunnel slightly south of the parking lot.

The parking lot bounded by East 151st Street to the south, the Metro-North Railroad tracks to the north, River Avenue to the west, and Gerard Avenue to the east, is a rectangle-shaped parcel of approximately 180 by 220 feet. There are two large light poles located at either ends of the parking lots, as well as a few trees (see view 19 of Figure 7-12). South of East 151st Street is a larger parking lot with an irregular shape. This parking lot also has tall light poles and has trees planted in a couple of rows across the site (see view 20 of Figure 7-12).

VISUAL RESOURCES AND VIEW CORRIDORS

Visual Resources in the Project Area

As described above, the project area consists of the existing Yankee Stadium, surface parking lots, outdoor recreational facilities and landscaped areas associated with Macomb's Dam Park and John Mullaly Park, as well as a portion of a wholesale food market. Due to its distinctive circular shape, size, and the prominent lettering on the façade that identifies the structure as Yankee Stadium, the existing stadium is a prominent visual landmark and wayfinder in the area.

The active recreation areas, such as playing fields, jogging track, paved basketball, handball, and tennis courts in Macomb's Dam Park and John Mullaly Park, do not contain unique natural features and are bounded by a variety of chain-link fences that are visually obtrusive. However, their wide open areas, the large rock outcropping in Macomb's Dam Park at the northeast corner of the Macomb's Dam Bridge Approach and East 161st Street, and the numerous mature trees that are located in portions of Macomb's Dam Park and John Mullaly Park, make these parks visual resources for the project area.

The parking lots north of the Bronx Terminal Market and along River Avenue are paved, and though a few of the lots on River Avenue contain trees, they do not constitute visual resources in the project area. The portion of the Bronx Terminal Market in the project area has an industrial and degraded appearance and also does not contain visual resources.

Views from the Project Area

Portions of the project area contain views to visual resources in the study area as well as other interesting views. Visual resources in the study area include the Harlem River, its bridge crossings and Manhattan waterfront, as well as views of the Bronx County Courthouse. The Harlem River is not visible from most locations in the project area, due to the distance of the sites from the Harlem River, intervening buildings associated with the Bronx Terminal Market, a railroad trestle, and elevated roads associated with the Major Deegan Expressway. However, the river is visible, though not easily accessible, from the waterfront behind the Bronx Terminal Market and paved parking lots that extend north of it, since these areas are located directly on the river (see view 21 of Figure 7-13). Views from these locations are impeded by the Oak Point Link rail connection, which runs on a trestle along the Harlem River parallel to the Bronx shoreline. The Manhattan skyline, consisting primarily of large, freestanding brick apartment buildings in Harlem, is also visible across the river due to its narrow width (see Figure 7-13).

Also visible, depending upon location, are two historic (early 20th century) river crossings. The decorative steel latticework of the Macombs Dam Bridge, a metal truss swing bridge that is a New York City Landmark, is visible from the piers behind the Bronx Terminal Market and the parking lots north of it (see view 17 of Figure 7-11 and view 21 of Figure 7-13). These include

views of the bridge span across the river and railroad tracks and its two metal trusses. Portions of the elevated approach, which begins just south of East 162nd Street, are also visible from the Macomb's Dam Park parcels south of East 161st Street, east and west of the Macomb's Dam Bridge Approach. These include views of, and views underneath, the Macomb's Dam Bridge Approach, including its steel truss supporting structure and stone piers. Also visible from these locations are the approach's stone retaining walls north of East 161st Street and stone bridge structure crossing East 161st Street, which are also noteworthy urban design features in the study area. Also visible from the south portions of the piers behind the Bronx Terminal Market is the 145th Street Bridge, also a metal truss swing bridge (see view 22 of Figure 7-13).

The triple-tiered structure of the existing Yankee Stadium restricts most views in and out. However, the lower wall of the bleachers section along River Avenue allows for views from within the existing stadium of the upper stories of the Bronx County Courthouse, an imposing limestone-clad building located between Walton Avenue and the Grand Concourse, between East 161st and East 158th Streets (see Figure 7-1 and view 1 of Figure 7-3). This 11-story building, a New York City Landmark (see Chapter 6, "Historic Resources" for further details), is designed in an austere, classical style, with decorative panels between the windows and carved figures at the roofline. Because of its height, large massing, and setting on a hill, this building is also visible from within Macomb's Dam Bridge Park and John Mullaly Park as well as from a number of locations in the study area as described in greater detail below.

In addition, the design of the existing stadium on East 161st Street, which contains a low wall with a maintenance entrance that is located between the elevator/escalator tower and curved wall surrounding the bleachers section, provides a small gap allowing for views into the existing stadium. These views consist of a sliver of the grandstand seating, and can be seen in views south from the portion of Macomb's Dam Park directly north of the existing stadium.

STUDY AREA

Generally, the study area is defined by its mixture of residential and commercial buildings, parking facilities, and transportation components including elevated viaducts that carry subways and major traffic arteries. Within the study area, River Avenue is a strong physical and visual divider between areas east and west by virtue of the elevated subway viaduct that runs above it. In addition, the urban design character of the study area differs east and west of River Avenue. To the east, the study area is developed primarily in a grid street pattern though several streets and the Metro-North Railroad right-of-way cut diagonally through the grid, creating irregularly shaped blocks in these locations. The blocks in this portion of the study area are mostly developed with a mix of mid-rise residential and commercial buildings, parking lots and garages. West of River Avenue to Jerome Avenue, the study area is dominated by irregularly shaped superblocks that include a portion of John Mullaly Park, the Bronx Terminal Market, and various parking lots and industrial sites bounded by viaducts and ramps associated with the Major Deegan Expressway by the Harlem River (see Figures 7-1 and 7-2). The topography of the study area generally slopes downward from Walton Avenue to the Harlem River and also gradually to the south. However, north and west of Jerome Avenue, the topography slopes sharply upward. The discussion below focuses first on the area's urban design—its basic layout and structures—and then describes its visual resources.

URBAN DESIGN

Topography and Natural Features

The most prominent (though not very visible) natural feature in the study area is the Harlem River. The river is narrow and separates this section of The Bronx from the north end of Manhattan. It is easily crossed via the 145th Street and Macombs Dam Bridges. The river is not easily accessible or visible from the Bronx waterfront within the study area, due to the presence of the elevated Major Deegan Expressway, buildings associated with the Bronx Terminal Market, and fenced parking lots located along the water.

Due to natural land formations and man-made changes, the topography of the study area varies. In general, the topography is hilly and slopes upward from the Harlem River to the east. This is most visible between River and Walton Avenues; north of East 161st Street the topography of the blocks between River and Jerome Avenues is flat. Northwest of Jerome Avenue and East 161st Street, the land slopes sharply upward on a hill. Large stone outcroppings are visible on the west side of Jerome Avenue, including an area across East 165th Street, which contains rusticated stone retaining walls and a staircase between Jerome Avenue and Anderson Avenue to the east (see view 23 of Figure 7-14). This area is identified in park signs as "Jerome Slope" and the hillside is landscaped with trees and small bushes. There is also a large stone outcropping in Macomb's Dam Park on the parcel north of East 161st Street and bounded by East 161st Street, Jerome Avenue, and the Macomb's Dam Bridge Approach. This is a triangle-shaped area with a gently sloping topography. It is landscaped with lawns, bushes and trees, and has winding walkways (see view 11 of Figure 7-8).

Other areas containing natural features are in the parks located in the study area. These include other portions of Macomb's Dam Park located on the north side of Jerome Avenue and other parks in the area. The areas along Jerome Avenue between Anderson Avenue and Sedgwick Boulevard are both paved and landscaped. Typical park benches are placed along the perimeter of the paved areas. A circular stone fountain, bounded by landscaped areas and including lawns and trees, is at the northwest corner of Jerome and Woodycrest Avenues (see view 24 of Figure 7-14).

There are a few landscaped areas in the south portion of John Mullaly Park that is bounded by Jerome and River Avenues and East 164th and East 165th Streets (most of this area is paved and is described below under "Streetscape"). They are located along the west end of the block along Jerome Avenue and contain lawns and mature trees. Large, mature trees also line both sides of Jerome Avenue and the sidewalks surrounding Macomb's Dam Park and John Mullaly Park between River and Jerome Avenues.

Farther south, the north portion of the block bounded by Gerard and Walton Avenues and East 153rd and 151st Streets contains a small extension of Franz Sigel Park; the remainder of this large park is located east of Walton Avenue outside the study area. The portion of the park in the study area consists of a sloping land form with stone outcroppings (see view 25 of Figure 7-15). It is landscaped with lawns and trees. A paved walkway at the northwest corner of the park provides access to an elevated and level paved area with park benches, a small jungle gym, and an elephant statue. There is also a smattering of smaller street trees on the sidewalks throughout the south portion of the study area.

Street Pattern, Street Hierarchy, and Block Shapes

River Avenue extends north-south through the study area. East of River Avenue, the street pattern is a confluence of a rectilinear street grid (with avenues running north-south and cross streets

running east-west) and a diagonal street pattern. The rectilinear grid streets consist of River, Gerard, and Walton Avenues and East 164th, East 161st, East 158th, East 157th, and East 150th Streets. The intersections of these streets create mostly rectangular blocks east of River Avenue. This grid intersects with a diagonal street pattern whereby several streets—East 162nd, East 153rd, and East 151st Streets—intersect the grid at an angle, creating irregularly sized and shaped blocks. West of River Avenue there is no defined street grid, and block shapes vary in size and shape.

East 161st Street is the major east-west thoroughfare through the study area. Near Yankee Stadium, East 161st Street is composed of a central roadway flanked by service roads. Between Ruppert Place and Gerard Avenue, the roadways are separated by Babe Ruth Plaza. West of River Avenue, the plaza consists of parking islands, planted with trees, that separate the roadways (see view 26 of Figure 7-15). East of River Avenue, Babe Ruth Plaza consists of paved and landscaped medians with trees.

West of Ruppert Place, the East 161st Street service roads connect to the Macomb's Dam Bridge Approach, an elevated structure that is described in greater detail below. The central East 161st Street roadway passes beneath the Macomb's Dam Bridge Approach structure and dead ends onto Jerome Avenue. East of River Avenue, East 161st Street is bustling with activity and pedestrians and is lined with numerous stores. The central East 161st Street roadway is carried in a tunnel that commences just west of Walton Avenue and proceeds under the Grand Concourse (see view 27 of Figure 7-16). The flanking roadways intersect Walton Avenue. East 164th Street is a narrower, local east-west street that contains numerous street trees and is less heavily-trafficked than other streets within the study area.

In addition to the streets, the study area contains four other major transportation components that are prominent urban design features in the study area. These consist of the elevated 4/B/D subway above River Avenue, the Major Deegan Expressway, the Oak Point link and Metro-North Railroad right-of-ways, and bridges crossing the Harlem River. A number of these are carried on viaduct structures as described below.

Elevated No. 4 Subway on River Avenue. The No. 4 subway trains travel above River Avenue on a steel truss structure. This structure casts River Avenue in shadow and also serves as a physical and visual barrier to areas east and west (see view 28 of Figure 7-16). The Yankee Stadium station at East 161st Street consists of a mezzanine level control area above East 161st Street with turnstiles and a manned token booth. This mezzanine is housed in a concrete structure that provides access to the street via enclosed staircases located in the medians (see view 29 of Figure 7-17). It also provides access to the station platforms—long, concrete structures that are partially overhung by metal shed roofs. Between the platforms is a wide area containing the subway tracks. Open air metal stairwells connect from River Avenue to the platform level south of East 161st Street. South of East 157th Street, the viaduct structure veers southeast in a diagonal trajectory, gradually descending to grade and entering the subway tunnel just north of East 153rd Street.

Major Deegan Expressway (I-87). The Major Deegan Expressway follows the Harlem River shoreline. This major transportation artery links areas north and south in New York State. South of the Macomb's Dam Bridge, the highway is carried on a steel frame viaduct over the width of Exterior Street (see view 30 of Figure 7-17). Access ramps, both at grade and elevated, including one that projects east to the Harlem River from East 153rd Street and another that extends south from the Macombs Dam Bridge, largely define the urban design character of the area north of the Bronx Terminal Market. North of the Macombs Dam Bridge, the Major Deegan Expressway is at grade along the Harlem River (see view 31 of Figure 7-18).

Railroads. As described above, the Oak Point Link rail connection extends along the Bronx shoreline on a wood trestle in the Harlem River. This narrow structure has low railings and is supported on concrete footings (see view 21 of Figure 7-13). To the east, the Metro-North Railroad extends diagonally through the southern portion of the study area in a deep cut. River, Gerard, and Walton Avenues are carried over the tracks on reinforced concrete bridges. The tracks are set in a gravel bed and are typically bordered by unstructured embankments with overgrown vegetation (see view 32 of Figure 7-18). Due to the topography that slopes down to the Harlem River, the tracks are at the same elevation as the waterfront west of River Avenue. At the Harlem River, the railroad tracks veer north and run parallel to the Major Deegan Expressway.

Bridges and Approaches. The 145th Street and Macombs Dam Bridges cross the Harlem River and are both early 20th century steel truss bridges. The 145th Street Bridge has one arched steel truss (see view 22 of Figure 7-13, above). The roadway is supported on large stone and concrete piers. The approach to the bridge is via East 149th Street, a wide street lined with restaurants and small retail shops. The Macombs Dam Bridge has two trusses of different configurations on the spans that cross the Major Deegan Expressway, Metro-North Railroad right-of-way, and Harlem River (see view 17 of Figure 7-11). It also has small control houses clad in stone with peaked roofs at the end of these spans. Pedestrian walkways are provided on both sides of the bridge. The bridge is approached by a long and curving viaduct structure commencing at East 162nd Street. From this point, the roadway proceeds to become an elevated structure as the surrounding land slopes down to the south, and is carried on stone retaining walls. As described above, at East 161st Street, the approach roadway in the project area becomes fully elevated and is carried across East 161st Street and portions of Macomb's Dam Park in the project area on a metal truss and stone piers (see Figure 7-26). Sets of stairs contained in a large stone structure that supports the Macomb's Dam Bridge Approach roadway over East 161st Street are located north and south of this street. The approach is located approximately 6 feet above Jerome Avenue and 16 feet above East 161st Street. West of the project area, the bridge crosses the Major Deegan Expressway, the Metro-North Railroad tracks, and the Harlem River. A network of elevated entrance and exit ramps carry traffic to and from this elevated structure and the Major Deegan Expressway.

Streetscape

The streetscape of the study area is urban in character with mostly narrow concrete sidewalks lining streets paved in blacktop. A few streets, including portions of Exterior Street and the portion of Cromwell Avenue that is at grade south of East 151st Street (the north portion of the street as it connects to East 153rd Street is carried on a concrete viaduct), are paved in Belgian block (see view 30 of Figure 7-17). Some of the areas on these streets are missing stones and have been paved over in blacktop (see view 14 of Figure 7-9). Street furniture in the study area generally includes standard metal streetlamps, traffic lights, fire hydrants, and bus shelters. As described above, there are street trees in the study area, though these are mostly full and dense on the streets surrounding the parks between River and Jerome Avenues and in the landscaped areas along the north side of Jerome Avenue. Trees and limited landscaping also make up Babe Ruth Plaza on East 161st Street. There are few street trees lining the industrial areas south of the existing stadium and west of River Avenue.

Other streetscape elements include playgrounds and monuments. The majority of John Mullaly Park on the block between River and Jerome Avenues and between East 164th and East 165th Streets contains large expanses of blacktop. The east end of the park contains low, fenced areas containing playground equipment, including jungle gyms and swings, and two swimming pools (see view 33 of Figure 7-19). The west end contains landscaped areas that surround a brick

recreation building, described in great detail below under Building Uses, Bulks, and Arrangements (see view 34 of Figure 7-19). A distinctive streetscape element in the study area is the 138-foot-tall baseball bat located near existing Yankee Stadium at the southeast corner of Ruppert Place/East 153rd Street and East 157th Street, which serves as a venting structure (see view 6 of Figure 7-5).

The streetwalls of buildings in the study area vary depending upon location. West of River Avenue, there is almost no streetwall since the blocks are primarily undeveloped. Exceptions include the Bronx Terminal Market buildings, which line both sides of Exterior Street north of East 150th Street (see view 30 of Figure 7-17), the four-story parking garage that fills the triangle-shaped parcel between River Avenue, East 157th Street, and East 153rd Street, and the one-story garage buildings that line the south side East 153rd Street between East 157th Street and Cromwell Avenue. The blocks between River and Walton Avenues generally possess a more consistent streetwall that is created by commercial and residential buildings that are built to the sidewalk. However, north of East 151st Street, most of the apartment buildings are separated by narrow side yards that are fenced, gated, or serve as delivery entrances. A number of these yards have been filled in with one-story commercial buildings. The streetwall is also broken in a number of locations by paved parking lots. South of East 151st Street, Walton Street contains rows of small rowhouses that share party walls and create a strong streetwall.

Pedestrian activity is heaviest along East 161st Street and on Gerard Avenue. Both streets contain numerous ground-floor shops and restaurants that serve the local residents, workers, and Yankee Stadium visitors. The intersection of East 161st Street and River Avenue is especially busy due to the subway station. During home games at the existing Yankee Stadium, the surrounding streets are crowded with people going to and from the existing stadium and parking areas. During this time, the normally mostly desolate streets south of the stadium and west of River Avenue become enlivened with people. When there are no baseball games, the area including and surrounding the Bronx Terminal Market is especially industrial and gritty, with pedestrian activity limited to employees loading and unloading produce at the market stalls.

Building Uses, Bulk, and Arrangements

North/East Study Area: Area North of East 153rd Street and East of River Avenue. Buildings in the east part of the study area do not vary significantly in size and configuration. Gerard and Walton Avenues are primarily lined with apartment buildings. These buildings are on both sides of Gerard Avenue south of East 161st Street and fill the entire west side of Walton Avenue between East 164th and East 153rd Streets. The buildings typically have square and rectangular footprints though buildings located at the intersections of the diagonal streets including at East 162nd and East 153rd Streets have modified plans that follow the street pattern. The buildings generally measure at least 100 by 100 feet, though many are larger. South of East 161st Street, many of the buildings are through-block structures, presenting façades on both Gerard and Walton Avenues. Most of the buildings are designed with exterior light courts. The buildings are typically five and six stories tall.

The buildings have flat roofs and are clad in brick (see Figure 7-20). They have limited ornamentation, which includes brick corbelling and patterning at the rooftop and between the windows. Some of the buildings have applied terra cotta ornament. The buildings all have exterior fire escapes. Of particular note is a complex of six-story apartment buildings—The Oxford Knolls—at the southern end of the block bounded by Gerard and River Avenues and East 157th and East 153rd Streets. These buildings have a picturesque appearance with rough

hewn stone foundation walls, stuccoed and patterned brick façades, decorative chimneys, and peaked roofs (see view 37 of Figure 7-21).

A number of the buildings on Gerard Avenue, mostly those located at the intersections of the east-west cross streets, have small, ground-floor retail spaces including grocery stores, restaurants, and laundromats (see view 35 of Figure 7-20). The residential buildings on East 161st and 157th Streets also have a variety of ground-floor shops. These typically have glass storefronts with brightly colored awnings above advertising for the name of the business.

East 161st Street between River and Gerard Avenues is primarily lined with one-story taxpayer buildings that contain stores. They are similar to the other small shops in the study area though some consist of extremely narrow spaces. One of the larger spaces, a McDonald's restaurant, is set behind an approximately 100-by-150-foot lot that contains an entrance to the 4/B/D subway on River Avenue.

The east side of River Avenue contains a variety of commercial and parking uses, which are housed in structures that vary in bulk and appearance, though most of the buildings do not exceed two stories. There are also a number of surface parking lots. A two-story parking garage fills the full block between East 164th and East 162nd Streets. Another four-story garage fills the block bounded by East 157th Street, East 153rd Street, and River Avenue. Both structures have extremely large footprints. The garages are similar in appearance, consisting of open air parking levels clad in concrete that give the buildings strong horizontal orientations. Both garages have rooftop parking and the roofs are bounded by metal fences. The southernmost parking lot has a concrete and glass pedestrian footbridge that spans from the garage over East 153rd to the parking fields located along the Major Deegan Expressway and Harlem River (see view 6 of Figure 7-5). The blocks between East 161st and East 157th Streets contain mostly plain, brick-clad commercial buildings of one and two stories. Farther south, the blockfront between East 157th and East 153rd Streets contains an apartment complex and a large surface parking lot that is triangle-shaped. The northern edge of the parking lot is formed by the subway viaduct structure which veers to the east from above River Avenue into a subway tunnel just east of the parking lot. The southern end of the block is occupied by the complex of six-story brick and stucco-clad Oxford Knolls apartment buildings described above.

South/East Study Area: Area South of East 153rd Street and East of River Avenue. The blocks east and west of Gerard Avenue between East 153rd and East 151st Streets are bisected by the Metro-North Railroad right-of-way. North of the right-of-way, the blocks contain a park and a one-story building respectively. The extension of Franz Sigel Park, located north of the tracks between Gerard and Walton Avenues, is described above. South of the tracks the block contains a one- and two-story red brick building complex that includes the Bronx Emergency Assistance Unit at the northwest corner of Walton Avenue and East 151st Street. These buildings have flat roofs, few windows and a number of ground floor openings that are sealed with metal roll-down gates. The entrance to the Emergency Assistance Unit is covered by a blue awning. To the west, the north end of the block bounded by East 153rd Street, the railroad tracks, and Gerard and River Avenues, is occupied by a plain, grey-brick clad building with a flat roof. South of the tracks the block contains a surface parking lot that is in the project area and is described above.

South of East 151st Street, the east side of River Avenue and both sides of Gerard Avenue are lined with parking-related and industrial uses. Midblock between Gerard and River Avenues is a large parking lot bounded by a chain-link fence and surrounded by trees. The south end of this block fronting on East 150th Street contains a square, brick industrial building. This two-story structure has a flat roof, ground-floor loading bays with metal roll-down gates, and is painted a

bright combination of red, white, and blue (see view 38 of Figure 7-21). The east side of Gerard Avenue contains several one-story structures. At the southeast corner of East 151st Street and Gerard Avenue is a small one-story concrete commercial building. It has a chamfered (diagonal) corner with several barred windows and ground floor openings secured with metal gates. Farther south are a number of industrial and auto-repair buildings, including one with a peaked corrugated metal roof and a long one-story brick garage. These typically have large openings to allow vehicles to enter the repair shops and are in fair condition, with some broken windows and graffiti.

The west side of Walton Street south of East 151st Street differs considerably in urban design from Gerard and River Avenues, as it is lined with small residential buildings (see view 39 of Figure 7-22). These consist of two- and three-story attached rowhouses that date to the late 19th century. They are clad primarily in brick and have decorative cornices and stone stoops. The house at the southwest corner of East 151st Street and Walton Avenue has part of its façade turned at an angle.

South/West Study Area: Area South of Jerome Avenue and East 153rd Street, West of River Avenue. This portion of the study area is dominated by the Bronx Terminal Market complex and the former Bronx House of Detention. As described above, the Bronx Terminal Market buildings line both sides of Exterior Street. These consist of Buildings F and B on Exterior Street and Building C between Cromwell and River Avenues. Buildings F and B are two-stories and are similar in form, decoration, and massing as Buildings G and H in the project area and described above. Building F is located at the northwest corner of Exterior Street and East 150th Street and is an approximately 350-foot-long and 75-foot-wide structure. Building B is a much longer building that is mostly slightly set back from Exterior Street, measuring approximately 850 feet long by 50 feet wide. North of Building B is a large area surrounded in decrepit wood fencing. This site contained another Bronx Terminal Market Building (Building A) which was recently demolished.

Building C is a very large one-story warehouse building. Built of brick and concrete block, it fills approximately the southern ⅔ of the block bounded by East 150th and East 151st Streets and Cromwell and River Avenues (see view 38 of Figure 7-21). On Cromwell Avenue, it has groups of ground-floor delivery entrances. On River Avenue, the building has a few barred windows and ground floor openings, but primarily presents a blank façade to this street.

Just north of Bronx Terminal Market Building C is the former Bronx House of Detention, an eight- to 10-story, rectangular building (see view 38 of Figure 7-21). The building extends through-block with an approximately 300-foot frontage on River and Cromwell Avenues. It has a 10-story central pavilion that is flanked with 8-story wings. The building is faced in grey brick and stone. An eight-story addition to the building is perpendicular to the original structure on its west, Cromwell Avenue, façade. The building is presently covered in construction netting and there are sidewalk sheds located in front of it on River Avenue.

The only other structure in this area is a one- and two-story building on the south side of East 153rd Street between East 157th Street and Cromwell Avenue. It is clad in brick with vehicular loading entrances and with a peaked shed-like roof. The building fronts on East 153rd Street for approximately 475 feet and is approximately 175 feet wide. Its rear façade faces the Metro-North Railroad right-of-way. East and west of it are fenced paved parking lots. As described above, the portion of the study area west of the project area that is south of Jerome Avenue and north of the Bronx Terminal Market complex contains the Metro-North Railroad right-of-way and the numerous roadways and access ramps associated with the Major Deegan Expressway.

North/West Study Area: Area North and West of Jerome Avenue and North of East 164th Street. The portion of the study area northwest of Jerome Avenue is primarily a residential district developed with attached and semi-detached apartment houses. There are a few exceptions, including a church, commercial buildings, and a large institutional building. The residential buildings that line Jerome, Anderson, Woodycrest, and Ogden Avenues vary somewhat in age, footprint, and height. Most of the buildings date from the late 19th century through the mid-1930s. Many are designed with exterior light courts that are either located along the sides of the buildings or are recessed areas on the main façades. The buildings' footprints range from as small as 27 by 100 feet on Anderson Avenue to 75 by 350 feet on Jerome Avenue. They range in height from 4 to 11 stories.

The apartment buildings on Jerome Avenue follow the curve of the street. A large, 10-story apartment building, The Park Plaza Apartments, is located at 1005 Jerome Avenue across East 164th Street (see view 40 of Figure 7-22). Dating from the 1930s, this brick building is designed in the Art Deco style with towered structures at the roofline and eye-catching multi-chromed terra cotta ornament. To the south at 1001 Jerome Avenue is a more simply designed 11-story buff brick apartment building dating to a similar time period. The remainder of the Jerome Avenue frontage is occupied by a small one-story car repair shop and a six-story apartment building. The repair shop abuts an undeveloped area that contains a large outcropping that separates the shop from 1001 Jerome Avenue. The shop is a concrete building with vehicular openings with roll-down metal gates. South of the repair shop, a six-story apartment building at 941 Jerome Avenue occupies the remainder of the Jerome Avenue frontage to the corner with Anderson Avenue. This building, clad in buff-colored brick, has a triple arched stone entryway on Jerome Avenue and several fire escapes on its façade.

Due to the sloping topography, most of the buildings on Anderson Avenue are at a higher elevation than those on Jerome Avenue. These include a row of four- and five-story brick apartment buildings on the east side of the street. These typically have some stone ornament and cornices at the roofline. The row is broken at 948 Anderson Avenue by a two-story commercial building with small shops.

Between Anderson and Woodycrest Avenues is a large, institutional building that originally housed a charitable home for needy children and now serves as an AIDS health facility. Built at the turn of the 20th century, the building is a large brick and stone mansion-like structure built on a hill (see view 41 of Figure 7-23). It has an arched main entrance and windows, rounded bay windows, and a pitched roof with dormer windows. A surface parking lot enclosed by a high chain-link fence capped with barbed wire is in front of the building on Anderson Avenue. Farther west, the block between Woodycrest and Ogden Avenues mostly contains several five- to eight-story brick apartment houses. There is also a picturesque two-story church on the west side of Woodycest Avenue at 927 Woodycrest Avenue. It is clad in grey brick with arched stained glass windows and entryways and a peaked central gable.

As described above, the area of John Mullaly Park north of East 164th Street between Jerome and River Avenues contains paved areas with pools and playground equipment along River Avenue, as well as landscaped areas along Jerome Avenue. Also located on Jerome Avenue is a two-story recreation building. This building has a rectangular footprint and is set back behind Jerome Avenue behind landscaped areas with benches. It is clad in red brick with large arched windows. Entrances to the building facing Jerome Avenue are located at projecting bays at either end of the building and have elaborate arched stone surrounds.

VISUAL RESOURCES AND VIEW CORRIDORS

There are a number of visual resources in the study area. These consist of natural features where they are visible, including the Harlem River and its shorelines and geologic formations such as those on Jerome Avenue, in Macomb's Dam Park and in the Franz Sigel Park extension. The Harlem River and its Manhattan and Bronx waterfronts are prominent in panoramic views from the 145th Street and Macombs Dam Bridges (see view 43 of Figure 7-24). The river and its Manhattan shoreline may also be seen in the study area from the Macombs Dam Bridge access ramps, including views of the elevated Harlem River Drive and apartment buildings and large brick housing complexes beyond it in Harlem (see view 42 of Figure 7-23). These features are also visible from the piers behind the Bronx Terminal Market and from the existing Yankee Stadium parking fields north of the Bronx Terminal Market (see Figure 7-13 and view 17 of Figure 7-11).

Conversely, the Bronx shoreline can be seen from the Manhattan shoreline, and includes such prominent structures and buildings as the Major Deegan Expressway, the existing Yankee Stadium, the Bronx County Courthouse, and the former Bronx House of Detention (see view 44 of Figure 7-24 and view 45 of Figure 7-25). These structures are visible from the Harlem River Drive, as well as from elevated locations in Harlem above the Harlem River Drive, such as the landscaped areas at the Harlem River Houses and Frederick Johnson Playground at Adam Clayton Powell Junior Boulevard and West 153rd Street, and from the Esplanade Gardens apartment complex at Lenox Avenue (Malcolm X Boulevard) and West 147th Street.

Macomb's Dam Park and John Mullaly Park also constitute visual resources, as these two adjacent parks provide views of a continuous, open, and landscaped area that stretches for several blocks between the existing stadium and McClellan Street. Additional visual resources consisting of landscaped areas in the study area also include chiefly the portions of Macomb's Dam Park that include the triangular parcel bounded by Jerome Avenue, the Macomb's Dam Bridge Approach, and East 161st Street, as well as along the north side of Jerome Avenue between Anderson and Sedgwick Avenues; Jerome Slope on the west side of Jerome Avenue at East 165th Street; the landscaped portion of John Mullaly Park between Jerome and River Avenues and East 164th and East 165th Streets; and the extension of Franz Sigel Park on the south side of East 153rd Street between Gerard and Walton Avenues (see view 24 of Figure 7-14 and view 25 of Figure 7-15). They also include views of landscaped areas outside the study area, such as the elevated Franz Sigel Park, located on the east side of Walton Avenue south of East 158th Street, and Joyce Kilmer Park, located north of East 161st Street. From within the study area, specifically from Walton Avenue and in views north on East 157th and East 153rd Streets, the sloping embankment of Franz Sigel Park is visible. This area is landscaped with mature trees and a wide walkway takes pedestrians from the sidewalk on Walton Avenue to the top of the park (see view 46 of Figure 7-25). Joyce Kilmer Park is also visible from Walton Avenue and East 161st Street, and consists of gently sloping lawns interspersed with walkways and statues. Jerome Avenue, which is a wide curving road, also provides long and sweeping views. Views to the southeast take in the open spaces on Macomb's Dam Park and John Mullaly Park in the project and study areas, including the mature trees at the perimeters. Views carry across these open spaces, taking in the River Avenue viaduct and buildings located beyond it, and Yankee Stadium.

Structures of aesthetic, engineering, and historic value also make up visual resources in the area. These include views of the Macomb's Dam and 145th Street Bridges, including their decorative metal trusses and heavy stone supports (see view 17 of Figure 7-11 and Figure 7-13). The most

visually impressive elements of the Macombs Dam Bridge are its spans across the Major Deegan Expressway, Metro-North Railroad right-of-way, and the Harlem River, which contain the two truss structures (see view 43 of Figure 7-24). Portions of the approach structure itself, including the roadway and its supports between the Major Deegan Expressway and East 162nd Street (including the supporting truss structure beneath the roadway south of East 161st Street and stone bridge structure across East 161st Street) also constitute urban design elements in the area that are of visual interest (see Figure 7-26).

Visual resources also include such historic structures as the mansion building on Woodycrest Avenue that houses an AIDS facility, the Park Plaza Apartments at 1005 Jerome Avenue, the small church at 927 Woodycrest Avenue, and the Oxford Knolls apartment buildings on East 153rd Street between River and Gerard Avenues (see view 40 of Figure 7-22, view 41 of Figure 7-23, and view 37 of Figure 7-21).

The former Bronx House of Detention and the Bronx County Courthouse serve as visual landmarks, or wayfinders, in the study area. These consist of the Bronx County Courthouse, located just outside the study area on a hill, and the former Bronx House of Detention in the study area. Both structures tower over the generally low-rise fabric of the study area. The Bronx County Courthouse is either fully or partially visible from a number of locations in the study area. These locations include from the subway platforms above River Avenue, Walton Avenue, East 161st Street, and Manhattan (see view 45 of Figure 7-25). Due to its size and situation on elevated land, the Bronx County Courthouse is also visible above the River Avenue viaduct and low-rise buildings beyond it from Jerome Avenue, across the portions of Macomb's Dam Park and John Mullaly Park in the project area. The Bronx County Courthouse is also visible from areas in the south portion of the study area. Besides being clearly visible from River and Cromwell Avenues, it can be seen from Exterior Street, East 151st Street, Gerard Avenue, the 145th Street Bridge, and the Manhattan waterfront. Also of visual interest is the 138-foot-tall baseball bat at the corner of East 157th and East 153rd Streets. The bat can be seen from as far away as the intersection of Gerard Avenue and East 153rd Street and the intersection of Walton Avenue and East 157th Street (see view 37 of Figure 7-21).

Prominent visual corridors are created by the various elevated transportation elements in the study area. Panoramic views of The Bronx and Manhattan are available to motorists on the Major Deegan Expressway. In addition, views of The Bronx and tall buildings in Manhattan are visible from passengers traveling on the No. 4 subway above River Avenue. The existing Yankee Stadium is prominently visible from the Major Deegan Expressway. It is also visible at the south end of the subway platforms above River Avenue. From this vantage point, the primarily blank (east) façade of the stadium that contains the bleacher seating is visible, above which is the back side of the replica decorative frieze. Also visible is a portion of the East 161st Street circulation tower, the top of the right field grandstand, and other elements that project above the stadium's façade including lights and flag poles (see view 3 of Figure 7-4).

At ground level, the visibility of the project area differs based on site location, topography, and urban design. With the exception of the existing Yankee Stadium, which is by far the most visible component of the project area, most of the project area sites are primarily visible from the immediately surrounding roadways. Besides being visible from East 161st Street, River and Jerome Avenues, and the Macomb's Dam Bridge Approach, the portions of Macomb's Dam Park and John Mullaly Park in the project area are also visible from Anderson, Woodycrest, and Ogden Avenues, which are located north of Jerome Avenue on a hill. The portion of the project area containing John Mullaly Park is also visible in views south from John Mullaly Park north of

East 164th Street. From this location, which contains active recreation uses including swimming pools, handball and basketball courts, and playgrounds, the trees lining the north edge of the park (on the south side of East 164th Street) are visible. The visibility of the tennis courts varies during the seasons. When not enclosed, the tennis courts are mostly shrouded by the dense tree cover. During the winter, the inflatable structures covering the courts are more visible, due to both their size and the reduction in foliage (see views 33 and 34 of Figure 7-19). The visibility of these sites east of River Avenue and south of East 157th Street is limited since either intervening buildings or elevated roadways obstruct views.

The portions of the project area that contain the Bronx Terminal Market buildings and parking fields to the north along the river are at a substantially lower elevation than areas to the east, since the land slopes upward on a hill from the Harlem River. This portion of the project area is heavily screened from view in the study area by the Major Deegan Expressway elevated structures and by other Bronx Terminal Market buildings located on the east side of Exterior Street and on Cromwell Avenue. The parking lot sites on River Avenue that are located north and south of East 157th Street are only visible from East 157th Street and River Avenue. To the west, the elevated subway structure blocks views. To the east, the six-story apartment buildings that abut the sites block views from areas further east, including Gerard and Walton Avenues.

The parking lot sites north and south of East 151st Street generally have a greater visibility as they occupy entire blockfronts and development in this area is primarily limited to short auto-repair shops, parking lots, and other low-rise commercial buildings. Besides being visible from the immediately surrounding streets, these sites are also visible from the extension of Franz Sigel Park west of Gerard Avenue and south of East 153rd Street.

The existing Yankee Stadium itself is visible from many locations, and serves as a visual landmark in the area, as do the Bronx County Courthouse and former Bronx House of Detention. However, Yankee Stadium's visibility is restricted mostly to areas west of the existing stadium where the elevated subway on River Avenue does not obstruct views. The existing stadium is clearly visible from Jerome Avenue across Macomb's Dam Park, from the Macombs Dam Bridge, and from waterfront areas in Harlem. It is also visible in views on River Avenue from as far south as East 150th Street and from the subway platforms above River Avenue (see view 38 of Figure 7-21).

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

PROJECT AREA

In the future without the proposed project, it is assumed that the same conditions as currently exist in the project area will continue.

STUDY AREA

URBAN DESIGN

By 2009, the Gateway Center at Bronx Terminal Market will be developed on the portion of the Bronx Terminal Market site located east of Exterior Street as well as the Bronx House of Detention. This consists of the areas east of Exterior Street south of the Metro-North Railroad right-of-way, and the blocks between the Metro-North Railroad right-of-way and East 150th Street between Cromwell and River Avenues. This proposed retail project will contain several new stores, parking garages, and parking lots. It will alter the street pattern and block shapes in the

study area by merging the parcels east of the Major Deegan Expressway with portions of Cromwell Avenue and East 150th and East 151st Streets into one large superblock site. It will alter the streetscape and building uses, bulk and arrangement in this portion of the study area by removing several buildings on the site—namely Buildings B and C of the Bronx Terminal Market and the former Bronx House of Detention—and surface parking lots and vacant parcels, and replacing these uses with new buildings of different uses, design, bulk and configuration. The proposed new retail and garage buildings are planned with very large footprints, with the buildings to be located between Exterior Street, River Avenue, East 150th Street, and the Major Deegan ramp north of the Bronx Terminal Market, measuring approximately 900 feet by 800 feet. Buildings would range from approximately 40 to 100 feet in height. The Gateway Center at Bronx Terminal Market project will retain Building D of the Bronx Terminal Market for adaptive reuse as a retail building.

NYCDPR will construct a new waterfront park on Pier 4 south of the project area. Development of this park would presumably require the demolition of Building F of the Bronx Terminal Market and would dramatically change the urban design of this portion of the study area from one consisting of an industrial and run-down building and pier to one containing a new park anticipated to contain such public amenities as landscaping, benches, and lighting.

Also planned for development in the study area is the expansion of the existing Bronx Emergency Assistance Unit, located at the northwest corner of Walton Avenue and East 151st Street. This will result in the construction of a new 60,000-square-foot facility at that location that would alter the streetscape on Walton Avenue and East 151st Street and alter building bulk and arrangement on the site.

VISUAL RESOURCES

The proposed demolition of the Bronx House of Detention would remove a visual landmark in the south portion of the study area. This will render the Bronx County Courthouse more prominent on the Bronx skyline and alter views from the 145th Street Bridge and the Harlem waterfront to the southern portion of the study area.

Creation of a portion of a new waterfront park south of the project area on Pier 4 between the Harlem River and Exterior Street is expected to create an attractive location along the Bronx waterfront that will provide greenery such as trees and lawns in an area where no vegetation is currently present. It will also provide a new location to view such prominent yet little accessible visual resources as the Harlem River, the bridges that cross it, and the opposite Manhattan shoreline. While it is not expected that this development will be particularly visible from areas in The Bronx due to its visually isolated location west of the elevated Major Deegan Expressway, it will be visible from the 145th Street Bridge and the Harlem waterfront.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

PROJECT AREA

URBAN DESIGN

The proposed master plan for the project encompasses three primary elements: (1) a new Yankee Stadium, (2) recreational facilities in Macomb's Dam Park, John Mullaly Park, and in a portion of the Bronx Terminal Market, to replace those to be removed by the proposed project, and

(3) new parking garages (see Figures 7-27 and 7-28). The proposed Yankee Stadium would be developed on the blocks north of East 161st Street between River and Jerome Avenues and south of East 164th Street. New recreational facilities would be built primarily on the blocks south of East 161st Street between River Avenue, the Macomb's Dam Bridge Approach, the Major Deegan Expressway, and East 157th Street. They would also be developed in tandem with parking facilities on the Macomb's Dam Park parcel bounded by the Macomb's Dam Bridge Approach, East 161st Street, Jerome Avenue, and the Major Deegan Expressway, on River Avenue, and at the Bronx Terminal Market site on the Harlem River waterfront. Additional parking facilities would be developed at the Bronx Terminal Market site and on River Avenue at East 151st Street.

Proposed Yankee Stadium

The blocks consisting of the portions of Macomb's Dam Park and John Mullaly Park north of East 161st Street would be redeveloped with the proposed Yankee Stadium (see Figures 7-27 and Figures 7-29 through 7-33). The development of the proposed stadium would require the demapping of East 162nd Street between River and Jerome Avenues and the consolidation of affected blocks north and south of East 162nd Street as one superblock. It would also remove the existing Macomb's Dam Park and John Mullaly Park recreational facilities located on the site. These include baseball fields, an athletic field, and an athletic track in Macomb's Dam Park and tennis courts and handball courts in John Mullaly Park. It would also require the removal of large mature trees that are at the perimeter of the parks as well as a natural feature in the project area—the rock outcropping located at the northeast corner of the Macomb's Dam Bridge Approach and East 161st Street. Impacts to these visual resources are described in greater detail below under "Visual Resources."

Within this area, the proposed stadium would occupy most of the site. Though it would have a somewhat larger footprint, the design of the proposed stadium would evoke that of the existing stadium and incorporate design elements from the original 1923 stadium design as well as the existing stadium. Aspects of the proposed stadium that would be similar to the existing facility include the following:

- The proposed stadium would be an open-air facility (see Figure 7-30);
- The ballfield would be positioned in the same orientation as the existing Yankee Stadium, e.g., with home plate positioned at the west corner of the site and with the same dimensions.
- The height of the proposed, six-level stadium would be approximately the same as the existing stadium, which is approximately 138 feet tall.
- The design would contain an exterior shell that would wrap around the proposed stadium, e.g., playing field and grandstand area (see Figure 7-30).
- Grandstand seating would be located at the west end of the proposed stadium, with lower bleacher seating along River Avenue, as is the case at the existing stadium.
- Monument Park would be recreated and would be designed to match, as closely as possible, its location and configuration at the existing Yankee Stadium. This area, to be located outside the center field wall, would be accessible to the public (see Figure 7-31).

Conceptually, the proposed stadium design envisions an exterior façade of concrete, stone, and glass that would wrap around the playing field and seating stands (see Figures 7-30 and 7-32). At approximately 80 feet in height, it would be composed of repeating four-story arched window

arcades that evoke the existing stadium design and are still visible on its exterior. Entrances to the stadium would be via projecting bays that would also be arcaded, with the main stadium entrance positioned at the corner of Jerome Avenue and East 161st Street and with another large entrance at the corner of River Avenue and East 161st Street. A Yankees store would also be located at street level and be accessible to the public from the street as well as from inside the proposed stadium.

Similar to the existing stadium, the curved seating of the proposed stadium would project above the exterior masonry façade (see Figures 7-29, 7-30 and 7-32). This "interior" part of the proposed stadium, which would include outdoor seating, enclosed V.I.P boxes and the press box, would be built of steel and glass. It would be capped by a reproduction of the original 1923 tin frieze that is presently replicated above the scoreboard in concrete at the existing stadium.

Surrounding the proposed stadium on River and Jerome Avenues and on East 161st Street would be large pedestrian gathering areas that would include decorative paving, landscaping, and other amenities such as seating areas and sculpture (see Figures 7-30, 7-32, and 7-33).

The proposed stadium's ballfield/sports lighting design would include (600) 2000 Watt metal halide event fixtures and (64) 1000 Watt housekeeping fixtures arranged in a linear, two-fixture stacked rack that would run across the top of the stadium canopy, and three-fixture stacked sections in far left and right outfield, also across the top of the stadium canopy. These lighting racks would appear similar to the existing stadium light racks. During a night game the field illumination would be roughly an average of 275 foot-candles, while in a non-game mode the level would drop to about 5 foot-candles (foot-candle is a measure of illuminance and is commonly used to measure how brightly a surface is illuminated). The fixtures would be directed downwards or otherwise shielded and contain glare control optics and accessories such as internal arc tube shields or external visors to minimize spill impact to the surrounding areas, both in close proximity to the ballpark and as viewed from a distance. All exterior lighting including the field, seating bowl, façade, and site fixtures would be controlled in functional zones through the stadium's lighting control system. Lighting would be selectively controlled in discrete sections throughout the stadium such that various physical areas could be illuminated independent of others. Similarly, the level of illumination would be independently controlled in these functional zones. The system would include programming capabilities to automatically turn off unnecessary lights at preset times for event and non-event periods.

New Recreational Facilities

The portion of the project area south of East 161st Street and bounded to the east by River Avenue, to the west by the Macomb's Dam Bridge Approach and the Major Deegan Expressway, and to the south by East 157th Street, would be developed with a continuous area of new parkland, with outdoor recreational uses to be partially built above a new parking garage that is partially below-grade (see Figures 7-27, 7-28, and 7-34). To accomplish this, the two blocks located east and west of Ruppert Place would be reconfigured into one larger superblock site. Due to the construction of a partially below-grade parking garage (Parking Garage A, which is discussed in greater detail below), the depressed grade of the portion of the site west of Ruppert Place would be raised by approximately 20 feet to the level of the Macomb's Dam Bridge Approach and Ruppert Place. The existing two baseball fields, basketball courts, handball courts, and park field house west of Ruppert Place would be removed. Also to be removed would be mature trees that are mostly located at the perimeter of this park area. This area would be redeveloped with active recreation uses including a large oval athletic track and soccer field, surrounded by spectator stands. The track and soccer field would occupy most of the site. South of the track and bordered by the Major Deegan Expressway and East 157th Street

would be a little league field and handball courts. The area north of the track and bordered by the Macomb's Dam Bridge Approach would include several open air basketball and tennis courts.

Ruppert Place would be mostly retained in its original path but converted to 1.13 acres of new parkland. This new parkland would be designed and used as a public passive park and renamed "Ruppert Plaza." The design of Ruppert Plaza would include trees, benches, and pedestrian walkways. East of Ruppert Place, the majority of the existing Yankee Stadium structure would be demolished. The existing Yankee Stadium baseball field would be retained as a publicly accessible baseball field, with the dugouts and some portions of the west grandstands also to be retained. The remainder of the existing stadium, consisting of portions of the east grandstands, the three elevator/escalator towers, and the bleachers seating, would be removed. The remainder of this parcel would be landscaped with lawns and other plantings and a new public plaza would be built around the perimeter of the site.

Additional recreational facilities would be created in other portions of the project area. These include 14 new outdoor tennis courts and a covered pavilion to be built on the roof of a parking garage (Parking Garage "C") to be developed on the Macomb's Dam Park parcel west of the Macomb's Dam Bridge Approach (see Figure 7-27). As described above, this site, which is bounded to the north by the Macomb's Dam Bridge Approach, to the south by East 161st Street, and the west by the Major Deegan Expressway, currently contains a surface parking lot that would be removed. New passive park areas to include decorative paving, plantings, and seating would replace surface parking lots on the east side of River Avenue north and south of East 157th Street (see Figure 7-27). The north parcel would also contain sculptured play elements.

In addition to the active recreational facilities described above, a new approximately 0.3-acre public passive open space would be developed at the east and west ends of proposed Parking Garage B (described in greater detail below). This area would contain such amenities as grass and trees. The proposed project seeks to retain as many as possible of the mature trees located along the curb-line at the perimeter of John Mullaly Park on East 164th Street, Jerome Avenue, as well as the rest of the project area.

The proposed project would result in the construction of a new waterfront park with one little league field and one softball field on the west side of Exterior Street at the Bronx Terminal Market in the area of Bronx Terminal Market Buildings G, H, and J, necessitating the demolition of these structures (see Figures 7-27 and 7-35). These ballfields would be surrounded by landscaped areas including lawns, trees, paved walkways, and other plantings. The proposed project would also include a new esplanade that would extend north from the proposed ballfields. The esplanade would extend from the northern end of the proposed park, following the edges of the piers that contain the existing Yankee Stadium parking fields, to the existing ferry landing. At that point, it would veer east to Exterior Street to the existing pedestrian connection beneath the Major Deegan Expressway (see Figures 7-27 and 7-35). It is expected that this new esplanade would be 20 feet wide. It would be designed with such amenities as decorative paving, landscaping, and lighting. It would establish physical and visual access to the Harlem River waterfront, enliven the waterfront, and connect the proposed new park facilities along the Harlem River waterfront and those in the eastern portion of the project area.

Proposed Parking Facilities

The proposed parking facilities would include both subsurface and surface parking facilities as well as above-grade tiered parking garages and a new pedestrian footbridge. The proposed project would construct a subterranean parking garage on the proposed new superblock site

south of East 161st Street. As described above, this area would be developed with new recreational facilities. These would be developed on the roof of Parking Garage A, a two-story garage, which would be built primarily beneath the portion of the site west of Ruppert Plaza and set back approximately 12 feet from the Macomb's Dam Bridge Approach (see Figures 7-27 and 7-28). The roof of the garage would be at the level of the Macomb's Dam Bridge Approach. This would change the grade by raising this portion of the project area, which is depressed in relation to the Macomb's Dam Bridge Approach, by approximately 20 feet to bring it to the level of the Macomb's Dam Bridge Approach roadway. Entrance/exit points to the garages would be at the Macomb's Dam Bridge Approach and on East 157th Street. This would require that East 157th Street be reopened from a pedestrian mall into a vehicular street. The east sidewalk of the Macomb's Dam Bridge Approach roadway would be widened over East 161st Street by five feet to facilitate pedestrian access.

A new pedestrian bridge would also be built to facilitate pedestrian access, connecting to the existing footbridge that spans above East 153rd Street from the parking garage east of it (i.e., Garage 8) to the parking fields located along the Harlem River. Further, it would be constructed above the south sidewalk on East 157th Street for a distance of approximately 160 feet from where the existing footbridge touches down. It would further extend approximately 450 feet on Ruppert Plaza. The bridge, as a footbridge, would be narrow and would be either enclosed or partially enclosed and designed to be a transparent structure. The existing footbridge would also be reconstructed.

Three additional above-ground Parking Garages—B, C, and D—would be developed in the project area (see Figure 7-28). Parking Garage B would be located north of the proposed Yankee Stadium along East 164th Street. It would be a rectangular structure that would contain five parking levels, one of which would be below-grade. The garage would have a flat roof, with rooftop parking composing the uppermost parking level above grade. Access to the garage would be via River and Jerome Avenues. The area surrounding the garage on East 164th Street and Jerome Avenue would be landscaped with green open spaces, as described above.

West of the Macomb's Dam Bridge Approach, the existing sunken surface parking lot would be redeveloped with four-story Parking Garage C, which would contain three above-ground parking levels and one below grade parking level. It would also be set back 12 feet from the Macomb's Dam Bridge Approach. As described above, the roof of the new garage would be developed with new outdoor tennis courts. Due to the large change in grade from the parking lot and the Macomb's Dam Bridge Approach (approximately 20 feet), vehicular egress would be possible from the garage's first level at East 161st Street and from the third level at the Macomb's Dam Bridge Approach. Pedestrian access on the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street would be enhanced through the widening of the bridge's east sidewalk over East 161st Street. It is expected that the roof level of the garage containing the tennis courts would project above the Macomb's Dam Bridge Approach by approximately 11 feet.

Parking Garage D, a four-story structure, would be located south of the proposed Yankee Stadium at River Avenue and East 151st Street. This garage would replace the two surface parking lots located north and south of East 151st Street. The garage structure would span over East 151st Street, with the existing roadway passing beneath the upper three levels. The parking lot structure would fully occupy both parking lot sites north and south of East 151st Street. It could include retail at the ground floor and a level of rooftop parking.

Additionally, an existing parking lot along the Harlem River (Yankee Stadium Parking Lot 13A) would be extended south in the area of the Bronx Terminal Market presently occupied by Bronx Terminal Building J. This would create new surface parking between the proposed waterfront park and the Major Deegan Expressway ramp (see Figure 7-27).

VISUAL RESOURCES

Visual Resources in the Project Area

The proposed project would not have any significant adverse effects on visual resources in the project area. As described above, the project area contains a number of visual resources, including the swath of green spaces created by Macomb's Dam Park and John Mullaly Park, including the mature trees located in these open spaces, and the large rock outcropping in Macomb's Dam Park at the northeast corner of the Macomb's Dam Bridge Approach and East 161st Street.

It is anticipated that the construction of the proposed project, consisting of the development of the new stadium and parking garages/recreation areas in Macomb's Dam Park and John Mullaly Park, would eliminate these open spaces and would require the removal of many of the mature trees in these parks. These parks contain a large number of trees, including mature trees of approximately 40 feet in height, that provide an extensive leaf canopy at the perimeter of the parks. The proposed project would retain approximately 170 trees in the project area but would require the removal of approximately 370 trees. Where possible, the proposed project would seek to retain the mature trees in the project area. As described in Chapter 9, "Natural Resources," all trees to be removed would be replaced in accordance with New York City Department of Parks and Recreation (NYCDPR) requirements. To minimize potential ecological impacts resulting from removal of large trees, thousands of smaller trees would be planted in the project area, study area and beyond. Nonetheless, the removal of mature trees would constitute an unavoidable adverse impact on visual resources until replacement trees grow to a mature size—a process that could take several decades. However, since portions of Macomb's Dam Park and John Mullaly Park immediately surrounding the project area would still contain large trees, and the replacement trees would be numerous and eventually grow larger, this impact is not expected to be significant.

To construct the proposed stadium and associated public gathering areas, the rock outcropping at the southwest corner of Macomb's Dam Park would need to be removed. The removal of this natural feature would remove one of several such natural features in the area. The closest other outcropping, located on the triangular parcel bounded by Jerome Avenue, East 161st Street, and the Macomb's Dam Bridge Approach, would be retained. Of the two, the one on the triangular parcel is much more visible due to its location at the intersection of three principal streets. Other outcroppings in the study area, including those on Jerome Avenue containing the steep cliff that makes up Jerome Slope and at Franz Sigel Park, are more prominently visible, larger and of greater visual interest. Therefore, it is not expected that the removal of this natural feature would result in significant adverse impacts to visual resources.

The removal of portions of Macomb's Dam Park and John Mullaly Park in the project area would eliminate the continuity of green spaces which presently stretch from the Major Deegan Expressway north to McClellan Street in the study area. However, this change would not be expected to be significantly adverse, as described in greater detail below, since many green areas would still remain in the study area and the project would create new parkland in the project area.

As has been described above, the proposed project would create outdoor recreational facilities and park areas that would provide attractive landscaping elements and that would constitute new visual resources in the project area. Generally, with the exception of the potential loss of mature trees in Macomb's Dam Park, the project area bounded by East 161st Street, River Avenue, East 157th Street, the Macomb's Dam Bridge Approach, and the Major Deegan Expressway would include recreation areas of a comparable visual character as are located there presently. It is expected that the substantial demolition of the existing Yankee Stadium would result in the creation of welcome green areas and public gathering areas in this portion of the project area. The removal of the bleachers seating and the corresponding exterior wall of the existing stadium would allow for the creation of a park that would extend east to River Avenue, providing a new visual resource in this location.

Most prominently, the Harlem River waterfront would be improved through the construction of the baseball fields and landscaped areas in the area of the Bronx Terminal Market and by the proposed new Harlem River esplanade. It is expected that both project elements would create attractive green spaces in an area that presently has no such amenities, and would constitute an inviting green oasis in the neighborhood. These new waterfront open spaces would constitute important new visual resources in an area that currently has a greatly deteriorated, industrial appearance.

It is expected that the proposed stadium itself would constitute a prominent visual landmark in the project area and a visual wayfinder, in a manner similar to the existing stadium.

Views from the Project Area

Views of the Harlem River and its waterfront would be substantially improved through the development of the new recreation areas along the Harlem River and by the new esplanade. These new waterfront areas would substantially augment the open space proposed by NYCDPR south of the project area along the Harlem River, and would provide new locations for the public to enjoy views of the Harlem River, including the bridges that cross it and the opposite Manhattan shoreline.

Views east from within the proposed Yankee Stadium, which presently include the upper stories of the Bronx County Courthouse Building, would be expanded by the removal of the east portion of the existing stadium, including sections of the grandstands, the bleachers seating, and elevator/escalator tower. This would allow for a greater portion of this monumental building to be visible above the elevated subway viaduct on River Avenue.

It is not expected that the Bronx County Courthouse would be visible from within the proposed stadium as it is from the existing stadium, since this structure is located southeast of the proposed stadium site and the lower bleacher seating of the proposed stadium would face northeast. In addition, the existing views of the Bronx County Courthouse from this location would be eliminated. However, the removal of this view would not be expected to result in significant adverse impacts to visual resources. Views to the courthouse from the existing Yankee Stadium site would be expanded, and due to its height and setting on a hill, the Bronx County Courthouse would still remain prominently visible from other locations in the study area.

The development of Parking Garages A and C abutting the Macomb's Dam Bridge Approach to the east and west would, for the most part, eliminate the visibility of this structure at ground level between East 161st Street and the Major Deegan Expressway. A narrow corridor would be formed by the 12-foot-wide setbacks of the garages, allowing for some visibility of the viaduct bridge's truss support and stone piers from East 161st Street. As has been described above,

Parking Garage A would be built to the level of the roadway to the east, and Parking Garage C would extend approximately 11 feet above the height of the roadway to the west, obscuring the bridge. Within the project area, it would remove locations east and west of the viaduct structure that allow for close-up views of this urban design feature, including the roadway span itself and its street truss support and stone piers. The potential impacts on visual resources are discussed in greater detail below under "Study Area."

STUDY AREA

URBAN DESIGN

Topography and Natural Features

The proposed project would not adversely affect topography or natural features in the study area. The proposed project components—the new stadium, recreation areas, and garage facilities—would mostly be built on sites that do not contain major natural or important topographic elements. However, as has been discussed above, the proposed project would require the removal of a rock outcropping and mature trees. As described above, it is not expected that the removal of the outcropping in Macomb's Dam Park would have an adverse urban design and visual impact due to the presence of other more prominent rock formations in the study area. The removal of mature trees in the project area would affect the urban design of the study area in so far as the trees are visible from the surrounding streets as described in greater detail below under "Visual Resources."

It is expected that portions of the project area, namely the sunken portions of Macomb's Dam Park east and west of the Macomb's Dam Bridge Approach and south of East 161st Street, would be altered through the construction of the garage structures. Parking Garage C, to be built west of the Macomb's Dam Bridge Approach on the surface parking lot, would effectively change the grade of this site in relation to the study area from one that is sunken to one that is located approximately one-story above the Macomb's Dam Bridge Approach. The development of subsurface Parking Garage A on the portion of Macomb's Dam Park east of the Macomb's Dam Bridge Approach would raise the grade of this site by approximately 20 feet to the height of the Macomb's Dam Bridge Approach roadway. While this would result in a change in the area's topography, the elevation of a previously sunken area to one at grade with the surrounding area north of East 161st Street would not in itself be anticipated to result in significant adverse impacts.

The development of the baseball fields and surrounding green spaces on the Bronx Terminal Market site and the creation of the new Harlem River esplanade to the north would occur on existing piers. Therefore, this portion of the project would not adversely affect the Harlem River in any way. It would in fact benefit this prominent natural feature by creating new locations for the public to enjoy it, as described in greater detail below under "Visual Resources."

Street Pattern, Street Hierarchy, and Block Shapes

The proposed project would affect street patterns, block shapes, and street hierarchy in the study area. However, it is not expected that any of the proposed changes would adversely impact the urban design of the area.

As described above, Ruppert Place and East 162nd Street would be closed to vehicular traffic. Ruppert Place would become a public passive park, effectively creating a new superblock site bounded by East 161st Street to the north, River Avenue to the east, East 157th Street to the

south, and the Macombs Dam Bridge and Major Deegan Expressway to the west. However, since this street would be retained as a pedestrian promenade, it is not expected that this change would significantly alter the urban design of the study area.

The closing and demapping of East 162nd Street would eliminate the portion of the street between River and Jerome Avenues, as it would become part of the footprint of the proposed stadium. This would result in the creation of a new superblock bounded by East 161st Street to the south, River Avenue to the east, Jerome Avenue to the west, and East 164th Street to the north. However, the trajectory of East 162nd Street is broken in a number of areas in the study area: it does not exist between Jerome and Anderson Avenues or east of Gerard Avenue. Between Jerome and Gerard Avenues it follows two separate paths, as an east-west cross street in the project area between Jerome and River Avenues and as a diagonal street between River and Gerard Avenues in the study area. As such, even this two-block portion of the street does not read as one street, but rather two separate roadways. Though this street carries two-way traffic including a bus route, its lack of a straight trajectory and its short length in the area does not make it an important view corridor. Therefore, the elimination of East 162nd Street for the length of one block would not be expected to have a significant adverse impact on urban design.

The partial reopening of East 157th Street between River Avenue and East 153rd Street from a pedestrian mall to a vehicular street would visually break up the proposed stadium in the project area from the garage located south of East 157th Street in the study area. This change is not expected to adversely affect urban design since this street was once a vehicular street that continued east to Walton Avenue.

As described above, the modification of Ruppert Place and demapping of East 162nd Street would create two new superblocks. However, these superblocks would be built in an area that has several such sites. As has been detailed above, the study area west of River Avenue is primarily composed of large, irregularly shaped land parcels. It is therefore not expected that this change would adversely impact the urban design of the area.

It is expected that the construction of the two garages east and west of the Macomb's Dam Bridge Approach would alter street hierarchy by visually eliminating this portion of the approach as an elevated viaduct. As described in greater detail below under "Visual Resources," views of this structure from within the study area would be obscured through the construction of the garages that will bound it between East 161st Street and the Major Deegan Expressway.

Streetscape

In general, the proposed project would introduce streetscape elements that would positively affect the urban design of the area. These principally consist of the wide variety of green spaces and public plazas to be developed in the project area, including, but not limited to, the new public plazas to be built around the existing stadium and the proposed stadium, new green and recreational areas that would replace surface parking lots on the sites north and south of East 157th Street, new recreational facilities and green spaces on the new superblock site created south of East 161st Street containing the proposed stadium, and outdoor facilities to be developed west of newly configured Ruppert Plaza. Most prominently, it is envisioned that the new waterfront areas, including the proposed new ballfields and Harlem River Esplanade, would greatly enliven streetscape in the study area west of the Major Deegan Expressway. Besides providing welcome greenery, it is expected that the new waterfront areas would encourage pedestrian activity that would enliven the streets in this area. It is further anticipated that potential retail space at the base of the garage spanning north and south of East 151st Street

would also enliven an area that is primarily developed with parking lots and auto-repair facilities.

The proposed project would alter the streetwall in the study area by removing structures and erecting new buildings and recreational facilities in new locations. The removal of the east portions of the existing stadium along River Avenue and creation of a public plaza surrounding the new little league field would break the wall presently created by the existing stadium and the four-story parking garage south of East 157th Street on the west side of River Avenue. The construction of the proposed stadium would eliminate the continuous, open, generally landscaped, area that currently exists within Macomb's Dam Park and John Mullaly Park, between East 161st and East 164th Streets, and would create strong streetwalls anticipated to possess visual interest due to the arcaded façade design and fenestration along River and Jerome Avenues and East 161st Street. The baseball bat at the corner of East 157th and East 153rd Streets would also be removed, eliminating this streetscape element and popular way-finder in the area. The removal of Bronx Terminal Market Buildings J, H and G would interrupt the streetwall on the west side of Exterior Street.

The streetscape in the area would also be altered by the construction of the garage buildings and recreational facilities east and west of the Macomb's Dam Bridge. These portions of the project would eliminate the depressed land areas in relation to the Macomb's Dam Bridge, creating streetscape elements at either one level higher than the bridge (the upper level of Parking Garage C and the tennis courts above it west of the Macomb's Dam Bridge Approach) or at the same height as this roadway (the outdoor courts and track to be built above subterranean Parking Garage A east of the Macomb's Dam Bridge Approach). Parking Garage B, to be built along the south side of East 164th Street, would alter the streetscape on East 164th Street by creating a new building in an area presently occupied by fenced tennis and handball courts. This would result in a new, five-story structure along the south side of East 164th Street. The garage would be set back from Jerome and River Avenues behind a landscaped buffer of approximately 0.3 acres, and the curb row of existing trees on the south side of 164th Street would remain. These landscape features would soften the change in streetscape on Jerome Avenue.

The proposed reconstruction of the existing pedestrian footbridge over East 153rd Street and its extension partially above East 157th Street and above Ruppert Plaza would also alter the streetscape. It is expected that the footbridge, to be either enclosed or partially enclosed, would be approximately 20 feet higher than Ruppert Plaza and East 157th Street sidewalk, with the top of the bridge approximately 30 feet above these locations. It is anticipated that the footbridge would be a relatively narrow structure, similar in width to the existing bridge. Because the footbridge would extend above Ruppert Plaza in proposed new parkland, with the proposed Heritage Park to the east and recreational facilities above Garage A to the west, it would be designed to be transparent and sensitive to the proposed new parkland. Further, because the footbridge would be built in an area where there are presently a number of bridge and viaduct structures (e.g., the Major Deegan Expressway above Exterior Street, the Macomb's Dam Bridge Approach, and the existing footbridge), and it would be a narrow structure designed by NYCDPR in a manner appropriate to the surrounding parkland, it is not expected that this new feature would result in significant adverse impacts to the urban design of the study area.

The parking garage to be built north and south of East 151st Street, Parking Garage D, would span over that street, and would also alter streetscape. However, while the spanning of a street with a structure would represent a new urban design entity in the study area, the number of viaduct and bridge structures would not render this an obtrusive urban design element.

It is anticipated that the proposed stadium would use the latest technology for lighting. As such, it is anticipated that the lighting at the proposed stadium would control glare and light spill in a more efficient manner, with light spill during night games anticipated to be an indirect glow. In addition to the programming of illumination for night games, the lighting system would also allow for a reduction in the illumination of the exterior of the stadium when there is no event, with lighting during non-games anticipated to consist only of discrete downlighting and illumination of the stadium entrances. Therefore, it is not expected that the lighting at the proposed stadium, either for night games or non-event periods, would be overtly intrusive and therefore, it is not expected to significantly adversely impact the visual character of the study area.

Building Uses, Bulk, and Arrangements

While the proposed project would alter urban design by removing such buildings as Buildings J, H, and G at the Bronx Terminal Market (which would in any case be removed absent the proposed project for the Gateway Center project) and removing portions of the existing stadium, the proposed new buildings would be in keeping with the uses, bulk, and arrangements of the buildings in the study area.

The proposed project would replace an open, landscaped area that contains portions of Macomb's Dam Park and John Mullaly Park between East 161st and East 164th Streets with a new stadium. However, the proposed project would also create a continuous open area of parkland south of East 161st Street and west of Heritage Field. In addition, the proposed stadium would be a structure of a comparable use, height, bulk, and form as the existing stadium. To be located one block north of the existing site, it is not expected that a new structure of a comparable use and massing would adversely affect the urban design of a neighborhood which has historically contained such a building since the 1920s. Since portions of the existing stadium would be removed along River Avenue, there would be a break in the massing on the west side of this street between East 153rd and East 162nd Streets, and no adverse impacts are anticipated in terms of the building's proposed bulk. Its arrangement on the site, which would create public plazas on the corners, would create welcome open areas between the bulk of the proposed stadium and the existing viaduct structure above River Avenue. Thus, overall, the proposed stadium structure would not result in significant adverse impacts.

The development of the four garages on the site (though only three would be visible above grade) would also be in keeping with the urban design of the area. As has been noted above, the study area contains numerous parking lots and two large parking garages on River Avenue. The proposed bulks of the garages would be comparable to, or less than, these existing parking structures and would be smaller than the approximately 900-by-800-foot garage proposed at Gateway Center. It is anticipated that they would be of a similar design, e.g., open-air concrete garages, and they would contain other amenities in addition to parking, e.g., tennis courts on the roof of Parking Garage C and possible ground level retail in Parking Garage D. It is also expected that the areas surrounding Parking Garages B and C (Parking Garage A would be underground) would also be landscaped. As described above, Parking Garage B would introduce a new streetwall along the south side of East 164th Street.

VISUAL RESOURCES

In most cases, it is expected that the proposed project would contribute positively to visual resources in the study area although it would remove a visual resource and alter certain views within the project area. It is anticipated that the proposed stadium would become a prominent visual landmark to the surrounding area as is the existing stadium. It is also expected that the demolition of the eastern portions of the existing stadium would open up views to the baseball field and other interior components of the stadium from the elevated No. 4 subway on River Avenue. An additional visual benefit of the proposed project includes the creation of passive parkland to the east of River Avenue north and south of East 157th Street.

As has been described above, the proposed project includes a waterfront component, including ball fields, green spaces, and a new esplanade. These open space components in themselves constitute new visual resources that would positively affect the study area. The removal of several decrepit Bronx Terminal Market buildings and unsightly piers behind them, as well as landscaping of the edges of the parking lots north of the Bronx Terminal Market to create the esplanade, would positively affect the Harlem River by allowing the public to enjoy it in a park-like setting. This aspect of the project would also positively affect views of this resource from the nearby bridges and from the opposite Manhattan shoreline. It would also open up views to the river from nearby locations in the study area along Exterior Street that were blocked from view by the Bronx Terminal Market buildings. Other landscaping elements, including new plazas and green spaces associated with the proposed stadium and recreation areas, would also constitute new visual resources in the study area.

It is expected that the construction of the proposed stadium and Parking Garage C west of the Macomb's Dam Bridge Approach would alter views from the Macomb's Dam Bridge and the Harlem waterfront. However, it is not expected that any significant resources would be obstructed from view. While it is expected that the former Bronx House of Detention would be demolished in the future without the proposed project, the visibility of the Bronx County Courthouse would not be significantly altered. It would remain visible in views from the Macomb's Dam Bridge, the 145th Street Bridge, the Harlem waterfront, and from various locations in the study area including the immediately surrounding streets and the elevated subway platforms on River Avenue.

The proposed new stadium would eliminate views of Bronx County Courthouse from Jerome Avenue, though other views to it from other locations in the study area would not be expected to be significantly altered. The proposed new buildings would otherwise not be expected to obstruct or otherwise significantly impede views to historic buildings. The Park Plaza Apartments at 1005 Jerome Avenue, the mansion on Woodycrest Avenue, and the small church at 927 Woodycrest Avenue would all remain visible from Jerome Avenue. In addition, the Park Plaza Apartments would still remain visible from River Avenue from across portions of John Mullaly Park north of East 164th Street.

Prominent natural or landscaped features and monuments in the area would also not be significantly affected, although views in the study area of the large trees in Macomb's Dam Park and John Mullaly Park would be altered where removal of these visual resources would be required during project construction and replaced with smaller trees. In addition, views from Jerome Avenue to the east would be altered by the removal of the open spaces on Macomb's Dam Park and John Mullaly Park and replacement with the stadium structure. However, views on Jerome Avenue of the large two superblocks that make up John Mullaly Park north of East 164th Street would still remain available. In addition, as has been described above, the proposed

project would create new parkland in the project area, which would overall benefit the study area and generate new visual resources. The landscaped Macomb's Dam triangle at the intersection of Jerome Avenue, the Macomb's Dam Bridge Approach, and East 161st Street would remain prominently visible in views from the immediately surrounding streets, as would the rock outcroppings along the west side of Jerome Avenue. Farther east, views to the parks east of Walton Avenue outside the study area would remain unaffected since development would occur west of Gerard Avenue. It is expected that views east and west on East 151st Street would be truncated by the construction of the parking garage across it. However, although this change would adversely affect this visual resource, the impact is not expected to be significant for a number of reasons. Views east and west on this street would not be expected to contain any visual resources, e.g., the Bronx House of Detention would be demolished absent the proposed project and views west would take in the new Gateway Center retail and garage buildings.

The construction of Parking Garage B on the south side of East 164th Street would be expected to alter views on East 164th Street, from John Mullaly Park north of East 164th Street, and from Jerome Avenue, by replacing tennis and handball courts with a five-story parking structure. However, this change is not expected to result in significant adverse visual impacts for a number of reasons: (1) the portion of John Mullaly Park north of East 164th Street in the study area contains primarily active recreational areas rather than passive recreation, and active recreation is less dependent on surrounding views, so changing the streetscape on the south side of East 164th Street would not adversely impact those recreational uses; (2) the parking garage would replace tennis and handball courts, which are not visual resources; (3) an 0.3-acre landscape buffer would be created between the proposed garage and Jerome Avenue; and (4) the proposed project would retain as many of the curbside row of the mature trees on East 164th Street and on Jerome Avenue as possible, which would partially screen the new structure.

The visibility of the Macomb's Dam Bridge spanning the Major Deegan Expressway, Metro-North Railroad right-of-way, and Harlem River would remain unaffected by the proposed project. However, as described above, the development of Parking Garages A and C east and west of the Macomb's Dam Bridge Approach between East 161st Street and the Major Deegan Expressway would obscure this visual resource from view, resulting in adverse impacts to visual resources in the study area. It is not expected that this change would be significantly adverse for several reasons. The most visually prominent portions of the bridge, including its two trusses west of the Major Deegan Expressway, would retain their present visibility. Large trees at the south ends of the project area parcels east and west of the Macomb's Dam Bridge Approach obscure the closest of the truss structures from view, and also serve to sever the visual connection between the approach structure east of the Major Deegan Expressway from the bridge spans located west of it. The stone bridge structure across East 161st Street and stone retaining walls north of East 161st Street would also remain visible and the 12-foot setbacks of Garages A and C from the viaduct structure would allow for some views of the viaduct's tress support and stone piers from East 161st Street. Therefore, while the proposed project would obscure a portion of the bridge structure from view, its most prominent and distinguished components west of the Major Deegan Expressway, as well as its stone retaining structure at East 161st Street, would remain visible. As such, the proposed project is not expected to result in any significant adverse impacts to visual resources.

Table 7-1
Photo Locator for Figure 7-1

Figure No.	Photo No.	Location
7-3	1	View east inside Yankee Stadium
7-3	2	Yankee Stadium view south from East 161 Street
7-4	3	Yankee Stadium, view west on East 161st Street on River Avenue from the elevated subway platform
7-4	4	Yankee Stadium, view east on East 157th Street
7-5	5	Yankee Stadium, view northeast from the Major Deegan Expressway
7-5	6	View southeast on East 153rd Street from East 157th Street
7-6	7	View south from the northeast corner of Macomb's Dam Park
7-6	8	View northeast from within Macomb's Dam Park
7-7	9	View south on Ruppert Place from East 161st Street. Yankee Stadium is on the left.
7-7	10	Parking lot bounded by East 161st Street, Jerome Avenue, the Macomb's Damn Bridge Approach, and the Major Deegan Expressway
7-8	11	Macomb's Dam Park between Jerome Avenue, East 161st Street and the Macomb's Dam Bridge Approach
7-8	12	Macomb's Dam Park at the northwest corner of River Avenue and East 161st Street
7-9	13	John Mullaly Park at the northeast corner of Jerome Avenue and East 162nd Street
7-9	14	View northwest of Bronx Terminal Market Building J
7-10	15	View northwest of Bronx Terminal Market Buildings F/G/H
7-10	16	Area west of Bronx Terminal Market Buildings F/G/H
7-11	17	Parking lots located north of the Bronx Terminal Market. The Macomb's Dam Bridge is in the background.
7-11	18	Parking lot at the northeast corner of River Avenue and East 157th Street
7-12	19	Parking lot at the northeast corner of River Avenue and East 151st Street
7-12	20	Parking lot at the southeast corner of River Avenue and East 151st Street
7-13	21	View north from area south and west of Bronx Terminal Market Buildings J/H/G, including the Harlem River, the Macomb's Dam Bridge, and the Manhattan (Harlem) skyline
7-13	22	View south from area south and west of the Bronx Terminal Market including the 145th Street bridge and the Manhattan (Harlem) skyline

Table 7-2
Photo Locator for Figure 7-2

Figure No.	Photo No.	Location
7-14	23	View west of Jerome Slope from East 165th Street
7-14	24	View northwest on Jerome Avenue from Woodycrest Avenue
7-15	25	Franz Sigel Park at the southeast corner of Gerard Avenue and East 153rd Street
7-15	26	View west on 161st Street from the elevated subway on River Avenue
7-16	27	View east on 161st Street from Gerard Avenue
7-16	28	View south on River Avenue from East 161st Street
7-17	29	View east on 161st Street from Babe Ruth Plaza
7-17	30	View north on Exterior Street from East 150th Street
7-18	31	Major Deegan Expressway, view north from the Macomb's Dam Bridge
7-18	32	Metro-North Railroad right-of-way, view west from Gerard Avenue between East 151st and East 153rd Streets
7-19	33	East side of John Mullaly Park, view south
7-19	34	West side of John Mullaly Park, view southwest
7-20	35	Gerard Avenue, south of East 157th Street
7-20	36	Gerard Avenue, north of East 157th Street
7-21	37	View west on East 153rd Street from Gerard Avenue
7-21	38	River Avenue north of East 150th Street. Bronx Terminal Market Building C and the former Bronx House of Detention beyond it is on the left. Yankee Stadium is visible behind the former Bronx House of Detention.
7-22	39	View south on Walton Avenue from East 151st Street
7-22	40	View southwest on Jerome Avenue from East 165th Street
7-23	41	View west on Jerome Avenue on Anderson Avenue
7-23	42	Macomb's Dam Bridge Approach, view west
7-24	43	View north from the 145th Street Bridge. The Macomb's Dam Bridge, Highbridge Tower, and other tall apartment buildings in Harlem are visible.
7-24	44	View east of Yankee Stadium from the Frederick Johnson Playground (Seventh Avenue and West 153rd Street) in Harlem
7-25	45	View northeast from the Esplanade Gardens (Lenox Avenue and West 147th Street) in Harlem. The Bronx Terminal Market portion of the project area is in the foreground
7-25	46	Walton Avenue south of East 157th Street. Franz Sigel Park is on the left
7-26	47	View east on 161st Street. The Macomb's Dam Bridge Approach crosses on a viaduct bridge.
7-26	48	View southeast from 161st Street and Jerome Avenue. The Macomb's Dam Bridge crosses the project area as an elevated stone and steel structure.

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Chapter 8: Neighborhood Character

A. INTRODUCTION

Neighborhood character is an amalgam of the many factors that combine to give an area its distinctive personality. These components include land use, scale, and type of development, historic features, patterns and volumes of traffic, noise levels, and other physical or social characteristics that help define a community. Not all of these elements affect neighborhood character in all cases; a neighborhood usually draws its distinctive character from a few determining elements.

According to the 2001 *City Environmental Quality Review* (CEQR) *Technical Manual*, an assessment of neighborhood character is generally needed when the action would exceed preliminary thresholds in any one of the following areas of technical analysis: land use, urban design, visual resources, historic resources, socioeconomic conditions, traffic, or noise. An assessment is also appropriate when the action would have moderate effects on several of the aforementioned areas. Potential effects on neighborhood character may include:

- *Land Use:* When development resulting from the proposed actions would have the potential to change neighborhood character by introducing a new, incompatible land use; conflicting with land use policy or other public plans for the area; changing land use character; or resulting in significant land use impacts.
- *Urban Design and Visual Resources:* In developed areas, urban design changes have the potential to affect neighborhood character by introducing substantially different building bulk, form, size, scale, or arrangement. Urban design changes may also affect block forms; street patterns; or street hierarchies; as well as streetscape elements such as streetwalls, landscaping, and curbcuts. Visual resource changes have the potential to affect neighborhood character by directly changing visual features such as unique and important public view corridors and vistas, or public visual access to such features.
- *Historic Resources.* When an action would result in substantial direct changes to a historic resource or substantial changes to public views of a resource, or when a historic resources analysis identifies a significant impact in this category, there is a potential to affect neighborhood character.
- *Socioeconomic Conditions.* Changes in socioeconomic conditions have the potential to affect neighborhood character when they result in substantial direct or indirect displacement or addition of population, employment, or businesses; or substantial differences in population or employment density.
- *Traffic and Pedestrians*. Changes in traffic and pedestrian conditions can affect neighborhood character in a number of ways. For traffic to have an effect on neighborhood character, it must be a contributing element to the character of the neighborhood (either by its absence or its presence), and it must change substantially as a result of the action. According to the

CEQR Technical Manual, such substantial traffic changes can include: changes in level of service (LOS) to C or below; changes in traffic patterns; changes in roadway classifications; changes in vehicle mixes; substantial increases in traffic volumes on residential streets; or significant traffic impacts, as identified in that technical analysis. Regarding pedestrians, when a proposed action would result in substantially different pedestrian activity and circulation, it has the potential to affect neighborhood character.

- *Noise*. According to the *CEQR Technical Manual*, for an action to affect neighborhood character with regard to noise, it would need to result in a significant adverse noise impact and a change in acceptability category.

This chapter examines neighborhood character in the area surrounding the project area, defined as a ¼-mile perimeter around the project area, and how the proposed project would affect that character. The chapter's impact analysis focuses primarily on changes to neighborhood character resulting from changes in the technical areas discussed above, since changes in these technical areas are most likely to result in changes to neighborhood character.

The analysis concludes that as a result of the proposed project, there would be no change in the types of land uses or design and scale of development located in the study area; however, the location of the various uses would be reconfigured in different locations. The proposed stadium would be located closer than the existing stadium to the predominantly residential neighborhood located north of East 161st Street and west of Jerome Avenue. The proposed project would not result in an increase in traffic and pedestrian trips over existing conditions. Rather, these trips would be redistributed within the transportation network, largely due to the future location of the proposed stadium, the addition of nearby parking facilities, and the provision of a dedicated pedestrian spine along Ruppert Plaza. This redistribution would result in increases in traffic and pedestrian congestion in some locations and improvements in others. Overall, conditions would be similar to those in existing conditions and in the future without the proposed project, although the proposed project would result in a higher number of significantly impacted intersections than exists today or would exist in the future without the proposed project. Noise level increases in locations closer to the proposed stadium and decreases in locations closer to the existing stadium would be imperceptible and overall the proposed project would not result in significant adverse noise impacts, with the exception of the proposed parks at River Avenue and 157th Street and at the Harlem River waterfront. The noise level at the parks, however, would be comparable to the noise levels at many existing New York City parks, such as portions of Central Park, Hudson Park, Riverside Park, Van Cortlandt Park, and Pelham Bay Park.

Due to the location of the proposed stadium and Parking Garages A, B, and C, several of the traffic and pedestrian impacts would occur along Jerome Avenue and the Macomb's Dam Bridge Approach near East 161st and East 162nd Streets. However, the increase in traffic and pedestrian levels in this largely residential area would be of limited duration, occurring only during Yankees games. Echoing present game-day practice, a comprehensive game-day traffic management plan would address impacts in the pre- and post-game peak periods in as effective a manner as possible. Therefore, these changes overall would not have significant adverse impacts on neighborhood character, as discussed below.

The proposed project would also have a positive effect on the character of the area. The proposed project would provide a net increase in the area's open space, and replace older, and in some cases worn, recreational facilities, with new, modern facilities. It would also create new access to the waterfront beyond what would have been provided in the future without the proposed project. The proposed project would also increase and better organize parking and

reduce existing parking shortfalls that cause fans driving to games to circulate excessively in search of hard-to-find parking spaces, often ending up parking illegally near the stadium, on local streets, and on the service road of the northbound Major Deegan Expressway. As a result of the proposed project, the New York Yankees, an important asset to the neighborhood and The Bronx, would remain in their traditional Bronx location.

B. EXISTING CONDITIONS

Due to its distinctive shape, size, and the prominent letters on the façade that identify it as Yankee Stadium, the existing stadium is a prominent structure and wayfinder in the neighborhood. Although the blocks immediately surrounding the existing Yankee Stadium predominantly contain stadium-related and recreational uses, within a ¼-mile, the area contains a number of distinct neighborhoods with a mix of uses and character. Residential neighborhoods predominate east and west of the project area, with the Highbridge neighborhood located across Jerome Avenue from the site of the proposed stadium; an industrial area is located generally south of East 153rd Street and west of Gerard Avenue.

The project area encompasses several key sites and includes the existing Yankee Stadium at East 161st Street and River Avenue; portions of Macomb's Dam and John Mullaly Parks, between East 157th Street and East 164th Streets and River and Jerome Avenues; several surface parking lots, located on the eastern side of River Avenue at East 151st and East 157th Streets, and between the Major Deegan Expressway and the Harlem River; and a portion of the Bronx Terminal Market complex, west of Exterior Street between East 150th and East 153rd Streets. The project area comprises a mixture of uses including parkland and recreation, surface parking, baseball stadium, and wholesale food distributors. The portions of Macomb's Dam and John Mullaly Parks located in the project area contain ballfields, a running track and soccer field, handball, basketball, and tennis courts, and the Macomb's Dam Park District Office, which also provides public restrooms. Along the Harlem River waterfront, the project area also contains two dilapidated Bronx Terminal Market Buildings (Buildings G and H) that are partially occupied, the vacant power house building built for the Bronx Terminal Market (Building J), and Piers 1-3 on the Harlem River.

The existing Yankee Stadium occupies the full block bounded by East 161st Street, River Avenue, East 157th Street, and Ruppert Place. The existing stadium is a concrete and steel open-air structure that stands approximately 130 feet tall on its western (tallest) edge. The exterior of the stadium presents a rounded façade. Lights, flagpoles, and the top of the grandstand project above the façade. The words "Yankee Stadium" are spelled out in large letters on the side of the grandstand facing west. The stadium has a concession and ticket area and a small plaza space containing concrete blocks with flower planters, lampposts, and some mature trees. The sidewalks surrounding the existing stadium are wide in locations where the curve of the stadium creates a setback from the street. Yankee Stadium, located at its current location since 1923, is a defining element of the character of the surrounding area.

Three parcels that make up Macomb's Dam Park in the project area. The parcel directly west of the existing stadium is sunken and at a lower elevation than most of the surrounding roadways. It contains ballfields, handball courts, and basketball courts and is used by both local residents and by more formally organized leagues. Yankee Stadium Parking Lot 14 is located in the southwest portion of the park. The northeast corner contains the one- to two-story red brick Macomb's Dam Park District Office. This building is set back at an angle from the southwest corner of East 161st Street. This results in the Ruppert Place/East 161st Street façade of the building being one-

story and the park façade of the building being two-stories. West of Jerome Avenue and the Macomb's Dam Bridge Approach is an irregularly shaped portion of Macomb's Dam Park. Large, approximately 40-foot-tall leafy trees are located mostly along the perimeter of this portion of Macomb's Dam Park. This park parcel contains a large surface parking lot (Yankee Stadium Parking Lot 1) that is at a lower elevation than the Macomb's Dam Bridge Approach but is at the same grade as East 161st Street.

The large block across East 161st Street from the existing Yankee Stadium is also part of Macomb's Dam Park and contains several recreational facilities, including a running track surrounding a soccer field and two ballfields. This part of the park is used by local residents as well as school and other leagues for programmed events. Residents also use the park to cross from River Avenue to the apartment buildings west of Jerome Avenue. Separating this portion of Macomb's Dam Park from John Mullaly Park to the north is East 162nd Street. Both sides of East 162nd Street are planted with street trees, smaller than those found in Macomb's Dam Park. The majority of John Mullaly Park in the project area contains tennis courts, which are enclosed in inflatable structures in the winter. This portion of John Mullaly Park has large, approximately 40-foot-tall mature trees at its perimeter. On East 164th Street, which is a narrower local street, trees are planted in a narrow grassy area between the tennis courts and sidewalk. Although the active recreational areas in Macomb's Dam and John Mullaly Parks do not contain unique visual features, and are bounded by a variety of chain-link fences that are visually obtrusive, overall, the parks together constitute a visual resource for the neighborhood.

The two-story buildings at Bronx Terminal Market (Buildings G and H) are long and narrow, built to Exterior Street. The buildings consist of a group of small, connected spaces within a reinforced concrete structure. Building J is a two- to three-story brick building that is somewhat set back from Exterior Street. The Bronx Terminal Market portion of the project area has an industrial and degraded appearance and does not contain visual resources. All of the Bronx Terminal Market buildings in the project area (Buildings, G, H, and J) have been found eligible for listing on the State and National Registers of Historic Places (S/NR). The two parking lots north of Bronx Terminal Market (Yankee Stadium Parking Lots 13A and 13B) and the four parking lots along River Avenue (Yankee Stadium Parking Lots 5, 6, 9, and 11) are paved, though a few lots on River Avenue contain trees.

While not visibly accessible from much of the study area, the Harlem River, which separates The Bronx from Manhattan, is a defining element of the ¼-mile neighborhood character study area, as are the Harlem River Drive and the Major Deegan Expressway, which run alongside the waterway. The river is not easily accessible within the project area, due to the presence of access ramps for the elevated Expressway and waterfront warehouse buildings. Views of the river behind the Bronx Terminal Market are also impeded by the Oak Point Link rail connection, which runs on a trestle along the Harlem River parallel to the Bronx shoreline. Also visible from the project area are two historic river crossings. The Macombs Dam Bridge, a New York City Landmark (NYCL), is visible from the piers behind the Bronx Terminal Market, the parking lots north of it, and the portions of Macomb's Dam Park located south of East 161st Street. Defining features of the Macombs Dam Bridge are its truss structures that span the Harlem River and Metro-North Railroad right-of-way. The 145th Street Bridge, which connects The Bronx and Manhattan, is also not visible from much of the project area, as it is obscured by the Expressway and Bronx Terminal Market buildings.

The surrounding study area contains a mix of uses generally segregated by Gerard Avenue and East 157th/153rd Streets. The Metro-North Railroad line, which runs just south of East 153rd

Street, is a contributing factor to this division. A heavy commercial/industrial area with food and beverage suppliers/distributors, warehouses, auto-related uses, and parking lots occupies the portion of the study area generally south of East 153rd Street and west of Gerard Avenue. This area has an underutilized, degraded quality and has very little street life or pedestrian activity, due to the nature of the businesses in the area.

The central portion of the study area surrounding the existing stadium is dominated by several stadium-related parking and retail uses. Overall, there are 16 "numbered" Yankee Stadium parking lots or garages in the area. There are also several other off-street parking facilities. The project area contains eight of these dedicated lots. Along River Avenue, retail uses near the existing stadium cater to Yankees fans with souvenir stores and fast food restaurants.

The predominantly residential neighborhood of Highbridge is located north and west of Jerome Avenue and is built upon a hill. Residential uses are mostly a mix of five- and six-story apartment buildings and three-story detached houses. Apartment buildings on Jerome Avenue follow the curve of the street. The 10-story Park Plaza Apartments, a New York City Landmark in the Art Deco style with towered structures at the roofline and multi-chromed terra cotta, and 11-story 1001 Jerome Avenue apartments, are two large brick buildings across from East 164th Street on Jerome Avenue that date from the 1930s. The Highbridge neighborhood also contains various institutional uses and the remainder of Macomb's Dam and John Mullaly Parks not located in the project area. The smaller Macomb's Dam Park parcels in this area are primarily landscaped with lawns and contain mature trees and walking paths. The park parcel between Ogden Street and Summit Avenue contains Summit Playground. The portion of John Mullaly Park that is located north of the project area contains play equipment, ballfields, an outdoor pool, basketball courts, a skate park, and a recreation building.

East of Gerard Avenue, the area is also predominantly residential, with six-story residential apartment buildings lining Gerard and Walton Avenues north of East 153rd Street and two- to three-story attached residential buildings along Walton Avenue south of East 151st Street. Many of the six-story buildings are clad in coarse red brick, and have distinctive Tudor ornamentation, including steeply pitched gables and mock timbering. Hostos Community College, the largest institutional use in the study area, is located along Walton Avenue and the Grand Concourse, south of East 149th Street. A major park in this portion of the study area is Franz Sigel Park, a 16-acre park with largely active recreational facilities, located along Grand Concourse north of 151st Street.

Several historic resources are located in the vicinity of the project area. With the exception of Building C, the remainder of the buildings at Bronx Terminal Market not located in the project area (Buildings B, D, and F) have been found eligible for listing on the State and National Registers of Historic Places (S/NR). The study area's two bridges—the NYCL and S/NR-eligible Macombs Dam Bridge and 155th Street Viaduct and S/NR-eligible 145th Street Bridge—are both historic resources. Just north of Bronx Terminal Market Building C is the Bronx House of Detention (S/NR-eligible), formerly the Bronx County Jail, at the southwest corner of East 151st Street and River Avenue. The Bronx County Building (NYCL, S/NR-eligible), also known as the Bronx County Courthouse is located in the eastern portion of the study area. Two other historic resources are located in the Highbridge neighborhood. The American Female Guardian Society for the Friendless Woody Crest Home (NYCL) is located at 936 Woodcrest Avenue and the Park Plaza Apartments (NYCL, S/NR) are located along Jerome Avenue between East 162nd and East 165th Streets.

The study area generally consists of a grid network of local streets and avenues, with numbered streets running east-west and "named" streets and avenues generally running north south. The southern portion of the study area contains an irregular street pattern with north-south avenues running on a slight angle to the east. East 161st Street is a major east-west thoroughfare throughout the area. Near the existing stadium, East 161st Street is composed of a central roadway flanked by service roads. Between Ruppert Place and Gerard Avenue, the roadways are separated by Babe Ruth Plaza. West of Ruppert Place, the East 161st Street service roads connect to the Macomb's Dam Bridge Approach, an elevated structure. The central portion of the street passes beneath the Macomb's Dam Bridge Approach. East 157th Street, although a mapped City street, is closed to vehicular traffic and functions as a paved pedestrian walkway contiguous to the existing Yankee Stadium sidewalk. Ruppert Place, which is closed to vehicular traffic except for NYCDPR and stadium security vehicles, is a one-way street to the west of the existing stadium, separating it from Macomb's Dam Park. Near the existing stadium, River Avenue is located beneath the elevated No. 4 subway train. River Avenue south of East 161st Street is closed to vehicular traffic on game-days by the New York City Police Department (NYPD) traffic enforcement agents (TEAs). The Major Deegan Expressway is a regional roadway in the area that provides traffic access to and from the existing Yankee Stadium.

Although streets in the study area generally process moderate traffic volumes, several streets are heavily used by both vehicular traffic and pedestrians during Yankees games. In the weeknight pre-game arrival period, overall unacceptable levels of service (LOS) E or F conditions prevail at the major touchdown points from the regional highway network to the immediate streets—i.e., the northbound Major Deegan Expressway's exit ramp intersection at East 149th Street, the southbound Deegan's exit ramp at Macombs Dam Bridge and East 153rd Street—and at the multi-legged intersection of West 155th Street, Macomb's Place, and the Macombs Dam Bridge on the Manhattan side of the bridge. In the weeknight post-game period, overall LOS E or F conditions prevail at three of the major egress locations from the stadium area: at the entrance location from westbound East 157th Street onto the northbound Major Deegan Expressway service road, the intersection of River Avenue and East 153rd Street where traffic exiting Yankee Stadium Parking Garage 8 at times overloads the local street network, and at the intersection of East 149th Street/Exterior Street/River Avenue at which traffic leaving the area heads toward the southbound expressway through this intersection.

During the weekend game periods, several intersections experience heavier volumes than in the weeknight game periods. Overall LOS E or F conditions during the weekend pre-game period occur along consecutive intersections of Jerome Avenue/Macomb's Dam Bridge Approach from the Major Deegan Expressway to East 165th Street, at three of the four intersections along River Avenue north of the existing stadium, and at the three key Major Deegan Expressway exit touchdown locations also affected during the weeknight period. In the weekend post-game period, LOS E or F conditions prevail along most of River Avenue, at the major departure route intersections leading to the northbound and southbound Major Deegan Expressway (also affected during the weeknight period), and at the West 155th Street/Macomb's Place and other Macomb's Dam Bridge Approach intersections.

Traffic conditions are acceptable along Exterior Street, north of East 149th Street, processing a modest level of traffic even during the game periods. However, levels of service are at overall unacceptable LOS F during all four pre-game and post-game peak periods at the multi-legged intersection of Exterior Street, River Avenue, East 149th Street, and the exit ramp from the northbound Major Deegan Expressway.

Traffic circulation is substantial on local streets as fans search for often hard-to-find parking spaces at available parking lots and garages. During the hours preceding weeknight and weekend games, on-street curb parking occupancy is over capacity, as virtually all legal spaces are used and illegal parking and double parking occurs. Parking for Yankees games also occurs illegally along the northbound Major Deegan Expressway service road north of East 157th Street.

Since 90 to 95 percent of Yankee Stadium patrons travel via auto or subway, game-day pedestrian flow hinges largely on the locations of nearby parking facilities and entrances to the 161st Street-Yankee Stadium subway station. Fans parking south of East 161st Street can either access the stadium via a pedestrian plaza at existing Parking Garage 8, walk along the street and approach the stadium from its right-field side, or use the existing enclosed pedestrian bridge that crosses the Metro-North Railroad tracks. Fans parking to the north travel along River Avenue, cross East 161st Street, and arrive at the stadium's northeast plaza.

The intersection of East 161st Street and River Avenue is especially busy for pedestrians due to the 4/B/D subway 161st Street-Yankee Stadium Station. Under current game-day conditions, numerous transportation management measures are imposed to facilitate safe and efficient pedestrian flow to and from the existing stadium. These measures include providing access at the stadium's northeast plaza to the elevated platforms of the No. 4 subway line, closing a portion of River Avenue to vehicular traffic, and deploying TEAs to help reduce vehicle-pedestrian conflicts and maintain crowd control. Although the level of pedestrian activity in the southern portion of the study area near Bronx Terminal Market is typically low due to the industrial character of the area, during Yankees games, the streets become enlivened with people.

There are two local bus routes in the vicinity of Yankee Stadium. The Bx13 provides service between the George Washington Bridge Bus Terminal in Washington Heights and Yankee Stadium and the Bx6 provides service between West 158th Street in Washington Heights and the Fulton Fish Market in Hunts Point. The Bx13 bus uses eastbound East 162nd Street to southbound River Avenue, westbound East 161st Street, and southbound Jerome Avenue to return northbound to Ogden Avenue. The Bx6 bus travels eastbound and westbound on Macombs Dam Bridge and East 161st Street.

Noise near the existing stadium is currently caused by a number of sources including: traffic noise from adjacent and nearby streets, rail noise from the passing elevated No. 4 subway trains, and Yankee Stadium vendor and crowd noise during games. Noise along River Avenue is predominantly from the elevated No. 4 subway trains and street traffic while noise west of Ruppert Place and south of East 157th Street is produced by stadium vendors and patrons. The highest existing noise levels occur at River Avenue and East 157th Street, primarily a result of the elevated No. 4 subway trains and particularly due to train wheel squeal as trains go around the elevated curve just south of East 157th Street. Noise levels are marginally acceptable north and west of the existing stadium—generally north of East 161st Street (except directly across East 161st Street from the existing stadium), east of River Avenue, and west of Jerome Avenue. Noise levels are marginally unacceptable south of East 161st Street (except west of Ruppert Place). Noise levels at Macomb's Dam Park and John Mullaly Park are above acceptable noise levels for outdoor areas in the CEQR noise exposure guidelines. Noise along the waterfront west of Exterior Street is high due to the vehicles on the elevated Major Deegan Expressway.

The Manhattan portion of the study area, separated by the Harlem River, is largely residential. Several high-rise residential complexes define the area, including Harlem River Houses, a New York City Housing Authority development, and the private Esplanade Gardens complex. The

area is well served by parks, such as the Colonel Charles Young Triangle, Colonel Charles Young Playground, Bill 'Bojangle' Robinson Playground, and Frederick Thomas Playground.

C. THE FUTURE WITHOUT THE PROPOSED PROJECT

Without the proposed project, no changes are expected to occur in the project area. In the study area, the Gateway Center at Bronx Terminal Market project proposes to replace the underutilized and dilapidated buildings with a major retail center. The Gateway Center at Bronx Terminal Market is proposed to occupy a portion of the Bronx Terminal Market site as well as the Bronx House of Detention. This consists of the areas east of Exterior Street, south of the Metro-North Railroad right-of-way, and the blocks between the Metro-North right-of-way and East 150th Street between Cromwell and River Avenues. The Gateway Center at Bronx Terminal Market will include several new stores, parking garages, and parking lots. It will alter the street pattern and block shapes by merging the parcels east of the Major Deegan Expressway with portions of Cromwell Avenue and East 150th and 151st Streets into one large superblock site. It will also remove the existing buildings on the site—namely Buildings B and C of the Bronx Terminal Market and the Bronx House of Detention—and surface parking lots and vacant parcels, and replace these uses with new buildings of a different use, design, and bulk configuration. Bronx Terminal Market Building D would be retained, renovated, and reused for retail uses. In addition, the City will develop an approximately 2-acre waterfront public open space on Pier 4, south of the project area. The City is committed to developing this open space by the Gateway Center project's 2009 Build year. This land use change is considered to be complementary to the area, as it would create a major retail facility that would serve the residents, workers, and visitors of surrounding communities.

The Gateway Center at Bronx Terminal Market would also improve the condition of the shoreline and waterfront edge. Views of the Harlem River would be improved and there would also be an increase in the amount of open space in the neighborhood for use by visitors to Gateway Center at Bronx Terminal Market and the surrounding community.

The buildings at the Gateway Center at Bronx Terminal Market would be larger and squarer in form than the existing buildings; however, they would be similar in height to the residential buildings located along East 153rd Street and along Gerard and Walton Avenues north of East 153rd Street, and the buildings at Hostos Community College. Therefore, the buildings would be in keeping with the height and bulk of some of the existing structures in the study area. The Gateway Center at Bronx Terminal Market project would also modify the shapes of the project blocks by demapping portions of several streets to create a superblock. However, these streets are currently underutilized and form blocks with unusual shapes. Although not mapped as new streets, the Gateway Center at Bronx Terminal Market project would create passageways between the buildings, with limited vehicular access allowing for better pedestrian access between River Avenue and Exterior Street. These changes would not significantly alter the basic street pattern or block shapes of the study area.

The proposed Gateway Center at Bronx Terminal Market would result in significant adverse impacts to historic resources (demolition of Building B and the Bronx House of Detention) and mitigation measures would be designed by the project sponsors in consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPHRP). The Gateway Center at Bronx Terminal Market project would retain Building D for retail development.

The proposed Gateway Center at Bronx Terminal Market project would directly displace the existing businesses associated with the wholesale food markets at Bronx Terminal Market; including those located in Buildings G and H in the project area (Building J in the project area is vacant). According to the *Gateway Center at Bronx Terminal Market EIS*,[1] it is anticipated that the City would provide relocation assistance to the current market tenants.

In general, the Gateway Center at Bronx Terminal Market project is expected to enhance the vitality of the surrounding streets by introducing active retail uses and increasing visitation to the area, and would not significantly adversely affect the combined elements contributing to the neighborhood character of the study area.

Although located outside the study area, the Bronx Criminal Courthouse currently under construction on the north side of East 161st Street, about 1-2 blocks east of the Grand Concourse, and the proposed East 153rd Street Bridge crossing of the Metro-North Railroad tracks are projects expected to be completed by 2009 that would affect traffic volumes and patterns in the study area. Traffic volumes in the study area would be expected to increase in the future without the proposed project. The most significant changes would be expected to occur along Exterior Street and River Avenue as a result of the Gateway Center at Bronx Terminal Market project with more moderate increases along the Grand Concourse and East 161st Street as a result of these three background development projects. These three projects would also be required to include mitigation measures to mitigate significant traffic impacts, which include reconstruction of the multi-legged intersection of the northbound exit ramp from the Major Deegan Expressway with East 149th Street, River Avenue, and Exterior Street.

Traffic volumes in the weeknight pre-game period would change at three intersections to overall unacceptable LOS E or F conditions from LOS C or D under existing conditions. The three intersections are East 161st Street at the Grand Concourse and at Walton Avenue, primarily due to the additional traffic generated by the proposed Bronx Criminal Courthouse and traffic diversions from the proposed 153rd Street Bridge, and at River Avenue and East 153rd Street next to the proposed Gateway Center at Bronx Terminal Market. In the weeknight post-game period, one intersection—East 161st Street at River Avenue—would change to overall unacceptable LOS E or F conditions from LOS D under existing conditions.

In the weekend pre-game period, several intersections would change to overall unacceptable LOS E or F conditions from LOS D under existing conditions. These additional congested locations would include several intersections along the East 161st Street corridor, and along River Avenue and East 162nd Street and East 153rd Street. In the weekend post-game period, two intersections would change to overall unacceptable LOS E or F conditions from LOS D under existing conditions. Overall, traffic intersections in the study area would improve in some locations and worsen in others, and these changes would not alter neighborhood character.

Pedestrian activity near the existing stadium would be expected to operate very similarly to existing conditions. In the southern portion of the study area, the reconstruction of East 149th Street between Griffin Place and Exterior Street would enhance the vitality of the street and sidewalk and improve both vehicular and pedestrian access on the street. The potential reconstruction of the East 161st Street tunnel below the Grand Concourse as part of the Grand Concourse streetscaping and rehabilitation project between East 161st and East 166th Streets

[1] The Office of the Deputy Mayor for Economic Development. *Gateway Center at Bronx Terminal Markey FEIS*, December 2005.

would not change the capacity of this portion of the street network. Noise levels would be expected to be similar to existing levels.

Several institutional projects are also planned for the area: a new Emergency Assistance Unit for the New York City Department of Homeless Services is planned for East 151st Street and Walton Avenue to replace the existing facility at this location. Hostos Community College has plans to renovate a 125,000-gross-square-foot academic building, and has future capital investment projects that are pending budget allocation. These projects would replace or expand existing uses, and therefore would not affect the neighborhood character of this portion of the study area.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would not change the types of land uses located in the project area, but it would reconfigure the uses and increase parkland and parking facilities. The study area currently contains a mix of land uses, with Yankee Stadium being a major attraction and visual wayfinder that draws visitors to the area. This would continue to be the case with the proposed Yankee Stadium located one block to the north. However, the proposed stadium would be located closer than the existing stadium to the predominantly residential neighborhood located north of East 161st Street and west of Jerome Avenue. That relocation would alter the visual setting and concentrate traffic and pedestrian impacts along 161st Street and the adjacent streets. Within the larger project area, there would continue to be a mix of parking, parkland, and stadium uses, which are compatible with each other and consistent with the park designation of much of the study area.

The recreational facilities that would be displaced by the proposed project would be replaced with similar and new recreational facilities. The proposed project would create a unified 17.36-acre park area south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street. Furthermore, because there would be a net increase in the area's open space and new, modern facilities would replace older and often worn facilities, there would be a positive effect on the character of the area in terms of open space.

The proposed project would substantially improve the condition of the shoreline and waterfront edge. The Harlem River waterfront would be both visually and physically more accessible. The new waterfront park would provide new access to the waterfront beyond what would have been provided in the future without the proposed project. Views from and through the project area to the waterfront and the surrounding area would be improved with the provision of the waterfront park. There would also be a notable improvement in the amount of waterfront open space in the neighborhood for use by the surrounding community compared to conditions without the proposed project. The waterfront park would greatly enliven the streetscape in the study area west of the Major Deegan Expressway and encourage pedestrian activity. Therefore, the proposed project is expected to have a beneficial effect on the waterfront and open space in the study area.

The scale of the proposed stadium would—like the existing stadium—continue to be a significant feature in the neighborhood's skyline. Although it would have a somewhat larger footprint, the design of the proposed stadium would evoke that of the existing stadium and incorporate design elements from the original 1923 stadium design as well as the existing stadium. The proposed stadium would rise to a height similar to the existing stadium, and as

such would not result in a structure of a significantly larger mass or height than presently exists in the neighborhood. In general, it is expected that the proposed project would shift the visual focus of the neighborhood from its current location south of East 161st Street to the proposed location north of East 161st Street. The bulk of the proposed parking garages would be comparable to, or less than, the existing parking garage structures, and would be smaller than the garage proposed at the Gateway Center at Bronx Terminal Market. Therefore, the proposed stadium and parking garages would not result in a significant adverse neighborhood character impact related to visual quality.

Development of the proposed stadium would require the demapping of East 162nd Street between River and Jerome Avenues and the consolidation of the affected blocks north and south of East 162nd Street as one superblock. The trajectory of East 162nd Street is currently broken in a number of areas in the study area; it does not exist between Jerome and Gerard Avenues or east of Gerard Avenue. Between Jerome and Gerard Avenues it follows two separate paths; as an east-west cross street in the project area between Jerome and River Avenues and as a diagonal street between River and Gerard Avenues. As such, this two-block portion of the street does not read as one street but rather two separate roadways. Though this street carries two-way traffic, including the Bx13 bus route (described in more detail below), its lack of a straight trajectory and its short length in the area does not make it an important view corridor. Ruppert Place would be closed and demapped and become a passive park and pedestrian walkway (renamed Ruppert Plaza), effectively creating a new superblock site located between East 161st and 157th Streets and River Avenue and the Macomb's Dam Bridge Approach. As such, the closing of East 162nd Street and Ruppert Place would not result in a significant adverse neighborhood character impact related to urban design, as it would not significantly alter the basic street pattern or block shapes of the study area.

The proposed project would introduce streetscape elements that would enhance the vitality of the surrounding streets. These principally consist of the wide variety of open spaces and public plazas to be developed in the project area, including the new public plazas to be built around the existing stadium (to be adapted as Heritage Field), new open space and recreational areas that would replace surface parking lots on the sites south and north of East 157th Street at River Avenue, and the new recreational facilities and open space on the new superblock site created south of East 161st Street containing Heritage Field and the new recreational facilities on the roof of Garage A. It is further anticipated that retail space at the base of Parking Garage D would enliven an area that is primarily developed with parking lots and auto-repair facilities.

The construction of the proposed project would require the removal of mature trees in John Mullaly and Macomb's Dam Parks. Although the proposed project would seek to retain as many of the mature trees at the perimeter of John Mullaly Park on East 164th Street and along Jerome Avenue as possible, it is expected that the removal of mature trees could result in unavoidable adverse impacts. Replacement trees would be planted, but these would likely not reach the height of the existing trees for approximately 30 to 40 years. Because large trees would remain present in the other nearby portions of Macomb's Dam Park and John Mullaly Park in the study area and all street trees would be replaced, this change would be adverse, but not significant in its impact on neighborhood character.

The proposed project would result in the construction of a new waterfront park with ballfields on the west side of Exterior Street at the Bronx Terminal Market in the area of Buildings G, H, and J. Therefore, to build the new park and ballfields associated with the proposed project, these

buildings would be demolished. This impact would be lessened by mitigation measures being developed in consultation with OPRHP.

Proposed Parking Garages A and C would be set back approximately 12 feet from the Macomb's Dam Bridge viaduct, with the Macomb's Dam Bridge Approach to the east and west, visually eliminating the historic viaduct span between East 161st Street and the Major Deegan Expressway. To reduce adverse impacts on the Macomb's Dam Bridge Approach, the vehicular and pedestrian access for the garages and the walkways would be designed in consultation with OPRHP and the Landmarks Preservation Commission (LPC). The visibility of the Macombs Dam Bridge, with its camelback and Pratt trusses, spanning the Harlem River and Metro-North Railroad right-of-way—two of the most visible and significant features of the roadway system—would remain unaffected by the proposed project. Further, a Construction Protection Plan would be developed in consultation with OPRHP and LPC to protect the historic resources detailed in Chapter 6, "Historic Resources." Overall, the proposed project would not have a significant adverse historic resources-related impact on neighborhood character.

It is anticipated that the existing businesses located in Bronx Terminal Market Buildings G and H would be relocated by the City in the future without the proposed project as part of the Gateway Center at Bronx Terminal Market project and therefore the proposed project would not result in any direct business displacement. As described in Chapter 3, "Socioeconomic Conditions," the proposed project would not introduce enough of a new economic activity to alter existing economic patterns in the study area or foster a change in residential market conditions that would lead to indirect residential displacement. Therefore, the proposed socioeconomic effects of the proposed project would not have a significant adverse impact on neighborhood character in the study area.

The proposed project would provide thousands of new parking spaces, reducing excessive traffic circulation pre-game by motorists circulating on the local streets in search of hard-to-find parking spaces. The proposed project would also eliminate illegal parking on local streets and on the service road of the northbound Major Deegan Expressway since more of the parked cars could now be accommodated within off-street parking lots and garages. Decreased traffic circulation on local streets in search of available parking spaces and less parking on the local streets themselves would provide a benefit to the local community.

As a result of the proposed project, there would be a significant shift of vehicular traffic patterns to and from the proposed stadium since some motorists would now exit and enter the Major Deegan Expressway farther north than they do today. The proposed project would provide additional stadium parking, thus reducing trips at some locations farther from the stadium, such as East 161st Street/Grand Concourse intersection and the northbound Major Deegan Expressway at East 149th Street, and reducing illegal parking along East 161st Street, the Macomb's Dam Bridge Approach, Jerome Avenue, and the northbound Major Deegan Expressway service road. Traffic volumes would increase at intersections closer to the proposed stadium and garages, such as East 153rd Street/East 157th Street, East 161st Street/Macomb's Dam Bridge Approach, and East 161st Street/Jerome Avenue. As described above, many of these intersections are heavily congested now and would be so in the future without the proposed project.

Some improvements to traffic and pedestrian operations have been included as part of the proposed project. These improvements include wider crosswalks, sidewalks, and additional green time at signals for pedestrians to maintain safe and efficient vehicular and pedestrian flows. Specifically, Ruppert Place would be demapped, transformed into Ruppert Plaza, and

serve as a primary game-day artery for pedestrian travel. A new controlled crossing and at-grade crosswalk would be provided at Ruppert Plaza and East 161st Street and a new controlled crossing with a widened crosswalk would be provided on the south side of the Macomb's Dam Bridge Approach at East 161st Street. Measures associated with roadway closures, which are imposed currently along River Avenue in the vicinity of East 161st Street by the NYPD, were not assumed in the conditions with the proposed project—River Avenue is assumed to be opened between East 161st and East 157th Street. However, as detailed in Chapter 21, "Mitigation," a comprehensive game day traffic management plan would include closing River Avenue post-game from the north side of East 161st Street to East 162nd Street, similar to the type of post-game measures implemented today.

With the proposed project, traffic would be more concentrated on the streets immediately bordering the new garages (Garages A, B, and C), including River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, and East 161st Street. Proposed traffic mitigation measures, as described in Chapter 21, "Mitigation," would include standard capacity improvements applied to individual intersections (e.g., signal retiming) and the implementation of a comprehensive game-day traffic management plan, such as the management plan that occurs today for the existing stadium, that includes street closures, turn prohibitions, and traffic diversion strategies. The proposed mitigation measures would mitigate all but three local intersections. These traffic locations are (1) River Avenue and East 161st Street, where the confluence of pedestrian volumes with only moderate volumes of vehicular traffic would produce traffic impacts; (2) Macomb's Dam Bridge Approach and East 161st Street where higher vehicular and pedestrian volumes would also create significant impacts; and (3) Jerome Avenue at Ogden Avenue and Macomb's Dam Bridge Service Road. At these intersections, substantial volumes of traffic heading to and from the proposed garages could not be mitigated thoroughly by the combination of local intersection and capacity improvements and traffic diversion strategies as part of a comprehensive game-day traffic management plan.

Although the proposed project would result in a significant shift of vehicular traffic from some currently used traffic routes to others, with the proposed game-day traffic management plan, the proposed project would not have a significant adverse traffic-related impact on neighborhood character.

With the demapping of East 162nd Street between Jerome and River Avenues to accommodate the proposed stadium, a portion of the Bx13 bus route would need to be rerouted northward to East 164th Street. In connection with this rerouting, several bus stops would also need to be relocated. It is expected that these minor changes to the Bx13 bus route would not have a significant adverse impact on neighborhood character.

With the more northerly location of the proposed stadium and proposed changes to the area's surrounding infrastructure and parking locations, considerable changes in pedestrian circulation to and from the proposed stadium are anticipated. Pedestrian access between Jerome Avenue and River Avenue would no longer be available on East 162nd Street. Informal pedestrian access between the two avenues across Macomb's Dam Park would also be eliminated. However, the proposed project would include pedestrian improvements to East 161st Street, making that route more attractive, and pedestrian access would still be available on East 164th Street. Pedestrian routes and levels south of the existing stadium and west of the Major Deegan Expressway and adjacent Metro-North Railroad tracks would likely remain similar to current conditions. With the exception of the fans parking at the new Garage B and the existing parking facilities north of East 161st Street, all patrons from the new Parking Garages A and C and those parking south

and west of the existing stadium, would be required to cross East 161st Street. Three crosswalks along East 161st Street at River Avenue and the new crosswalk at Ruppert Plaza would operate at congested levels. However, it is expected that the proposed mitigation measures along with game-day management strategies including TEA controls similar to those utilized today as part of a comprehensive traffic management plan described in detail in Chapter 21, "Mitigation," would provide safe and efficient pedestrian flows to the proposed stadium and the proposed project would not have a significant adverse pedestrian-related impact on neighborhood character.

With the proposed project, changes in noise levels would be less than 3.0 dBA, which is barely perceptible. Since the proposed stadium would be located north of the existing stadium, noise levels would increase in some locations and decrease in others. Noise levels would decrease south and west of the existing stadium (proposed Heritage Field) since this area would no longer be directly across from Yankee Stadium. Generally, noise levels would increase north of the proposed stadium, west of River Avenue. Noise levels would increase the most west of Jerome Avenue, at the residential buildings directly across from the proposed stadium, but at 2.7 dBA (the greatest change) this would be less than the CEQR noise impact criteria of 3 dBA, and thus would be barely perceptible. The proposed project would therefore not result in a significant adverse noise-related impact on neighborhood character.

Noise levels within the new parks proposed at River Avenue and East 157th Street and along the waterfront west of Exterior Street would be above the CEQR noise exposure guidelines for outdoor areas. However, noise at these locations is above the guidelines under existing conditions and would also be so in the future without the proposed project. Noise levels in these parks would be comparable to noise levels at a number of existing parks in New York City, including Macomb's Dam Park, Pelham Bay Park, Van Cortlandt Park, and Hudson River Park. Therefore, there would no significant adverse noise-related neighborhood character impacts.

Overall, traffic and pedestrian conditions with the proposed project would, for the most part, be similar to existing conditions and the future without the proposed project, and would be of limited duration, occurring only during Yankees games. A comprehensive game-day traffic management plan, such as is implemented currently, would address impacts in the pre- and post-game peak periods in as effective a manner as possible.

The proposed project would also have positive effects on the character of the area. The proposed project would increase the area's open space overall, and replace older, and in some cases worn recreational facilities, with new, modern facilities. The project would also create new access to the waterfront, in a waterfront park and esplanade, beyond what would have been provided in the future without the proposed project. The proposed project would also increase and better organize parking and help reduce existing parking shortfalls that cause fans driving to games to circulate excessively in search of hard-to-find parking spaces, often ending up parking illegally near the stadium, on local streets, and on the service road of the northbound Major Deegan Expressway. As a result of the proposed project, the New York Yankees, a defining element of the character of the surrounding area and an important asset to the neighborhood and The Bronx, would remain in its historical Bronx location.

In summary, the proposed project would not significantly adversely affect the combined elements contributing to the neighborhood character of the study area. No significant adverse impacts to neighborhood character would result from the proposed project. ✷

A. INTRODUCTION

This chapter assesses the potential impacts to terrestrial and aquatic natural resources[1] and floodplains from the construction of the proposed Yankee Stadium, recreational and parking facilities, waterfront park, and esplanade.

The purpose of this chapter is to:

- Describe the regulatory programs that protect floodplains, wildlife, threatened or endangered species, aquatic resources, or other natural resources that may apply to the proposed project;
- Describe the current condition of the floodplain and natural resources, such as wetlands and terrestrial plants, wildlife, and threatened or endangered species within and adjacent to the project area;
- Provide a general description of aquatic resources (water quality and aquatic organisms) of the Harlem River, and aquatic resources within the waterfront portion of the project area;
- Assess future floodplains, water quality, and aquatic and terrestrial natural resources in the future without the proposed project; and
- Assess the probable impacts on floodplains, water quality, and aquatic and terrestrial natural resources from the proposed project.

The project area consists of two primary areas for purposes of the natural resources analysis: the portion east of the Major Deegan Expressway that includes the existing Yankee Stadium and Macomb's Dam and John Mullaly Parks; and the western portion adjacent to the Harlem River that includes Piers 1 through 3, Bronx Terminal Market Buildings G, H, and J, and the area north of Pier 1 that contains existing Yankee Stadium Parking Lots 13A and 13B.

The proposed project would result in:

- Displacement of New York City Department of Parks and Recreation (NYCDPR) recreational facilities on approximately 22.42 acres in portions of Macomb's Dam and John Mullaly Parks (see Figure 1-12).
- Preservation of 165 trees and loss of approximately 377 trees within the displaced recreational facilities. The removed trees, which total a basal area of approximately 592 square feet, would be replaced with trees of a size totaling an equal basal area or from between 8,356 trees of a 3½-inch caliper to 29,248 trees of a 2-inch caliper. Trees would be

[1] Defined as plant and animal species and any area capable of providing habitat for plant and animal species or capable of functioning to support ecological systems and maintain the city's environmental balance (*New York City Environmental Quality Review (CEQR) Technical Manual*, City of New York, 2001).

planted within the replacement recreational facilities and along streets within the project area, and along streets within the vicinity of the project area or as near to the project area as possible.

- Development of replacement recreational facilities within 10.22 acres of the existing parkland from which they were originally displaced (see Figure 1-15). These would include the following:
  - A 7.33-acre recreational area at what is currently Macomb's Dam Park south of East 161st Street and west of Ruppert Place. The recreational facilities would be built atop a proposed subterranean parking garage (Parking Garage A), accessible at-grade from surrounding streets, and would include a full-size artificial turf soccer field encircled by a 400-meter athletic track. A grandstand would overlook both facilities. Two basketball courts would be located between the Macomb's Dam Bridge Approach and the grandstand, an artificial turf little league field would be located south of the track, and handball courts would be located to the west. Tennis courts would be located adjacent to the grandstand. A small tot-lot with playground space would be created near the corner of East 161st Street and the Macomb's Dam Bridge Approach. As currently conceived, natural soil wells would be located within the open areas between these recreational facilities with sufficient soil depth to allow the planting of trees, shrubs, and herbaceous plants to re-create the natural tree screens of the existing recreational facilities in this portion of Macomb's Dam Park, and create areas of shade for relaxation and passive enjoyment of the park.
  - A 2.89-acre recreational facility on the roof of Parking Garage C located within the portion of Macomb's Dam Park south of East 161st Street, west of Jerome Avenue and north of the ramp from the Major Deegan Expressway (currently used for surface parking). This recreational facility would include tennis courts and a pavilion building with restrooms and other amenities. As currently conceived, natural soil wells would also be located within this recreational facility to provide screening and shade and to enhance the recreational experience of park users.
- Development of replacement recreational facilities within 15.82 acres of newly mapped parkland (see Figures 1-15). These would include the following:
  - A 0.68-acre recreational facility on two City-owned parcels of land currently used for surface parking located east of River Avenue on either side of East 157th Street. This facility would include passive open space areas with benches and vegetation screening, and possible sculptural features on the northern parcel.
  - A 1.13-acre tree-lined passive park and pedestrian promenade on the site of a re-aligned Ruppert Plaza between the recreational facilities on Parking Garage A and the existing Yankee Stadium.
  - An 8.90-acre recreational area developed on the site of the existing stadium. This parcel would contain Heritage Field, a publicly accessible baseball field adapted from the existing Yankee Stadium playing field and portions of the existing field seats, and areas of landscaped passive recreational open space.
  - A 5.11-acre waterfront park located along the Harlem River on property currently containing Bronx Terminal Market Buildings G, H, and J, and Piers 2 and 3. The waterfront park would provide waterfront access and recreational opportunities that are

currently not available in the surrounding community. Recreational facilities within the waterfront park would include one pervious artificial turf little league field and one pervious artificial turf softball field surrounded by a pedestrian esplanade and passive recreational open space landscaped with trees, shrubs, and herbaceous vegetation waterfront park. A comfort station would be located within the park to the south of the playing field. As currently conceived, landscaping would screen views of the Oak Point Link rail and Exterior Street/Major Deegan Expressway from park users and would encourage passive enjoyment of the Harlem River waterfront at the interpier (cove) areas north and south of the playing fields (see Figure 1-15). The design of the waterfront park would include improvements to the existing shoreline stabilization to enhance the waterfront for park users and aquatic habitat where possible, and the removal of in-water debris. The existing concrete masonry bulkhead present within the project area along the shoreline of Pier 1 in the vicinity of the esplanade connecting the northern end of the waterfront park to the existing ferry landing (see description below) would be reconstructed in kind. The existing timber crib bulkhead that lines the two interpier/cove areas would be replaced with a shoreline stabilization structure, such as a gabion wall system,[1] which would create a softer shoreline and increase the complexity of the shoreline habitat with establishment of tidal wetland vegetation at the shoreward portion of the southern cove. The existing riprap that lines the remaining portion of the shoreline within the waterfront park (i.e., pierhead line for Piers 2 and 3) would be stabilized and improved. The design and landscaping of the new waterfront open space would accommodate the maintenance and operation of a future reconstruction project planned for the Major Deegan Expressway. The southern portion of the waterfront park would also be landscaped to create a smooth transition with the 2-acre public open space that would be developed by the City on Pier 4 (see Figure 4-7), south of the proposed project's waterfront park. [2]

- Development of replacement facilities on 1.01 acres of new open space, not mapped as parkland. These include the following:
  - A 0.71-acre esplanade would provide a pedestrian corridor (approximately 1,550 feet long and 20 feet wide) between the northern portion of the proposed waterfront park and the existing ferry landing servicing the proposed stadium, wrapping around the waterfront edge of Pier 1, turning east, and connecting to Exterior Street.
  - A 0.3-acre landscaped buffer on the north, east and west sides of Parking Garage B along East 164th Street and small portions of River Avenue and Jerome Avenue.

[1] Gabions are rectangular baskets made of galvanized, and sometimes also PVC-coated, steel wire in a hexagonal mesh. Gabion walls are formed by wiring together the rectangular baskets and filling the baskets with stone to form a large heavy mass.

[2] As described in Chapter 1, "Project Description," the analyses reflect the reduction in Gateway Center at Bronx Terminal Market as presented in the Gateway Center at Bronx Terminal Market FEIS. As presented in the FEIS for that project, the proposed development on the portion of the site west of Exterior Street and the Major Deegan Expressway evaluated in the DEIS for that project has been eliminated. The City will develop an approximately 2-acre waterfront open space on Pier 4, to be maintained by NYCDPR.

- Construction of a new, open-air stadium with a capacity for 54,000 spectators on a portion of Macomb's Dam Park, a portion of John Mullaly Park, and one block of East 162nd Street.
- Construction of four parking garages.
- Street level non-destination retail at proposed Parking Garage D.
- Repaving and restriping of the existing surface parking lots on Pier 1 (Yankee Stadium Parking Lots 13A and 13B) located north of the proposed waterfront park, and an extension of parking on 0.4 acres to the south of these existing lots.

PRINCIPAL CONCLUSIONS

The proposed project would not result in significant adverse impacts to terrestrial plant communities or wildlife, or to floodplains, wetlands, water quality or aquatic biota of the Harlem River. Potential benefits to natural resources resulting from the proposed project include an improved habitat for birds and other wildlife within the landscaped passive recreational areas that would be developed within the replacement parkland; and an improved fish and benthic invertebrate habitat along the shoreline of the Harlem River waterfront park that would result from the replacement of the existing hard shoreline stabilization structures with softer shoreline stabilization structures and establishment of vegetation of the shoreward portion of the Southern Cove.

The proposed project would result in the displacement of recreational facilities on approximately 22.42 acres of New York City parkland within Macomb's Dam Park (the area north and south of East 161st Street and east of Jerome Avenue) and the southern portion of John Mullaly Park (between East 162nd and East 164th Streets), and the creation of recreational facilities, public open space, and new parkland on approximately 27.05 acres, for a net increase of 4.63 acres of recreational facilities and open space. Approximately 15.82 acres of the replacement recreational facilities would be developed on newly mapped parkland. Active recreational facilities such as the running track, soccer field, baseball fields, tennis courts, handball courts, and basketball courts comprise most of the facilities being displaced. However, these existing shade trees do provide benefits in terms of shade, soil stabilization, and aesthetics. The existing weedy vegetation along the edge of the piers in the area of the proposed Harlem River waterfront park and esplanade, which is of limited wildlife value, would also be removed as part of shoreline improvement activities. Parking Garage D and the passive recreational facilities proposed at the corner of River Avenue and East 151st and East 157th Streets, respectively, would replace existing surface parking. Wildlife using the areas to be displaced and the waterfront area would be limited to those tolerant of urban conditions. The loss of some individuals of these urban-tolerant species would not result in a significant adverse impact on the bird and wildlife community of the New York City region. Therefore, no significant adverse impacts to terrestrial resources are anticipated as a result of the proposed project.

All trees removed as a result of the proposed project would be replaced in accordance with NYCDPR requirements. To minimize potential adverse impacts resulting from the loss of 377 trees (this includes street trees and trees lost from the recreational facilities that would be displaced), NYCDPR would require the replanting of trees in accordance with the NYCDPR basal area tree replacement formula. As indicated, the removed trees, which total a basal area of approximately 592 square feet, would be replaced with trees of a size totaling an equal basal area. Because there will be insufficient space to plant the calculated number of trees within the replacement recreational areas, the remaining replacement trees would be planted as street trees

within the vicinity of the project area or as nearby as possible. These replacement trees would create natural screening and areas of shade for relaxation and passive enjoyment for park visitors and habitat for wildlife.

While active recreational facilities would comprise the majority of the replacement parkland (e.g., tennis courts, basketball courts, handball courts, soccer field, running track, little league, softball and baseball fields), they would be bordered by areas of passive open space to provide screening, shading, and passive recreational opportunities as possible. These areas would be landscaped with trees, shrubs, and herbaceous plants. These landscaped passive recreational areas would benefit wildlife by providing habitat with a diversity at least equal to or greater than currently present within the displaced recreational facilities. The replacement recreational facilities that would be developed atop Parking Garages A and C would incorporate natural soil wells in open areas between the active recreational facilities that would support a sufficient depth of growing media to permit the planting of trees and other vegetation. The new open space areas developed within the recreational facilities on newly mapped parkland, such as the passive open space areas associated with the 5.11-acre Harlem River waterfront park and surrounding Heritage Field at the 8.90-acre site of the existing stadium would provide even greater opportunity for the development of green park landscaping that would provide improved habitat for birds and other wildlife.

Significant adverse impacts would not occur to the floodplain, wetlands, water quality or aquatic biota of the Harlem River, or to the only endangered species with the potential to occur in the vicinity of the project area, the shortnose sturgeon. The proposed Harlem River waterfront park and esplanade, the new parking area north of the waterfront park, and the Yankee Stadium Parking Lots 13A and 13B that would be repaved and restriped are the only portions of the project area within the floodplain. The development of the waterfront park would result in an increase in pervious cover with stormwater retention, which would result in beneficial effects to the floodplain by decreasing stormwater discharges during rainfall events. Improvements to the shoreline stabilization as part of the Harlem River waterfront park design, such as replacement of existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall system) that would increase the complexity of the shoreline habitat and establishment of tidal wetland vegetation at the shoreward portion of the coves would improve wetland resources within the project area. Potential impacts to wetlands during construction of the shoreline improvements would be minimized through the implementation of measures identified during the permitting process for these shoreline enhancements by federal and state agencies.

In addition, any effects on water quality resulting from shoreline improvement activities, such as increased suspended sediment and resuspension of contaminated sediment, would be temporary and localized and would not result in significant adverse impacts to aquatic biota. The temporary loss of some benthic habitat and of some macroinvertebrates during replacement of the concrete masonry bulkhead and timber crib bulkhead, and improvement of the riprapped areas, would not result in significant adverse impacts to populations of benthic macroinvertebrates using this portion of the Harlem River, nor would it significantly impact the food supply for fish foraging in the area. Encrusting organisms and benthic macroinvertebrates would be expected to recolonize these areas shortly after construction is completed. The proposed gabion wall system and creation of vegetated tidal wetland habitat as part of the waterfront park design would benefit aquatic resources by increasing the diversity of aquatic habitat for benthic macroinvertebrates and fish within the project area. Because water quality impacts would be limited to the immediate area of activity along the shoreline, which consists of shallow water habitat, adverse impacts would not occur to shortnose sturgeon that may occur in the deeper

channel area of the Harlem River. Potential adverse effects to water quality resulting from the discharge of stormwater during construction and operation of the proposed project would be minimized through implementation of a Stormwater Pollution Prevention Plan (SWPPP), which would include stormwater detention facilities. Implementation of an Integrated Pest Management (IPM) strategy would manage landscaped areas with minimal application of pesticides, herbicides and fertilizers. Therefore, the discharge of stormwater from the project area would not be expected to result in significant adverse impacts to Harlem River water quality.

B. METHODOLOGY

This section presents the methodology used to describe existing natural resources within the project area under existing and future conditions, and to assess potential impacts to these resources from the proposed project. For terrestrial resources and floodplains the study area was restricted to the project area and the area immediately adjacent to the project area because of the highly developed nature of the surrounding land uses. An exception was made for the identification of threatened or endangered species which were evaluated for a distance of at least 0.5 miles from the project area. The study area for water quality and aquatic resources included the overall aquatic resources within the Harlem River, and the aquatic resources within the waterfront portion of the project area.

The analysis of potential impacts to natural resources from the proposed project considered the potential effects for analysis year 2009, when the proposed stadium and most elements of the proposed project are expected to be completed and would have the potential for the most impacts. It is expected that all parkland development would occur by 2009 except for Heritage Field on the site of the existing stadium, which would be completed by the end of 2010.

EXISTING AND FUTURE CONDITIONS

Existing conditions for aquatic natural resources of the Harlem River in the vicinity of the project area and terrestrial natural resources within the vicinity of the project area were summarized from:

- Existing information identified in literature and obtained from governmental and non-governmental agencies, including the New York City Department of Environmental Protection (NYCDEP) Harbor Water Quality Survey (NYCDEP 2004); U.S. Environmental Protection Agency (USEPA) National Sediment Quality Survey Database, 1980-1999 (USEPA 2001); New York/New Jersey Harbor Estuary Program; USEPA Regional Environmental Monitoring and Assessment Program (R-EMAP); Federal Emergency Management Agency (FEMA); New York State Department of Environmental Conservation (NYSDEC) Breeding Bird Atlas; and information collected as part of another project (Gateway Center at Bronx Terminal Market Project) located on the waterfront portion of the project area;
- Observations made during site visits; and
- Responses to requests for information on rare, threatened or endangered species in the vicinity of the project area submitted to the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the New York Natural Heritage Program (NYNHP) (see Appendix D). NYNHP, a joint venture of the NYSDEC and The Nature Conservancy (TNC) since 1985, maintains an ongoing, systematic, scientific inventory on

rare plants and animals native to New York State. NYSDEC maintains the NYNHP files. The NYNHP database is updated continuously to incorporate new records and changes in the status of rare plants or animals. In addition to the State program, the USFWS maintains information for federally listed threatened or endangered freshwater and terrestrial plants and animals, and NMFS for federally listed threatened or endangered marine organisms.

The future conditions without the proposed project for analysis year 2009 were assessed by:

- Considering existing natural resources within and adjacent to the project area and assessing potential effects to these resources from the continuation of the current conditions within most of the project area, including the continued operation of the existing stadium—plus one known project. The western portion of the project area along the Harlem River is proposed to contain a new 8-foot by 5-foot box culvert and stormwater outfall for the Gateway Center at Bronx Terminal Market Project that would be developed east of Exterior Street. The new box culvert would run from Exterior Street to the Harlem River within the southern portion of Pier 3 within the project area. The new outfall would be located along the Harlem River shoreline approximately 84 feet north of the cove at the southern portion of the project area. The City will develop an approximately 2-acre waterfront open space just south of the project area on Pier 4 ; and
- Considering potential effects of proposed or ongoing improvements outside the project area on water quality and natural resources of the Harlem River.

ASSESSMENT OF IMPACTS TO WATER QUALITY AND NATURAL RESOURCES

Potential impacts to water quality and natural resources from the proposed project were assessed for the analysis year 2009 using an approach that considered the following:

- The existing water quality and natural resources within and in the vicinity of the project area.
- Potential short-term effects from the discharge of stormwater, and groundwater recovered during dewatering activities, to the combined sewer system during project construction.
- Potential long-term effects to aquatic resources from the discharge of stormwater to the combined sewer during operation of the proposed project.
- Potential short-term effects to floodplain and aquatic resources from construction of the Harlem River waterfront park and esplanade, and long-term beneficial effects to the floodplain and aquatic resources from the Harlem River waterfront park and esplanade.
- Potential short-term effects to terrestrial resources from construction of the proposed project and long-term beneficial effects to terrestrial resources from the proposed project.

C. REGULATORY CONTEXT

Activities associated with the proposed shoreline improvements (e.g., replacement of bulkhead structures, riprap improvement, and removal of debris from water in the vicinity of the piers), discharge of stormwater, activities within the New York State Coastal Zone, and construction of project elements within the floodplain, would require compliance with Federal and State legislation and regulatory programs, and Federal Executive Orders described below, that pertain to activities in coastal areas, surface waters, floodplains, wetlands, and the protection of species of special concern.

FEDERAL

Clean Water Act (33 USC §§ 1251 to 1387)

The objective of the Clean Water Act, also known as the Federal Water Pollution Control Act, is to restore and maintain the chemical, physical, and biological integrity of U.S. waters. It regulates point sources of water pollution, such as discharges of municipal sewage, industrial wastewater, and stormwater, and the discharge of dredged or fill material into navigable waters and other waters of the United States. It also regulates non-point source pollution, such as runoff from streets, agricultural fields, construction sites, and mining operations that enters waterbodies from other than the end of a pipe.

Coastal Zone Management Act of 1972 (16 USC §§ 1451 to 1465)

The Coastal Zone Management Act of 1972 established a voluntary participation program to encourage coastal states to develop programs to manage development within the state's designated coastal areas to reduce conflicts between coastal development and protection of resources within the coastal area. Federal permits issued in New York must be accompanied by a Coastal Zone Consistency Determination that evaluates consistency with New York's federally approved coastal zone management program.

Endangered Species Act of 1973 (16 USC §§ 1531 to 1544)

The Endangered Species Act of 1973 recognizes that endangered species of wildlife and plants are of aesthetic, ecological, educational, historical, recreational, and scientific value to the nation and its people. The Act prohibits the importation, exportation, taking, possession, and other activities involving illegally taken species covered under the Act, and interstate or foreign commercial activities. The Act also provides for the protection of critical habitats on which endangered or threatened species depend for survival.

Executive Order 11988 (Flood Plain Management)

Executive order 11988 states that, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities."

Executive Order 11990 (Protection of Wetlands)

This Executive Order directs federal agencies to provide leadership and take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance wetland quality. New activities in wetlands, either undertaken or supported by a federal agency, are to be avoided unless there is no practicable alternative and all practical measures have been taken to minimize the potential impacts to the wetlands.

NEW YORK STATE

Protection of Waters, Article 15, Title 5, Environmental Conservation Law (ECL), Implementing Regulations 6 NYCRR Part 608

New York State's surface waters (rivers, streams, lakes, and ponds) are valuable for sources of drinking water, for bathing, agricultural, commercial, and industrial uses, for the fish and wildlife habitat they provide, and for educational and recreational opportunities. It is the State's

policy, as set forth in Title 5 of Article 15, ECL to preserve and protect these waters. NYSDEC is responsible for administering the Protection of Waters regulations to prevent undesirable activities on waterbodies. Under this regulatory program, all waters of the State are provided a use classification (A or AA for drinking water source, B for best usage for swimming and other contact recreation, C for waters supporting fisheries and non-contact recreation, and D, the lowest use classification), and a standard designation based on existing or expected best usage (such as T for those that may support trout, or TS for those that may support trout spawning). The Harlem River is a Class I saline surface water. The best usages of Class I waters are secondary contact recreation and fishing. Class I waters must be suitable for fish propagation and survival.

Streams and small waterbodies connected to streams that are designated as C(T) or higher (i.e., C(TS), B, or A) are protected streams that are subject to the stream protection provisions of the Protection of Waters regulations. The Protection of Waters Permit Program regulates five different categories of activities: disturbance of the stream bed or banks of a protected stream or other watercourse; construction, reconstruction, or repair of dams and other impoundment structures; construction, reconstruction, or expansion of docking and mooring facilities; excavation or placement of fill in navigable waters and their adjacent and contiguous wetlands; and Water Quality Certification for placing fill or other activities that result in a discharge to waters of the United States in accordance with Section 401 of the Clean Water Act. A Protection of Waters permit would not be required for the proposed project due to its classification (Class I).

State Pollutant Discharge Elimination System (New York Environmental Conservation Law Article 3, Title 3; Article 15; Article 17, Titles 3, 5, 7, and 8; Article 21; Article 70, Title 1; Article 71, Title 19; Implementing Regulations 6 NYCRR Articles 2 and 3)

Title 8 of Article 17, ECL, Water Pollution Control, authorized the creation of the State Pollutant Discharge Elimination System (SPDES) to regulate discharges to the State's waters. Activities requiring a SPDES permit include point source discharges of wastewater into surface or ground waters of the State, including the intake and discharge of water for cooling purposes; constructing or operating a disposal system (sewage treatment plant); discharge of stormwater; and construction activities that disturb one or more acres.

Waterfront Revitalization of Coastal Areas and Inland Waterways Act (Sections 910-921, Executive Law, Implementing Regulations 6 NYCRR Part 600 et seq.)

Under the Waterfront Revitalization of Coastal Areas and Inland Waterways Act, the New York State Department of State (NYSDOS) is responsible for administering the Coastal Management Program (CMP). The Act also authorizes the State to encourage local governments to adopt Waterfront Revitalization Programs (WRP) that incorporate the State's policies. New York City has a WRP administered by the Department of City Planning.

Floodplain Management Criteria for State Projects (6 NYCRR 502)

Under 6 NYCRR 502, all State agencies are to ensure that the use of State lands and the siting, construction, administration, and disposition of State-owned and State-financed projects involving any change to improved or unimproved real estate are conducted in ways that would minimize flood hazards and losses. Projects are to consider alternative sites on which the project could be located outside the 100-year floodplain. Projects to be located within the floodplain are to be designed and constructed consistent with the need to minimize flood damage within the

100-year floodplain and include adequate drainage to reduce exposure to flood hazards. All public utilities and facilities associated with the project are to be located and constructed to minimize or eliminate flood damage. The regulations specify that for nonresidential structures, the lowest floor should be elevated or flood-proofed to not less than 1 foot above the base flood level so that below this elevation the structure, together with associated utility and sanitary facilities, is watertight, with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. No project may be undertaken unless the cumulative effect of the proposed project and existing developments would not cause material flood damage to the existing developments.

Tidal Wetlands Act, Article 25, ECL, Implementing Regulations 6 NYCRR Part 661

Tidal wetlands regulations apply anywhere tidal inundation occurs on a daily, monthly, or intermittent basis. They are found along much of the salt-water shore, bays, inlets, canals, and estuaries of Long Island, New York City, and Westchester County and the tidal waters of the Hudson River up to the salt line. NYSDEC is responsible for administering the tidal wetlands regulatory program (6 NYCRRR Part 661) and mapping the locations of New York State's regulated tidal wetlands. The tidal wetlands are identified by category based on the types of vegetation and the presence of tide. Each category has restrictions on activities allowed in and adjacent (up to 300 feet inland from wetland boundary, or up to 150 feet inland within the City) to wetlands falling under that category. A permit is required for almost any activity that will alter wetlands or the adjacent areas. Wetlands within the project area are described below in "Existing Conditions."

Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern (ECL, Sections 11-0535[1]-[2], 11-0536[2], [4], Implementing Regulations 6 NYCRR Part 182)

The Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern regulations prohibit the taking, import, transport, possession, or selling of any endangered or threatened species of fish or wildlife, or any hide, or other part of these species as listed in 6 NYCRR §182.6.

D. EXISTING CONDITIONS

FLOODPLAINS AND WETLANDS

Figure 9-1 presents the 100-year floodplain (area with a 1 percent chance of flooding each year) and the 500-year floodplain (area with a 0.2 percent chance of flooding each year) boundaries within the project area. The only elements of the proposed project that fall within the 100-year floodplain are the Harlem River waterfront park (including the two ballfields) and esplanade, the new surface parking area between the northern end of the waterfront park and Pier 1 and the existing Yankee Stadium Parking Lots 13A and 13B that would be repaved and restriped. Within the project area, the entire shoreline is engineered, primarily with timber crib bulkhead, concrete masonry bulkhead, or riprap.

The USFWS National Wetland Inventory (NWI) classifies the interpier areas as E1UBL (estuarine subtidal unconsolidated bottom) (Figure 9-2). Subtidal areas are continuously submerged substrates (below extreme low water). Unconsolidated bottoms have at least 25 percent cover of particles smaller than 6 or 7 cm, and less than 30 percent vegetative cover. However, site visits conducted in 2004 for the Gateway Center at Bronx Terminal Market

project suggest that the interpier areas may now be characterized according to the NWI classification scheme as estuarine intertidal unconsolidated bottom due to an accumulation of sediment. Intertidal areas are alternately (twice daily) flooded and exposed by the tide.

The NYSDEC Tidal Wetland Map #588-518 categorizes the interpier areas as littoral zone tidal wetlands (see Figure 9-3). The New York State Tidal Wetland Regulations (6 NYCRR Part 661.4) define littoral zone as:

> "The tidal wetlands zone designated LZ on an inventory map, that includes all lands under tidal waters which are not included in any other category except as otherwise determined in a specific case as provided in section 661.16. Provided there shall be no littoral zone under waters deeper than six feet at mean low water…"

Water depths within the interpier areas and adjacent to the pierheads at mean high water (MHW) appear to range between 1 and 5 feet and would be less than 6 feet at mean low water (MLW). Therefore, these areas would meet the NYSDEC definition for littoral zone tidal wetlands.

Requests for jurisdictional determinations to confirm the extent of regulated waters within the project area were submitted by Langan Engineering and Environmental Services, Inc. (Langan) to both the U.S. Army Corps of Engineers (USACOE) and NYSDEC as part of the review for the Gateway Center at Bronx Terminal Market project. The USACOE has determined that there are no Federal wetlands located within the project area. However, the portion of the project area below the high-tide line would be under the jurisdiction of the USACOE as waters of the United States and would be regulated under Section 404 of the Clean Water Act. NYSDEC has placed the landward extent of tidal wetlands at the seaward face of the shoreline engineering with the exception of three locations (along the northern edge of Pier 2 within the north cove, within the former interpier area between Piers 2 and 3, and along the shoreline of the southern cove between Piers 3 and 4) where the tidal wetland boundary line would extend to the location of MHW (el 1.0 Bronx Highway Datum) (Cryan 2005). (See Figure 9-4). At the northern edge of Pier 2 within the northern cove, due to the condition of the deteriorated timber crib bulkhead, the tidal wetland boundary line would extend landward of the face of the crib to the location of MHW. The adjacent area jurisdiction extends to the top of slope, and then landward to the functional edge of the existing pavement. At the location of the former interpier area between Piers 2 and 3, where there is a gap in the riprap, the tidal wetlands boundary is the MHW line. The adjacent area jurisdiction extends to the top of the slope and then landward to the functional edge of pavement. Within the southern cove the shoreline engineering along the shoreline between Piers 3 and 4 has not been maintained. Therefore, the tidal wetland boundary extends to MHW as it falls on the sloped shoreline. Adjacent area jurisdiction extends to the top of slope and then landward to the functional edge of the existing pavement.

TERRESTRIAL RESOURCES

The land surface within the project area (see Figure 1-2) is generally covered with impervious surfaces (roads, buildings, or parking lots) that provide minimal wildlife habitat, or recreational fields located in Macomb's Dam and John Mullaly Parks that provide limited habitat in the form of shade trees and grass.

The portion of John Mullaly Park within the project area proposed for the location of Parking Garage B and a portion of the proposed stadium contains paved racquetball courts, a small clubhouse, and paved parking lots. Vegetation is generally restricted to the perimeter of the park outside the fence lines and adjacent to the street, and an area of scrubby vegetation (tree-of-heaven

(*Ailanthus altissima*) and mulberry (*Morus alba*)) next to the substation. There are 28 trees within the park. Several trees occur along the perimeter of the park in single and double rows. Pin oak (*Quercus palustris*) is the most abundant tree. Other trees along the fence line include red oak (*Quercus rubra*), London planetree (*Platanus acerifolia*), Norway maple (*Acer platenoides*), and Japanese pagoda tree (*Sophora japonica*). Most of the trees are around 40 feet high with diameters at breast height ranging from 15 to 24 inches. The understory consists of grass or bare ground. Tree species comprising the street trees are similar to those along the fence line.

Macomb's Dam Park north of East 161st Street and south of East 162nd Street is the location of the proposed stadium. It contains a running track, soccer field, fencing, ballfields, and areas with bleachers. Scattered shade trees and grass occur along the perimeter of the park and street trees run along the outside fence of the park. Most of the trees along the perimeter of the park are pin oaks more than 40 feet high with a diameter at breast height between 20 and 24 inches. A rock outcrop at the southwest portion of the park is surrounded by smaller trees (mulberry, black cherry (*Prunus serotina*) and crab apple (*Malus coronaria*) with a few tree-of-heaven saplings) and grass. There are 135 trees within the park.

Macomb's Dam Park south of East 161st Street and immediately west of the existing stadium is the proposed location for Parking Garage A. This portion of the park contains baseball fields, a basketball court, tennis courts, paved walkways, fences, benches, and the Macomb's Dam Park District Office. Fifty-six trees occur within this portion of Macomb's Dam Park. They are located primarily along walkways next to the building and around the basketball court. The southwest portion of the park contains trees and brushy vegetation in an area blocked by fencing near the Major Deegan Expressway access ramp. Street trees line the streets surrounding the park.

Macomb's Dam Park immediately south of the triangle (south of East 161st Street) between Jerome Avenue and the Macomb's Dam Bridge Approach is the proposed location for Parking Garage C. This portion of the park is primarily covered with a paved parking lot and the eastern portion is fenced off as a parking area for trailers. Trees and shrubs occupy the area south of the fence line and the Macomb's Dam Bridge Approach.

The sites of proposed Parking Garage D and the passive recreational facilities on either side of the intersection of East 157th Street and River Avenue are currently used for surface parking. Several trees are located within an existing surface parking lot south of East 151st Street, on the site of proposed Parking Garage D. The intersection of East 157th Street and River Avenue does not contain any natural resources.

The portion of the project area currently occupied by the Bronx Terminal Market Buildings G, H, and J, the adjacent Piers 1 through 3, and Yankee Stadium Parking Lots 13A and 13B to the north provide little habitat other than the weedy vegetation on the shoreline that grows through the riprap, and in cracks and around the edges of paved areas. The piers are paved and are separated from the riprap or bulkhead by chain link fencing. The existing landing for the ferry is located along Pier 1, at the western edge of the project area.

The existing vegetation within Macomb's Dam Park, John Mullaly Park, the existing street trees, and the waterfront area of Bronx Terminal Market (Buildings G, H, J and Piers 1 through 3) provide limited habitat for urban birds and other wildlife. Grey squirrels (*Sciurus carolinensis*) were observed within the parkland during the 2005 site visit. Mice and other rodents would also be expected to occur within the project area. Birds observed within the project area during the 2005 site visit include pigeons (*Columba livia)*, Canada goose (*Branta canadensis*) and gulls.

Examples of birds found within landscaped areas of the New York City metropolitan region that have the potential to breed in the vegetated open space areas within the vicinity of the project area, based on N.Y. State Breeding Bird Atlas project records for Block 5851B (surveyed 2000 and 2001), and Block 5852D (surveyed 2000 through 2003 [NYSDEC 2004]), include: pigeon, mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), northern mockingbird (*Mimus polyglottos)*, song sparrow (*Melospiza melodia)*, American crow (*Corvus brachyrhynchos)*, European starling (*Sturnus vulgaris)*, and house sparrow (*Passer domesticus)*.

AQUATIC RESOURCES

The approximately 6-mile-long and 400-foot-wide Harlem River is a tidal strait that connects the Hudson and East Rivers. It is part of the New York/New Jersey Harbor Estuary (Harbor Estuary). The water depth of the navigation channel is maintained at 15 feet below MLW, except for the area around Spuyten Duyvil where the channel is maintained at 18 feet below MLW. The tidal currents in the Harlem River run in two directions: north and west toward the Hudson River and south and east toward the East River, although this varies with season. The mean tidal range is 5.1 feet at Hell Gate and 3.6 feet at the confluence with the Hudson River. The current velocity is approximately 2.0 knots, with faster currents occurring in the narrower parts of the channel (USACOE 1999).

The interpier areas are directly affected by the tidal cycle of the Harlem River. At one time the interpier areas within the project area were deep enough for barges and other vessels to deliver goods to the Bronx Terminal Market. These areas have not been maintained and have silted in such that they are exposed mudflat at extreme low tide. The Oak Point Link rail runs on a trestle along the Harlem River, abutting the present day pierheads. Water depths in the interpier areas at MHW currently range from 1 to 5 feet.

EXISTING WATER QUALITY CONDITIONS

Title 6 of the New York Code of Rules and Regulations (NYCRR) Part 703 includes surface water standards for each use class of New York surface waters. The Harlem River is use classification Class I. Best usages for Class I waters are secondary contact recreation and fishing. Water quality should be suitable for fish survival and propagation. Water quality standards for fecal and total coliform, dissolved oxygen (DO), and pH for Use Class I waters are as follows (there are no New York State standards for chlorophyll *a* or water clarity):

- Fecal coliform—Monthly geometric mean less than or equal to 2,000 colonies/100 milliliters (mL) from five or more samples.
- Total coliform—The monthly geometric mean from a minimum of five examinations shall not exceed 10,000 colonies/100 mL.
- DO—Never less than 4 milligrams per liter (mg/L).
- pH—The normal range shall not be extended by more than 0.1 of a pH unit.

The City of New York has monitored Harbor Estuary water quality with an annual survey (Harbor Survey) for over 90 years. NYCDEP conducts the survey by collecting water samples at stations in four designated regions: Inner Harbor Area, Upper East River-Western Long Island Sound, Lower New York Bay-Raritan Bay, and Jamaica Bay (NYCDEP 2004b). The Upper East River-Western Long Island Sound Area includes the project area. Every year, NYCDEP

produces a report summarizing the results of the current survey and providing a synopsis of recent trends in coliform counts, chlorophyll *a*, DO, and Secchi transparency.

The results of recent Harbor Surveys (NYCDEP 2004a, b) suggest that the water quality of the Harbor Estuary has improved significantly since the 1970s as a result of measures undertaken by the City. These measures include eliminating 99 percent of raw dry-weather sewage discharges, reducing illegal discharges, increasing the capture of wet-weather related floatables, and reducing the toxic metals loadings from industrial sources by 95 percent (NYCDEP 2002). The year-round disinfection requirement for discharges to waters within the Interstate Environmental Commission's district (including the New York Harbor Estuary) has contributed significantly to water quality improvements in coliform counts since the requirement went into effect in 1986 (IEC 2004).

Salinity measurements collected between 1999 and 2003 by the NYCDEP (2004a) in the Harlem River at East 155th Street, to the west of the project area, ranged from 1.3 to 27.7 parts per thousand (ppt) (see Table 9-1). Bottom water salinity was generally only slightly greater than top water salinity.

Table 9-1
1999-2003 NYCDEP Water Quality Data for the East 155th Street Sampling Station

Parameter	Surface			Bottom		
	Min	High	Mean	Min	High	Mean
Total Fecal Coliforms (per 100 mL)	1	3,960	325	23	265	65
Dissolved Oxygen (mg/L)	2.8	13.3	6.6	2.6	13.1	6.5
Temperature (°C)	1.7	25.8	17.9	1.7	25.8	18.2
Salinity (ppt)	1.3	27.7	17.3	1.4	27.6	17.4
Chlorophyll *a* (µg/L)	0.56	54.6	3.55	NM	NM	--
Secchi Transparency (ft)	1	6.5	3.4	NM	NM	--

Note: NM = Not Measured.
Source: NYCDEP 2004a.

The following provides a brief summary of the water quality conditions in the sampling region (Upper East River-Western Long Island Sound Area) of the Harbor Survey which includes the project area. The closest sampling station (H3) is located to the west of the project area at East 155th Street. Table 9-1 presents a summary of water quality measurements at this station between 1999 and 2003.

The presence of coliform bacteria in surface waters indicates potential health impacts from human or animal waste, and elevated levels of coliform can result in the closing of bathing beaches and shellfish beds. Overall, fecal coliform concentrations in the New York Harbor Estuary have declined, improving water quality from the early 1970s when levels were routinely well above 2,000 colonies/100 mL. However, temporary increases in fecal coliform concentrations may occur during periods of intense precipitation and runoff due to increased fecal coliform loadings. Summer average fecal concentrations may be four to five times higher in the Harlem River than the Harbor as a whole (NYCDEP 2004). Although temporary increases occurred twice during the period 1999 to 2003 at the East 155th Street sampling location, the Harlem River generally meets the standard. It is not listed as impaired for water quality in the September 24, 2004 Final Section 303(d) List of Impaired Waters requiring a Total Maximum

Daily Load (TMDL) development, but is identified as impaired for fish consumption because of PCBs, along with other waters of the Harbor Estuary.

DO in the water column is necessary for respiration by all aerobic forms of life, including fish and such invertebrates as crabs, clams, and zooplankton. The bacterial breakdown of high organic loads from various sources can deplete DO to low levels. Persistently low DO can degrade habitat and cause a variety of sublethal or, in extreme cases, lethal effects. Consequently, DO is one of the most universal indicators of overall water quality in aquatic systems. Although DO levels have steadily improved in the Harbor Estuary since the 1970s, concentrations below the "never less than 4.0 mg/L" criteria are still occasionally recorded, most often during the summer months. During the period from 1999 to 2003, the Harlem River just west of the project area failed to meet the DO standard of 4 mg/L in only 4 of 84 measurements in surface waters and in 6 of 81 measurements in bottom waters. As noted above, the Harlem River is not considered impaired for water quality in the 2004 303(d) list.

Secchi transparency is a measure of the clarity of surface waters. Transparency greater than 5 feet is indicative of clear water. Decreased clarity can be caused by high suspended solid concentrations or blooms of plankton. Secchi transparencies less than 3 feet are generally indicative of poor water quality conditions. Secchi transparency measurements taken in the Harlem River at the East 155th Street sampling station indicate that water quality in this area is often (37 of 85 measurements) impaired by reduced water transparency (e.g., Secchi transparencies of less than 3 feet). The Harlem River is highly turbid, carrying high levels of sediment, organic materials, and other suspended solids. Chlorophyll a, a sign of eutrophication, or excessive plant growth, was also measured, but the levels were not indicative of a eutrophic state.

SEDIMENT QUALITY

Sediment samples collected in July 2002 in the Harlem River off of East 129th Street in Manhattan south of the project area for another project (Second Avenue Subway), were mostly silt and clay with some sand (FTA and MTA 2003). Typical of any urban watershed, Harbor Estuary sediments, including the Harlem River, are contaminated due to a history of industrial uses in the area. Contaminants found throughout the Harbor Estuary included pesticides such as chlordane and DDT, metals such as mercury and copper, and various polycyclic aromatic hydrocarbons. Adams et al. (1998) found the mean sediment contaminant concentration for 50 of 59 chemicals measured to be statistically higher in the Harbor Estuary than other coastal areas on the East Coast. Concentrations of contaminants in the samples taken off of East 129th Street exceeded NYSDEC guidance levels (TAGM #4046 Determination of Soil Cleanup Objectives and Cleanup Levels) for some semi-volatile organic compounds (SVOCs) and heavy metals. No pesticides were detected in any of the samples collected in July 2002, and only one VOC and one polychlorinated biphenyl (PCB) mixture (Aroclor® 1248) were detected in these samples. The VOC and Aroclor® did not exceed NYSDEC guidance levels. While the sediments of the Harbor Estuary are contaminated, the levels of most sediment contaminants have decreased substantially over the past 30 years (Steinberg et al. 2002). Between 1993 and 1998, the percentage of sediment sampling locations with benthic macroinvertebrate communities considered impacted, or of degraded quality, decreased throughout the Harbor Estuary (Steinberg et al. 2004).

AQUATIC BIOTA

The following sections provide a brief description of aquatic biota found within the project area. The descriptions are largely drawn from existing information on the Harbor Estuary's resources as well as a preliminary benthic and aquatic resource assessment conducted in the site's southernmost interpier area in autumn 2003. Because the Harlem River is connected to the Hudson and East Rivers, the aquatic community found within the river would be expected to include species found in the lower Hudson River, East River, and Upper New York Harbor.

Primary Producers

Phytoplankton. Phytoplankton are microscopic plants whose movements within the system are largely governed by prevailing tides and currents. Several species can obtain larger sizes as chains or in colonial forms. Light penetration, turbidity, and nutrient concentrations are important factors in determining phytoplankton productivity and biomass. While nutrient concentrations in most areas of the Harbor Estuary are very high, low light penetration has often precluded the occurrence of phytoplankton blooms.

Resident times of phytoplankton species within the Harbor Estuary are short and species move quickly through the system. Species found in the Harbor Estuary would also likely be present within the project area. In a 1993 survey of the New York Harbor Estuary, 29 taxa of phytoplankton were identified, with the diatom *Skeletonema costatum* and the green algae *Nannochlorus atomus* determined to be the most abundant species at the monitored sites (Brosnan and O'Shea 1995).

Submerged Aquatic Vegetation and Benthic Algae. Submerged aquatic vegetation (SAV) are rooted aquatic plants that are often found in shallow areas of estuaries. They are important because they provide nursery and refuge habitat for fish. Benthic algae are large multicellular algae that occur on rocks, jetties, pilings, and sandy or muddy bottoms. Since these organisms require sunlight as their primary source of energy, the limited light penetration in waters of the Harbor Estuary limits their distribution to shallow areas. Neither SAV nor macroalgae are present within the project area.

Zooplankton

Zooplankton (early life stages of fish, decapods and barnacles; copepods, rotifers, cumaceans, mysid shrimp, and amphipods [Stepien et al. 1981; USACOE 1984]) are another integral component of the aquatic food web. They are primary grazers on phytoplankton and detritus material, and are themselves consumed by forage fish such as bay anchovy, as well as commercially and recreationally important species, such as striped bass and white perch, during their early life stages. The most dominant species in the Harbor Estuary include the copepods *Acartia tonsa, Acartia hudsonica, Eurytemora affinis*, and *Temora longicornis*, with each species being prevalent in certain seasons.

Benthic Invertebrates

Invertebrate organisms that inhabit river bottom sediments as well as surfaces of submerged objects (such as rocks, pilings, or debris) are commonly referred to as benthic invertebrates. These organisms are important to an ecosystem's energy flow because they convert detrital and suspended organic material into biomass, and are also integral components of the diets of ecologically and commercially important fish and waterfowl species. Benthic invertebrates also promote the exchange of nutrients between the sediment and water column. They include those

that can be retained on a 0.5 mm screen (macroinvertebrates) as well as smaller forms retained on 0.04 - 0.2 mm sieves called meiofauna. Some of these animals live on top of the substratum (epifauna) and some within the substratum (infauna). Substrate type (rocks, pilings, sediment grain size, etc.), salinity, and DO levels are the primary factors influencing benthic invertebrate communities. Currents, wave action, predation, succession, and disturbance also influence the benthic community.

A literature review identified over 180 benthic taxa in the Hudson River, East River, and Upper New York Harbor (PBS&J 1998). Common infaunal macroinvertebrates collected within the Harbor Estuary system include aquatic earthworms, segmented worms, snails, bivalves and soft shell clams, barnacles, cumaceans, amphipods, isopods, crabs and shrimp (EEA 1988; EA Engineering, Science and Technology 1990; NJDEP 1984; Princeton Aqua Science 1985a & 1985b; LMS 1980 & 1984). Epifauna include hydrozoans, sea anemones, flatworms, oligochaete worms, polychaetes, bivalve, barnacles, gammaridean and caprellid amphipods, isopods, sea squirts, hermit crabs, rock crabs, grass shrimp, sand shrimp, blue crabs, mud dog whelks, mud crabs, horseshoe crabs, blue mussels, softshell clams, and sea slugs (EEA 1988; EA Engineering, Science and Technology 1990; Able et al. 1995; NYCDPR).

In a 2002 survey conducted in the Harlem River south of the project area near East 129th Street, Manhattan, large numbers of pollution-tolerant benthic invertebrate (primarily polychaetes in the families Capitellidae and Spionidae) were collected (FTA and MTA 2003). Pollution-sensitive benthic invertebrate species were also collected, including a snail, an amphipod, a polychaete, and a clam. Other invertebrates collected at the East 129th Street site were shrimp, cumaceans, nemerteans, nematodes, isopods, and several species of polychaete. Sensitive species were found at all six sampling locations at the East 129th Street site.

Rock crabs, polychaete worms, snails and clams were observed during a preliminary survey of the interpier area between Piers 3 and 4 within the project area to the east of the Oak Point Link rail that was conducted in November 2003 for the Gateway Center at Bronx Terminal Market project. Vertical surfaces in the project area (bulkheads, rip-rap slopes, and timber piles) may offer some habitat for attached invertebrates such as mussels or barnacles.

Fish

New York City is located at the convergence of several major river systems, all of which connect to the New York Bight portion of the Atlantic Ocean. The finfish community in the Harbor Estuary is typical of large coastal estuaries along the Mid-Atlantic Bight, supporting a variety of estuarine, marine, and anadromous fish species that use the area for spawning habitat, as a migratory pathway, and as a nursery and foraging area. Populations of numerically dominant fish within the Harbor Estuary, such as hogchoker (*Trinectes maculatus*), winter flounder (*Pseudopluronectes americanus*), white perch (*Morone americana*), and striped bass (*Morone saxatilis*), remain relatively stable from year to year (Woodhead 1990).

Estuarine species are year-round residents of this area, using the different habitats available for shelter and food during various life stages. Examples of estuarine species include Atlantic silverside (*Menidia menidia*), mummichog (*Fundulus heteroclitus*), striped killifish (*Fundulus majalis*), and three-spined stickleback (*Gasterosteus aculeatus*), all of which provide an important forage base for larger predatory fish species (USFWS 1997).

Anadromous fish migrate through the area on the way to spawning areas in the Hudson River or its tributaries and on their seaward migration out of the estuary. Blueback herring (*Alosa aestivalis*), alewife (*Alosa pseudoharengus*), American shad (*Alosa sapidissima*), striped bass,

Atlantic tomcod (*Microgadus tomcod*), and Atlantic sturgeon (*Acipenser oxyrhynchus*) are examples of anadromous fish that occur in the estuary (Woodhead 1990). Fish that use the estuary for nursery and forage habitat include striped bass, winter flounder, bluefish (*Pomatomus saltatrix*), summer flounder (*Paralichthys dentatus*), weakfish (*Cynoscion regalis*), Atlantic menhaden (*Brevoortia tyrannus*), and mullet (*Mugil* sp.) (USFWS 1997).

American eel (*Anguilla rostrata*) is the only catadromous species that occurs in the Harbor. Eels spawn at sea and the young move into the estuary as elvers in the spring, typically in February and March (EEA 1988). American eels are opportunistic feeders and juveniles eat crustaceans, polychaetes, bivalves and fish (Ogden 1970, Wenner and Musick 1975). They grow slowly and at sexual maturity move down the estuary in the fall and out to sea (Bigelow and Schroeder 1953).

Table 9-2 lists fish species that were collected in the interpier area of the project area for the Gateway Center at Bronx Terminal Market project in November 2003.

Table 9-2
Fish Identified in Interpier Areas, Autumn 2003

Species	Scientific Name
Blueback herring	*Alosa aestivalis*
Mummichog	*Fundulus heteroclitus*
Atlantic silverside	*Menidia menidia*
Striped bass	*Morone saxatilis*
Winter flounder	*Pseudopluronectes americanus*

Source: Princeton Hydro (2003).

ENDANGERED, THREATENED, AND SPECIAL CONCERN SPECIES

The Harlem River is not considered Significant Coastal Fish and Wildlife Habitat by NYSDOS (1992). Requests for information on rare, threatened or endangered species within the immediate vicinity of the project area were submitted to USFWS, NMFS, and NYNHP. No federally listed or proposed endangered or threatened species under the jurisdiction of the USFWS are known to be in the project area (Stillwell 2005). The NYNHP has no record of known occurrences of rare or state-listed species, natural communities or other significant habitats, on or in the immediate vicinity of the project area (Ketcham 2005). No endangered or threatened species under the jurisdiction of the NMFS are known to occur within the project area (Rusanowsky 2005a), although the endangered shortnose sturgeon (*Acipenser brevirostrum*), a Federally listed endangered species under the responsibility of NMFS has been identified as a possible (rare) transient species in the Harlem River (Rusanowsky 2005b).

The Federally listed and State-listed endangered shortnose sturgeon is an anadromous bottom-feeding fish that can be found throughout the Hudson River system. These fish spawn, develop, and overwinter on the Hudson River well upriver of its confluence with the Harlem River, and prefer colder, deeper waters for all lifestages. Although larvae can be found in brackish areas of the river, the juveniles (fish ranging from 2 to 8 years old) are predominately confined to freshwater reaches above the downstream saline area. The primary summer habitat for shortnose sturgeon in the middle section of the Hudson River Estuary (far upriver of the Harlem River) is the deep river channel (13 to 42 meters deep, 43 to 138 feet). The river channel downstream of this middle estuary area is 18 to 48 meters deep (59 to 157 feet) (Peterson and Bain 2002).

Individuals are only expected to use the lower Hudson River when traveling to or from the upriver spawning, nursery and overwintering areas (Bain 2004). Similarly, shortnose sturgeon would only be expected to use the Harlem River when traveling to or from the Hudson River spawning, nursery, or overwintering areas. Because of this species' preference for deeper water, occasional individuals using the Harlem River would only be expected to occur in the navigation channel located west of the project area. The Harlem River channel is much shallower (15 to 18 feet) than the channel areas of the Hudson River.

E. THE FUTURE WITHOUT THE PROPOSED PROJECT

WITHIN THE PROJECT AREA

The future without the proposed project would be a continuation of the current conditions within most of the project area with the exception of the western portion of the project area along the Harlem River, which is proposed to contain the new 8-foot by 5-foot box culvert and stormwater outfall to be constructed for the Gateway Center at Bronx Terminal Market Project located on the east side of Exterior Street. This area currently contains concrete and gravel parking areas and the shoreline is engineered with riprap. The City will develop an approximately 2-acre waterfront open space just south of the project site on Pier 4 that would be managed by the NYCDPR.

Because this area provides minimal wildlife habitat other than a band of weedy vegetation along the Harlem River, construction and operation of the box culvert and stormwater outfall for the Gateway Center at Bronx Terminal Market project would not be expected to result in significant adverse impacts to terrestrial resources. The box culvert to the outfall would be constructed under the existing grade and the outfall would be placed below the high tide line at the shoreline in an area designated as NYSDEC littoral zone tidal wetlands. The construction of the stormwater outfall would require the removal and replacement of riprap and installation of the outfall structure. These activities would disturb a very small area of benthic habitat and would have the potential to result in short-term, localized impacts to water quality and aquatic biota that would not be significant. Repair or replacement of the bulkhead as part of the construction activities associated with the public open space to be developed by the City on Pier 4 have the potential to result in short-term adverse impacts to aquatic resources. It is anticipated that due to operational controls incorporated into the design of the stormwater facilities for the Gateway Center at Bronx Terminal Market, located within the drainage area for the new outfall, the stormwater that would be discharged through the new stormwater outfall would not result in significant adverse impacts to aquatic resources. Temporary impacts would be associated with localized increases in suspended sediment, temporary disturbance of benthic invertebrates during removal of debris from interpier areas, and suspension of contaminated sediment. A SWPPP implemented during construction would minimize potential water quality effects associated with the discharge of stormwater. Similarly, no significant adverse impacts to threatened or endangered species would be expected to occur as a result of the construction and operation of this portion of the Gateway Center at Bronx Terminal Market project.

In addition, the New York State Energy Research Development Authority (NYSERDA) has received $10 million through the Croton Water Treatment Plant project for a borough-wide tree planting program. This program is intended to occur over an approximately five year period.

OUTSIDE THE PROJECT AREA

There are several proposed and ongoing projects aimed at improving water quality and aquatic resources in the New York/New Jersey Harbor Estuary that have the potential to result in water quality and aquatic habitat improvements in the Harlem River in the vicinity of the project area. These projects are independent of the proposed project. Improvements that would result from these projects, described below, would occur without the proposed project and are expected to continue through the construction and operation of the proposed project.

NEW YORK/NEW JERSEY HEP PROJECTS

Several of the future water quality improvement efforts in the Lower Hudson River Estuary will be coordinated by the New York/New Jersey Harbor Estuary Program (HEP). The Final HEP Comprehensive Conservation and Management Plan (CCMP) (NY/NJ HEP 1996) includes a number of goals to improve water quality and aquatic resources in the area. The CCMP outlines objectives for the management of toxic contamination, dredged material, pathogenic contamination, floatable debris, nutrients and organic enrichment, and rainfall-induced discharges. The HEP Habitat Workgroup has developed watershed-based priorities for identifying acquisition, protection, and restoration sites for the preservation and enhancement of tidal wetlands that will provide improved habitat for fish and macroinvertebrates as well as the birds, mammals, and reptiles that depend on these habitats. No NY/NJ HEP Acquisition and Restoration Sites have been identified within the vicinity of the project area. NY/NJ HEP Acquisition and Restoration Sites closest to the project area include Inwood Hill Park, Fort Tryon Park, and Fort Washington Park on the northern end of Manhattan and the Little Hell Gate Wetlands on Randalls Island at the confluence of the Harlem and East Rivers. NY/NJ HEP actions taken with respect to these sites would occur with or without the proposed project.

The Contamination Assessment and Reduction Project (CARP), sponsored by the Port Authority of New York and New Jersey (PANYNJ), is a component of HEP focused on understanding the fate and transport of contaminants discharged to the estuary, and using this information to develop measures that may be necessary to reduce sediment contamination. The principal chemicals of concern include dioxins/furans, PCBs, PAHs, metals (mercury, cadmium, and lead), and pesticides (dieldrin and chlordane). Continued research and monitoring programs are anticipated to play a role in the development of future management strategies for Harbor sediments (NY/NJ HEP undated, USACOE 1999).

STATE AND REGIONAL PROJECTS

The Hudson-Raritan Estuary Ecosystem Restoration Project is a cooperative project being led by the USACOE that was funded by a U.S. House of Representatives Resolution on April 15, 1999. PANYNJ is a co-sponsor of this project. Other agencies involved in this project include USEPA, USFWS, NOAA, National Resource Conservation Service, NJDEP, New Jersey Department of Transportation (Office of Maritime Resources), NYSDEC, NYSDOS, NYCDEP, NYCDPR, and the New Jersey Meadowlands Commission. The focus of the study is to identify the actions needed to restore the Hudson-Raritan Estuary and develop a plan for their implementation. The study area for the program includes all the waters of the New York and New Jersey Harbor Estuary and the tidally influenced portions of all rivers and streams that empty into the Harbor Estuary and ecologically influence the Harbor Estuary. The program will identify measures and plans to restore natural areas within the estuary and enhance their ecological value, and address habitat fragmentation, and past restoration and mitigation efforts that were piecemeal in nature.

Thirteen initial representative restoration sites in New York and New Jersey have been targeted as the first sites for inclusion as potential restoration projects for feasibility level analysis. It is anticipated that expedited restoration of these representative restoration sites will provide substantial immediate value to the ecosystem. None of these sites occurs in the vicinity of the project area. One site, Sherman Creek, is located on the western bank of the Harlem River approximately two miles to the north of the project area. Sherman Creek is a small embayment of the Harlem River near Academy Street and Tenth Avenue in Manhattan.

The other seven New York sites include:

- Alley Pond Park, bordering western Long Island Sound;
- Old Place Creek, a tributary to the Arthur Kill;
- Newtown Creek, a tributary to the lower East River;
- Brookville Creek, a tributary to Jamaica Bay;
- Dreier Offerman Park, bordering Coney Island Creek near the Narrows;
- Pelham Lagoon and Turtle Cove, a tributary to western Long Island Sound; and
- Tallapoosa, a tributary to western Long Island Sound.

In addition to the 13 representative sites, three spin-off sites have been identified. These are restoration sites being evaluated in parallel to the representative sites. They include the Lower Passaic River and Hackensack Meadowlands in New Jersey, and Gowanus Canal in New York, a tributary to the Upper New York Bay.

The Comprehensive Port Improvement Plan (CPIP), sponsored by PANYNJ, is a multi-agency plan for implementing economic development and environment improvement decisions for PANYNJ. Among the priority objectives for the plan are the identification and protection of significant habitats, the investigation of innovative best management practices for reduction of non-point sources of water pollutants, and the incorporation of green technologies in port improvement projects.

NYSDEC and NJDEP, in coordination with the Interstate Environmental Commission (IEC), will continue to develop TMDLs and to identify priority waterbodies in bi-annual 305(b) reports to USEPA. TMDLs, once implemented, would reduce the daily inputs of various contaminants in an effort to improve water quality. An estimated $9.167 billion has been allocated by municipalities and bond act disbursements in the Environmental District (covers the entire New York New Jersey Harbor Estuary with New York, New Jersey, and Connecticut participating) for 255 projects recently completed, in progress, or planned for the future (IEC 2005). The State intends to continue water quality improvement projects in the Harbor Estuary for the foreseeable future.

NYCDEP PROJECTS

USEPA's National CSO Strategy of 1989 requires states to eliminate dry weather overflows of sewers, meet Federal and State water quality standards for wastewater discharges, and minimize impacts on water quality, plant and animal life, and human health. CSOs are the largest single source of pollutants and pathogens to the New York Harbor Estuary. NYCDEP has taken several steps in recent years to mitigate discharges from CSOs, which, in combination with improvements that have been made to WPCPs are expected to result in future improvement in coliform, dissolved oxygen, and floatables levels in the New York Harbor area. Improvements have included replacing

deteriorating and obsolete equipment and pilot-testing new technologies (IEC 2005). These improvements have led to increased wet-weather capture and treatment at WPCPs from just 18 percent in 1989 to 72 percent in 2003 (NYCDEP 2004b). The introduction of secondary treatment to the Newtown Creek WPCP, the last of the 14 New York City facilities to be upgraded to secondary treatment, is expected to be complete in 2007 (IEC 2005). New York City committed $1.5 billion for construction of CSO abatement facilities over the period 1998-2008. This should result in some improvement in coliform, DO, nutrients, and floatables in the Harlem River as well as the rest of the Harbor Estuary.

F. PROBABLE IMPACTS OF THE PROPOSED PROJECT

FLOODPLAINS AND WETLANDS

The only portions of the project area within the 100-year floodplain are the 5.11-acre Harlem River waterfront park, the 0.71-acre esplanade, the 0.4-acre surface parking area between the northern end of the waterfront park and Pier 1, and Yankee Stadium Parking Lots 13A and 13B located on Pier 1 and to its north. Development of the waterfront would completely replace the 5.11 acres of impervious surface currently present within this portion of the project area with a pervious artificial turf system that retains stormwater for the two playing fields (little league field and baseball field, 4.6 acres), and pervious cover in the passive open space areas (0.5 acres) landscaped with trees, shrubs and herbaceous plants. This increase in pervious cover would result in beneficial effects to the floodplain by decreasing stormwater discharges during rainfall events by approximately 75 cubic feet per second (cfs), and would not adversely affect the floodplain's ability to contain flood waters or exacerbate flooding conditions within the project area or its immediate vicinity. Additionally, the pervious landscape plantings as well as intertidal plantings would result in a beneficial effect on quantity and quality of stormwater runoff from the waterfront park.

Improvements to the shoreline stabilization as part of the Harlem River waterfront park design, such as replacement of existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall system) that would permit the development of intertidal area and establishment of tidal wetland vegetation at the shoreward portion of the coves would improve wetland resources within the project area. Therefore, the construction of these shoreline improvements and removal of in-water debris would not result in significant adverse impacts to NYSDEC tidal wetlands. Potential impacts would be minimized through the implementation of measures identified during the permitting process for these shoreline improvements by federal and state agencies.

TERRESTRIAL RESOURCES

The proposed project would result in the displacement of recreational facilities on approximately 22.42 acres of New York City parkland within portions of Macomb's Dam Park (the area north and south of East 161st Street and east of Jerome Avenue) and John Mullaly Park (between East 162nd and East 164th Streets), and the creation of replacement recreational facilities on approximately 27.05 acres, for a net increase of 4.63 acres of recreational facilities. Approximately 15.82 acres of the replacement recreational facilities would be developed on newly mapped parkland.

Active recreational facilities such as the running track, soccer field, baseball and softball fields, tennis courts, handball courts, and basketball courts comprise most of the facilities being

displaced. However, construction of the proposed stadium, and Parking Garages A and B, would also result in the loss of the existing shade trees and grass habitat complex of limited wildlife value currently found within the portion of Macomb's Dam Park west of Ruppert Place, the portion of Macomb's Dam Park north of East 161st Street, and the portion of John Mullaly Park between East 162nd and East 164th Streets. These areas provide limited wildlife habitat in the form of shade trees and lawn at the periphery of the playing fields, patches of successional woodland in portions of the parks inaccessible to park users, and street trees. However, these existing shade trees do provide benefits in terms of shade, soil stabilization, and aesthetics. NYCDPR's policy is to avoid the removal of trees wherever possible. If it is not possible, an assessment would be made by a NYCDPR Borough forester as to whether the tree is suitable for transplant. If that is not feasible due to size or condition, a valuation is made of the tree radius by measuring the diameter of the tree at approximately 4.5 feet above grade and by dividing by 2. The total is then divided by 7 to account for the basal area of a 3-inch tree, a typical size for a new tree. The number of replacement trees is then the sum of the replacements for each individual tree proposed to be removed (NYCDPR basal area tree replacement formula).

The portion of Macomb's Dam Park west of Jerome Avenue and north of the Macomb's Dam Bridge Approach proposed for the location of Parking Garage C is currently a paved parking area. The site of the proposed passive recreational facilities on either side of East 151st Street and East 157th Street, respectively, and River Avenue are used for surface parking. Therefore, the development of these areas would not result in impacts to natural resources. The existing weedy vegetation along the edge of the piers in the area of the proposed Harlem River waterfront park and esplanade, which is of limited wildlife value, would be removed as part of the shoreline improvement activities and replaced with trees, shrubs and herbaceous plants consistent with NYCDPR's green park design of using native trees, shrubs and groundcover to the extent possible. As currently conceived, the plantings would be designed to screen views of the Oak Point Link rail and Exterior Street/Major Deegan Expressway from park users and would encourage passive enjoyment of the Harlem River waterfront at the interpier (cove) areas north and south of the playing fields (see Figure 1-15).

During construction of the proposed project, adverse effects may occur to some individual birds and other wildlife currently using the limited wildlife habitat in the area of the proposed waterfront park and in the park areas that contain recreational facilities that would be displaced, if there are no suitable habitats that are available nearby (e.g., the remainder of John Mullaly Park, the triangular portion of Macomb's Dam Park north of East 161st Street, Franz Sigel Park, Joyce Kilmer Park, or neighboring developed shoreline areas) (see Figure 4-2). However, the wildlife species that use the habitats available within the project area are limited to those that are tolerant of urban conditions. The loss of some individuals of these urban tolerant wildlife species would not result in a significant adverse impact on the bird and wildlife community of the New York City region. Therefore, no significant adverse impacts to terrestrial resources are anticipated as a result of the proposed project.

NYCDPR and the New York Yankees would attempt to preserve the mature trees closest to the curbline along Jerome Avenue and East 164th Street. However, construction of the proposed project would still result in the loss of many street trees surrounding the portions of Macomb's Dam Park and John Mullaly Park that would be displaced by the proposed parking garages and the proposed stadium, as well as on the site of proposed Parking Garage D south of East 151st Street. All trees removed as a result of the proposed project would be replaced in accordance with NYCDPR requirements. To minimize potential adverse impacts resulting from the loss of 377 trees (includes street trees and trees lost from the recreational facilities that would be

displaced), NYCDPR would require the replanting of trees in accordance with the NYCDPR basal area tree replacement formula. It is currently estimated that preservation of 165 trees and loss of approximately 377 trees would occur within the area of the displaced recreational facilities. The removed trees, which total a basal area of approximately 592 square feet, would be replaced with trees of a size totaling an equal basal area or from between 8,356 trees of a 3½-inch caliper to 29,248 trees of a 2-inch caliper. Because there will be insufficient space to plant the calculated number of trees within the replacement recreational areas, the remaining replacement trees would be planted as street trees within the vicinity of the project area or as nearby as possible. These replacement trees would create natural screening and areas of shade for relaxation and passive enjoyment for park visitors and habitat for wildlife.

While active recreational facilities would comprise the majority of the replacement facilities (e.g., tennis courts, basketball courts, handball courts, soccer field, running track, little league, softball and baseball fields), they would, to the extent possible, be bordered by areas of passive open space to provide screening, shading and passive recreational opportunities. These areas would be landscaped with trees, shrubs and herbaceous plants. These landscaped passive recreational areas would benefit wildlife by providing improved habitat. The replacement recreational facilities that would be developed atop Parking Garages A and C would incorporate natural soil wells in open areas between the active recreational facilities that would support a sufficient depth of growing media to permit the planting of trees and other vegetation. The proposed open space areas developed within the recreational facilities on newly mapped parkland, such as the passive open space areas associated with the 5.11-acre Harlem River waterfront park and surrounding Heritage Field at the 8.90-acre site of the existing stadium, would provide even greater opportunity for the development of green park landscaping that would provide improved habitat for birds and other wildlife and thus result in beneficial impacts to terrestrial wildlife.

AQUATIC RESOURCES

Implementation of erosion and sediment control measures and stormwater management measures as part of the SWPPP during construction and operation of the proposed project would minimize potential impacts to the municipal combined sewer system as well as potential water quality impacts to the Harlem River associated with stormwater runoff. Groundwater recovered during any construction dewatering would be treated, as necessary, prior to discharge to the combined sewer system. As discussed in Chapter 12, "Infrastructure," stormwater generated within the project area currently enters the Harlem River as sheetflow from the piers within the area proposed for the waterfront park, or through combined sewer overflows (CSOs) on either side of the Macombs Dam Bridge, near the 149th Street Bridge, and about halfway between the Macombs Dam Bridge and the 138th Street Bridge. Stormwater and sanitary sewage generated within the project area is currently discharged to the combined sewer system that is within the service area of the Wards Island Water Pollution Control Plan (WPCP). This WPCP discharges treated wastewater (effluent) into the East River. During and after some precipitation events, stormwater discharged to the combined sewer system results in a combined flow (sewage and stormwater) that exceeds the treatment capacity (275 million gallons per day (mgd)) of the Wards Island WPCP. When this occurs, the excess combined sewage from the project area overflows into the Harlem River through the CSOs without treatment. Following construction of the proposed project, stormwater generated within the project area, except for the portion within the Harlem River waterfront park, would continue to be discharged to the combined sewer system. However, in order to meet the NYCDEP detention requirements for discharge to the

combined sewer, detention facilities would be installed to reduce the rate of stormwater discharge to the combined sewer system. These detention facilities would reduce the current stormwater discharge rate from the project area by about 75 percent during the design storm (5.95 inches per hour). This decrease in the stormwater discharge rate resulting from the proposed project would result in beneficial impacts to the water quality of the Harlem River by decreasing the volume of combined sewage flow during storm events by approximately 75 cfs, and potentially decreasing discharges from CSOs in the vicinity of the project area. Therefore, no significant adverse impacts to water quality would be expected to occur from the discharge of stormwater runoff.

Additionally, as discussed in the preceding section "Floodplains and Wetlands," the construction of the Harlem River waterfront park would result in an increase in the amount of pervious surface within this portion of the project area and stormwater retention, which would decrease direct stormwater discharges to the Harlem River during precipitation events. The pervious landscape plantings as well as intertidal plantings would also result in a beneficial effect on quantity and quality of stormwater runoff from the waterfront park. The design of the artificial turf recreational fields within the waterfront park (artificial turf with crumb rubber infill) would include a subsurface drainage layer designed to percolate into the soil, or to a tile under drain system. This type of artificial turf system would retain stormwater during precipitation events, decreasing the rate of stormwater discharge to the river or sewer system during precipitation events. As discussed previously with respect to the other portions of the project area, the retention of stormwater from portions of the waterfront park that would discharge to the combined sewer system has the potential to benefit water quality of the Harlem River.

Management of the landscaped portions of the Harlem River waterfront park and other landscaped areas of the proposed replacement recreational facilities would include implementation of an Integrated Pest Management (IPM) strategy to minimize use of fertilizers, pesticides and herbicides. NYCDPR's use of pesticides has diminished greatly over the years. In 2003, NYCDPR used only 400 pounds of herbicides and 2,000 pounds of fertilizer on 5,200 acres of lawns, ball fields, and roadsides—an exceedingly low amount for nearly 29,000 acres of parks. For example, in Central Park, the rate of application of certain insecticides has decreased from 220 pounds in 2001 to only 45 pounds last year and only 100 acres of the park's 300 acres of turf receive pesticide treatment. Pesticide and herbicide use is also low in other boroughs. Staten Island and Queens do not use any pesticides on lawns and ball fields. In The Bronx, herbicides and fertilizers have been used on only three sites. Pesticides have been used on few lawns in Brooklyn and Manhattan. All of NYCDPR's borough operations follow an IPM strategy. Implementation of the IPM would minimize potential impacts to stormwater quality from surface runoff generated within these open space areas. Therefore, no significant adverse impacts to surface water quality of the Harlem River would be expected to occur from the operation of the waterfront park element of the proposed project.

As presented in Chapter 12, "Infrastructure," the additional sanitary sewage flow that would result from the proposed project would not be expected to cause the Wards Island WPCP to exceed its design capacity, or SPDES permit flow limit. The average monthly flow at this WPCP for the latest 12 months of records available (August 2004 through July 2005) is 210 million gallons per day (mgd), which is well below the designed treatment capacity of 275 mgd. The increase in sewage flow resulting from the proposed project would also not be expected to result in a significant change in CSOs through the regulators located within the vicinity of the project area, particularly in light of the reduced rate of stormwater discharge required for the proposed

project. Therefore, the additional sewage flow resulting from the proposed project would not result in adverse impacts to Harlem River water quality.

Improvements to the shoreline stabilization as part of the Harlem River waterfront park design, such as reconstruction in kind of the concrete masonry bulkhead, riprap improvement, and replacement of the existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall system) have the potential to result in short-term construction related impacts to water quality and aquatic biota that would not be significant. These impacts may include localized increases in suspended sediment and re-suspension of contaminated sediments; and temporary loss of fish habitat and disturbance of benthic communities during replacement of shoreline stabilization features or removal of debris from interpier areas. Water quality changes associated with these increases in suspended sediment would be expected to be minimal and temporary, limited to the immediate area of the activity (USACOE 1995). Measures (e.g., silt curtains and erosion control) would be implemented where appropriate and as identified during the permitting process by Federal and State agencies to reduce and control increases in suspended sediment in the vicinity of construction activity. Suspended sediments would dissipate shortly after the shoreline improvements are completed (USACOE 1995). Because the increase in suspended sediment would be localized and temporary, no significant adverse impacts would occur to aquatic biota.

Life stages of estuarine-dependent and anadromous fish species, bivalves, and other macroinvertebrates are fairly tolerant of elevated suspended sediment concentrations and have developed behavioral and physiological mechanisms for dealing with variable concentrations of suspended sediment (Birtwell et al. 1987, Dunford 1975, Levy and Northcote 1982 and Gregory 1990 in Nightingale and Simenstad 2001, LaSalle et al. 1991). Fish are mobile and generally avoid unsuitable conditions in the field such as increases in suspended sediment and noise (Clarke and Wilber 2000), and also have the ability to expel materials that may clog their gills when they return to cleaner, less sediment laden waters. Most shellfish are adapted to naturally turbid estuarine conditions and can tolerate short-term exposures by closing valves or reducing pumping activity. More mobile benthic invertebrates that occur in estuaries have been found to be tolerant of elevated suspended sediment concentrations. In studies of the tolerance of crustaceans to suspended sediments that lasted up to two weeks, nearly all mortality was caused by extremely high suspended sediment concentrations (greater than 10,000 mg/L) (Clarke and Wilber 2000) which would not occur from any shoreline improvement activities.

The proposed bulkhead replacement would temporarily remove benthic habitat and permanently remove some benthic macroinvertebrates unable to move from within the shoreline area being modified. The temporary loss of some benthic habitat and of some macroinvertebrates during reconstruction of the concrete masonry bulkhead and replacement of the timber crib bulkhead, and improvement of the riprapped areas, would not result in significant adverse impacts to populations of macroinvertebrates using this portion of the Harlem River, nor would it significantly impact the food supply for fish foraging in the area. Encrusting organisms and benthic macroinvertebrates would be expected to recolonize the new shoreline structures shortly after construction is completed. The proposed gabion wall system and creation of vegetated tidal wetland habitat proposed as part of the waterfront park design would benefit aquatic resources by increasing the diversity of aquatic habitat for benthic macroinvertebrates and fish available within the project area. In general, the greater the physical complexity the better the aquatic habitat. In-water structures such as riprap, and a gabion wall system that is sloped or stepped, have rough surfaces with many interstitial spaces and a high surface area to volume ratio (USACOE 1993) that provide more surface area for algae and invertebrates that attach to

surfaces (fouling community), and habitat (foraging and refuge) for fish (Heiser and Finn in Chmura and Ross 1978). Although the gabions would contain packed stone, they would still provide a greater diversity of habitat than the existing timber crib bulkhead.

THREATENED, ENDANGERED, AND SPECIAL CONCERN SPECIES

As described above, the proposed project would not result in any significant adverse impacts to water or sediment quality or result in a significant loss of fish habitat or benthic invertebrates used for food. Use of the Harlem River channel by shortnose sturgeon, located to the west of the project site would be rare, and only on a transient basis while traveling to spawning areas on the Hudson River. Temporary adverse impacts to water quality resulting from increased suspended sediment or sediment disturbance would be limited to the immediate area of activity along the shoreline where the shallow water depths would likely preclude the occurrence of shortnose sturgeon. Furthermore, no significant adverse impacts would occur to the water quality of the Harlem River channel from the construction or operation of the proposed project. Therefore, no significant adverse impacts would occur to the New York State- and federally listed endangered shortnose sturgeon. ✷

Chapter 10: Hazardous Materials

A. INTRODUCTION

This chapter assesses hazardous materials issues related to the project area and evaluates the presence of hazardous materials in the soil, groundwater, and the on-site buildings that would be disturbed by the proposed project. The chapter also describes the procedures that would be used to ensure the safety of construction workers and the surrounding community.

As described in this chapter, any hazardous materials in structures to be demolished would be handled, removed, and disposed of in accordance with all applicable Federal, State, and local regulations, thus avoiding any significant adverse impacts. In addition, areas containing petroleum-related contamination from spill sites would be investigated and remediated under the New York State Department of Environmental Conservation (NYSDEC) Spills program, including preparation and approval of a Work Plan, Health and Safety Plan (HASP), and/or Remedial Action Plan (RAP), as appropriate. Further, the proposed development would be conducted under New York City Department of Environmental Protection (NYCDEP)-approved RAP, including a HASP, designed to protect site workers and the surrounding community from exposure to hazardous materials during construction activities in areas where soil excavation and/or remediation would occur. Therefore, if all State- and City-approved HASPs and RAPs are properly implemented the proposed project would not result in any significant adverse impacts with respect to hazardous materials.

B. METHODOLOGY

A Phase I Environmental Site Assessment (ESA) of the project area was conducted by AKRF in May 2005 to identify potential environmental concerns associated with the area and neighboring areas resulting from past and current usage. The Phase I ESA included inspections of the project area properties; review of historic fire insurance maps to determine land use history; review of Federal, State and local records pertaining to storage, use, and/or releases of petroleum products and hazardous materials; and review of previous environmental and geotechnical studies of the project area properties.

Results from the Phase I ESA indicated the potential for subsurface contamination within the project area based on the presence of known/suspected underground storage tanks (USTs), historic landfilling within the project area, on-site and off-site petroleum spills, and previous site use. Therefore, a Subsurface (Phase II) Investigation was performed by AKRF to determine the presence of environmental contaminants in soil and groundwater. The AKRF Phase II was performed in compliance with a NYCDEP-approved, site-specific protocol and HASP.

Results from the Phase I ESA, Phase II Investigation, and previous investigations of the Bronx Terminal Market area are summarized below. Using these results, the potential hazardous materials impacts associated with the proposed project were assessed.

C. EXISTING CONDITIONS

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PRIOR SITE USAGE

Review of historic fire insurance (Sanborn) maps indicated the following previous uses in the project area and vicinity that could have resulted in subsurface contamination:

- The project area and surrounding land historically consisted of marshland and a small waterway, Cromwell Creek that was filled ca. 1908 with fill material of unknown origin. The buried marshland deposits could be a source of methane gas in the soil under the project area. In addition, the unknown fill could contain contaminated material.
- A garage and auto repair facility was formerly located on Parking Lot 5 (northeastern corner of River Avenue and East 157th Street), and filling stations with buried gasoline tanks historically were located on and adjacent to Parking Lot 6 (southeastern corner of River Avenue and East 157th Street) from ca. 1935 to ca. 1989. These former uses could have resulted in the release of petroleum products to soil and/or groundwater.
- Historical operations along the Harlem River waterfront and at the Bronx Terminal Market included a fire-proofing manufacturing company (1900s), a Valvoline Oil Company facility (1900s), a coal yard (1900s to 1970s), an electrical power house (1930s to 1940s), a refrigeration plant (1940s to 1990s), and an auto repair facility (1980s to 1990s). These uses typically involve the storage and handling of petroleum products and other hazardous materials that could have been released to the environment during historic on-site operations.

GENERAL SITE CONDITIONS

During site inspections of the project area, the following conditions were identified that indicate the potential for subsurface contamination and/or hazardous materials:

- Two 15,000-gallon fuel oil USTs were identified adjacent to the southwestern corner of the existing stadium. There is an open New York State Department of Environmental Conservation (NYSDEC) Spill number (98-13424) associated with piping for the tanks from a tank test failure in 1999.
- Two 275-gallon fuel oil aboveground storage tanks (ASTs) were identified in the Macomb's Dam Park Field House basement. The fill port and vent line for these tanks were noted on the northeastern side of the building.
- A vent line and fill port were noted behind the Macomb's Dam Park Field House, indicating the potential presence of an underground storage tank. No tanks were listed in the NYSDEC Petroleum Bulk Storage (PBS) database for the field house building.
- An underground New York City Transit (NYCT) substation serving the B train was identified under the East 161st Street sidewalk, near Jerome Avenue. A transformer in the substation was labeled as containing 2 parts per million (ppm) polychlorinated biphenyls (PCBs). No spills were listed for this facility in the NYSDEC Spills database.

- Additional electrical equipment and components (e.g., fluorescent light bulbs, electrical control panels, etc.) observed throughout the project area could contain PCBs and/or mercury.
- Storage and handling of hazardous materials and petroleum products were observed in the existing stadium, the Macomb's Dam Park Field House, and the NYCT East 162nd Street Substation. Stored materials included, but were not limited to: antifreeze, paint and paint thinner, gasoline (stored in five-gallon containers to fuel landscaping equipment), grease, and motor oil. In general, the storage containers were in good condition and minor staining was observed under the stored materials. Hazardous materials could have been stored in the Bronx Terminal Market warehouse buildings at the time of the Phase I ESA; however, a previous Phase I ESA conducted as part of the EIS for the proposed Gateway Center at the Bronx Terminal Market indicated that no hazardous substance storage or usage was observed during inspection of the BTM buildings in October and November 2004.
- Based on their ages, all structures in the project area potentially contain asbestos-containing materials (ACMs) and lead-based paint. During limited visual inspection of readily accessible areas, suspect asbestos-containing materials were observed in the existing stadium, the Macomb's Dam Park Field House, the Stadium Racquet Club building, and the NYCT East 162nd Street substation building. No testing of the suspect materials was conducted.

NYCT substation building located at East 162nd Street and River Avenue (adjacent to the location of the proposed stadium) was found to contain "dry-type" electrical transformers and switches that do not contain polychlorinated biphenyls (PCBs). However, the substation was reportedly constructed in the 1920s and formerly contained transformers with PCB-containing dielectric fluid. No spills were listed in the NYSDEC Spills database for this facility. This substation will not be altered by the proposed project and is not included within the project area.

RECORDS REVIEW

Based on a review of Federal and State regulatory databases, hazardous materials storage and/or releases in the project area and at a nearby property could have affected soil and/or groundwater beneath the study area. Details of the hazardous materials storage and releases are described as follows:

- The two 15,000-gallon underground fuel oil storage tanks identified at the existing stadium during the site inspection were registered as in-service in the NYSDEC Petroleum Bulk Storage (PBS) database. As indicated previously, there is an open NYSDEC Spill number associated with piping for the tanks due to a tank test failure in 1999.
- A release of No. 6 fuel oil was reported at a residence at 939 Woodycrest Avenue (approximately 385 feet north of Parking Lot 1) in 2003. The NYSDEC Spills database indicated that three monitoring wells were installed and tightness tests were to be performed. This spill could have affected soil and/or groundwater under the northwestern portion of the project area (e.g., Parking Lot 1).
- Bronx Terminal Market Building S-1, located across Exterior Street from the project area Bronx Terminal Market buildings, was listed in the NYSDEC PBS database as having 11 closed-in-place USTs. No spills were listed for this facility in the NYSDEC Spills database.

Potential unreported releases from these tanks could have affected groundwater under the Bronx Terminal Market warehouse buildings.

- The Bronx Detention Facility, located upgradient from (east of) the Bronx Terminal Market and adjacent to the Parking Lots 9 and 11, was listed in the NYSDEC Spills database as having an open spill case (Spill No. 01-03521) from a July 2001 release of approximately 3,000 gallons of fuel oil, approximately 1,200 gallons of which potentially entered the storm sewer. This release could have affected groundwater under the Bronx Terminal Market and/or Parking Lots 9 and 11.
- There is an open NYSDEC Spill number (99-10856) for the New York City Department of Sanitation, located at 125 East 149th Street, located approximately 770 feet south of Parking Lot 11 and 1,400 feet southeast of the Bronx Terminal Market. According to the December 1999 database listing, contamination and floating product were found in soil borings advanced around a closed-in-place tank at the property. No additional information was listed in the database. This release could have affected groundwater near the southern portion of the Bronx Terminal Market warehouse buildings and/or Parking Lot 11.

GEOLOGY AND HYDROGEOLOGY

Based on results from a previous geotechnical investigation conducted by Mueser Rutledge Consulting Engineers,[1] the project area is underlain by a 17-to-35-foot thick layer of fill material of unknown origin that contains brick, concrete, gravel, cinders, ash, and asphalt in a matrix of fine to coarse sand and silt. The fill layer is underlain by a 3.5-to-13-foot thick layer of organic silt that represents historic marshland deposits. Sand and glacial till layers are present under the organic silt. The bedrock surface generally follows the trend of the north-south trending regional valley, dipping downward from approximately 40 feet below grade in John Mullaly Park and the northern portion of Macomb's Dam Park to approximately 90 feet below grade near the existing stadium. The bedrock surface rises sharply to the west, where it outcrops in the western portions of Macomb's Dam Park, near Jerome Avenue. Based on previous environmental studies conducted as part of the EIS for the proposed Gateway Center at Bronx Terminal Market,[2] the bedrock surface in the Bronx Terminal Market portion of the project area is approximately 60 feet below grade.

The depth to groundwater in the vicinity of the existing stadium and Macomb's Dam Park is 11 to 27 feet below grade, and the depth to groundwater in the vicinity of the Bronx Terminal Market and along the Harlem River waterfront is approximately 8 to 10 feet below grade. Shallow groundwater flow generally follows the area topography, flowing to the southwest in the vicinity of the existing stadium and to the west (toward the Harlem River) in the vicinity of Bronx Terminal Market and the East 151st Street Parking Lots. Tidal fluctuation in the Harlem River may influence groundwater flow direction.

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[1] Mueser Rutledge Consulting Engineers; *Geotechnical Summary Report, Concept Phase Subsurface Investigation, New Yankees Stadium, Bronx, New York*; December 10, 2004.

[2] The Office of the Deputy Mayor for Economic Development. *Gateway Center at Bronx Terminal Market FEIS*, December 2005.

SUBSURFACE (PHASE II) INVESTIGATION

AKRF conducted a Phase II Subsurface Investigation in June and August 2005 to further investigate the areas of concern identified in the Phase I ESA. The Phase II study included geophysical surveys to search for potential abandoned underground petroleum storage tanks; advancement of 42 soil borings to approximately 5 feet below the observed water table; installation of three groundwater monitoring wells; field screening of soil gas for methane; and laboratory analysis of soil and groundwater samples for volatile organic compounds (VOCs), semivolatile compounds (SVOCs), metals, PCBs, and pesticides. Soil boring and monitoring well locations are shown on Figure 10-1. Soil borings were not advanced beyond the historic fill layer, as the anticipated excavation depths for the proposed project do not extend below this layer.

UNDERGROUND STORAGE TANKS

Geophysical surveys were conducted near the southwestern corner of the existing stadium, behind (southwest of) the Macomb's Dam Park Field House, and in Parking Lots 5 and 6 to search for known and suspected USTs in these areas. Four geophysical anomalies indicative of underground storage tanks were detected during the geophysical surveys. The detected anomalies included the following:

- Two anomalies near the southwestern corner of the existing stadium, indicating the presence of the two known 15,000-gallon underground fuel oil storage tanks that fuel the boilers for the existing stadium.
- One anomaly in the vicinity of the fill port behind (southwest of) the Macomb's Dam Park Field House, indicating the presence of an underground storage tank at this location.
- One anomaly in the central portion of Parking Lot 6, suggesting the potential presence of an abandoned tank, possibly from the filling stations historically operated on this lot.

Soil borings were advanced adjacent to the detected anomalies to determine whether potential leaks/spills from these tanks contaminated the soil and/or groundwater.

SOIL AND GROUNDWATER

Petroleum-related contamination (indicated by petroleum-like odors and elevated levels of petroleum-related VOCs and SVOCs) was encountered in borings B-28, B-29, and B-30, located in Parking Lots 5 and 6, which were historically occupied by auto repair facilities/filling stations. Field observations and analytical results indicated that the contamination was present from approximately 5.5 to 22 feet below grade in both soil and groundwater from boring B-29, but appeared to be confined to the groundwater (18 to 22 feet below grade) in borings B-28 and B-30. Parking lots 5 and 6 would be disturbed during the proposed project to remove asphalt and landscape the area for use as a public park. No evidence of petroleum contamination was found in soil or groundwater collected adjacent to the known/suspected USTs at the existing stadium or the Macomb's Dam Park Field House.

SVOC and/or metal concentrations in soil samples from throughout the project area exceeded one or more of the Recommended Soil Cleanup Objectives (RSCOs) listed in NYSDEC Technical Administrative Guidance Memorandum (TAGM) 4046, which is typical for historic fill material. The soil sample collected from 4 feet below grade at B-38 (located west of the Bronx Terminal Market warehouse buildings) exhibited a total SVOC concentration of 1,000

parts per million (ppm), which exceeds the 500 ppm RSCO for total SVOCs. The detected SVOCs are most likely associated with treated wood encountered in the subsurface at this location. All other total SVOC concentrations were below 100 ppm, and the metals concentrations, although above Eastern United States Background Levels, were generally typical of urban conditions in the five boroughs. The soil sample from B-41, located along the Harlem River waterfront just south of Macombs Dam Bridge, exhibited an elevated total lead concentration [1,240 ppm] exceeding the 200-500 ppm level typical of urban background levels. Individual VOCs exceeding their respective RSCOs were detected in only one borings: B-29, located in Parking Lot 6 where petroleum contamination was observed. No PCBs or pesticides were detected above RSCOs in any of the soil samples analyzed.

Several groundwater samples exhibited dissolved metals concentrations exceeding NYSDEC Class GA groundwater standards listed in NYSDEC Technical and Operational Guidance Series 1.1.1; however, all dissolved metals concentrations were below the applicable NYCDEP limitations for effluent to sanitary sewers. VOC and SVOC concentrations in groundwater from borings B-28, B-29, and B-30, located in the area of petroleum-related contamination in Parking Lots 5 and 6, exceeded both NYSDEC GA groundwater standards and the NYCDEP sewer effluent limitations. The groundwater sample from MW-38 (located west of the Bronx Terminal Market warehouse buildings) exhibited a naphthalene concentration of 12 ppb, which slightly exceeds the NYSDEC groundwater guidance value of 10 parts per billion (ppb), but is below the NYCDEP sewer effluent limit of 47 ppb. Groundwater is not used for drinking water supply in The Bronx, and the only anticipated exposure to groundwater during the proposed project would be during construction de-watering.

SOIL GAS

Real time soil gas measurements were collected at all soil boring locations to screen for subsurface methane (CH_4) in shallow soil (less than 10 feet below grade). Slightly elevated methane concentrations, ranging from 0.1 to 0.5 percent were detected in shallow soil gas in boring B-19 (adjacent to the underground storage tanks (USTs) near the southwestern corner of the existing stadium) and B-41 (located along the Harlem River waterfront, just south of Macombs Dam Bridge). These low methane concentrations are not expected to pose an explosion threat. Higher methane readings ranging from 0.6 to 16.9 percent were noted in soil gas at boring B-29, located in Parking Lot 6. The methane concentrations were measured using a Landtec GA-90 landfill gas meter, which can register false positive readings in the presence of other hydrocarbon compounds. Therefore, the methane readings at B-29 are likely false positives resulting from the petroleum contamination that was identified at this location, and do not represent actual methane in the soil gas.

NYSDEC SPILL REPORT

Both field observations and laboratory analytical results indicated the presence of petroleum-contamination in Parking Lots 5 and 6, which were historically occupied by a filling station and auto repair facilities. These conditions constitute a petroleum release, which, under New York State Navigation Law (Article 12; 17 NYCRR 32.2 and 32.4), is required to be reported to the NYSDEC. Therefore, the NYSDEC Spills Hotline was contacted and the case was assigned as Spill No. 05-04523.

PREVIOUS INVESTIGATIONS OF BRONX TERMINAL MARKET

According to the *Gateway Center at Bronx Terminal Market FEIS*,[1] a Phase II Environmental Site Assessment was conducted at BTM in November and December 2003. The Phase II study included soil borings, observation wells, and five test pits in the portion of the Bronx Terminal Market that is included in the project area. Soil and groundwater samples were analyzed for VOCs, SVOCs, metals, and/or PCBs. Results from the Phase II study identified an abandoned underground storage tank near the Harlem River waterfront, as shown in Figure 10-1. In addition, soil samples collected from throughout the Bronx Terminal Market area were found to contain individual SVOCs and metals at concentrations above the NYSDEC RSCOs. A post Phase II investigation was conducted at the BTM in 2004/2005 under the auspices of the NYSDEC Brownfield Cleanup Program (BCP), which included one boring and one monitoring well within the proposed project area. Soil and groundwater samples were analyzed for VOCs, SVOCs, metals, and PCBs. Results from this investigation identified an additional area of fill material with petroleum-like odors beneath one of the warehouse buildings, as shown on Figure 10-1.

SUMMARY OF RESULTS

All on-site structures potentially contain asbestos-containing materials and lead-based paint. PCBs could be present in electrical equipment (e.g., electrical transformers and switches, fluorescent light bulbs) found throughout the project area. Known or suspected underground petroleum storage tanks are present at the existing stadium, the Macomb's Dam Park Field House, Parking Lot 6, and along the Harlem River waterfront, west of the Bronx Terminal Market warehouse buildings. During AKRF's Phase II investigation, SVOC and/metal concentrations exceeding NYSDEC RSCOs were detected in soil samples from throughout the project area, and petroleum contamination was identified in soil and groundwater samples from beneath Parking Lots 5 and 6. The petroleum contamination was reported to the NYSDEC Spills Hotline, and the case was assigned Spill No. 05-04523. During previous investigations, petroleum-impacted soil was observed in borings beneath a Bronx Terminal Market warehouse, and west of the warehouse buildings, along the Harlem River waterfront.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

In the future without the proposed project, the proposed stadium would not be constructed and the associated demolition of the existing stadium and other structures in Macomb's Dam and John Mullaly Parks and Bronx Terminal Market would not occur. Therefore, building materials potentially containing hazardous materials (including asbestos and/or lead-based paint), and electrical and hydraulic equipment potentially containing PCBs, would not be disturbed in the project area. Construction and site grading activities would not take place at the existing stadium, the Parking Lots, Bronx Terminal Market, Macomb's Dam Park, or John Mullaly Park; therefore, soil and groundwater exceeding NYSDEC guidelines would not be exposed in these portions of the project area.

[1] The Office of the Deputy Mayor for Economic Development. *Gateway Center at Bronx Terminal Markey FEIS*, December 2005.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Based on their ages, structures in the project area may contain lead-based paint and/or asbestos-containing building materials. PCBs, and mercury may be present in electrical equipment in the project area structures. The Subsurface (Phase II) Investigation and previous investigations of the Bronx Terminal Market revealed that petroleum contamination is present beneath Parking Lots 5 and 6, that fill material containing petroleum-like odors is present in the vicinity of the Harlem River waterfront/Bronx Terminal Market warehouse buildings, and that historic fill materials throughout the project area contain SVOCs and/or metals at concentrations exceeding NYSDEC RSCOs. In addition, known or suspected underground petroleum storage tanks are present at the existing stadium, the Macomb's Dam Park Field House, Parking Lot 6, and on the Harlem River waterfront west of the Bronx Terminal Market warehouses.

The proposed project would involve building demolition and excavation activities for site grading, foundation work, and/or placement of utilities. Construction dewatering could be required during some of the excavation activities, specifically in the basement/dug out areas for the proposed stadium and subterranean levels of the proposed parking garages. Demolition and excavation activities could disturb hazardous materials and increase pathways for human exposure. The greatest potential for exposure to any constituent of concern would be during construction, especially those activities related to excavation, storage, transport, and disposal of potentially contaminated soil. The following preventative measures would be used to avoid the possibility of adverse impacts from any contamination discovered in the areas of concern:

- Prior to demolition, asbestos-containing materials (ACMs) surveys would be conducted in all project area structures to locate and test suspect ACMs. If determined to be asbestos-containing, these materials would be removed by a licensed asbestos abatement contractor in accordance with applicable Federal, State, and local regulations.
- Renovation or demolition activities with the potential to disturb lead-based paint would be performed in accordance with the applicable Occupational Safety and Health Administration regulation (OSHA 29 CFR 1926.62—Lead Exposure in Construction).
- Prior to demolition and redevelopment, all on-site hazardous materials, including anti-freeze, industrial oils, petroleum products, cleaning fluids, and PCB- and mercury-containing lighting fixtures, would be removed from the project area and disposed of in accordance with applicable Federal, State and local regulations.
- Prior to or during construction activities, the USTs at the Macomb's Dam Park Field House and Parking Lot 6 would be removed and disposed of in accordance with Federal, State and local regulations. If associated contaminated soil is discovered during the tank removal, it would be remediated according to the requirements of the NYSDEC Spill Response and Remediation (Spills) program, and endpoint samples would be collected to ensure that all soil exceeding applicable guidance values is removed.
- At this time, it has not been determined whether the two 15,000-gallon USTs at the existing stadium are to remain in use after redevelopment. If the tanks are to remain in service, any necessary repairs and/or other remediation would be conducted to obtain closure for the open spill number (98-13424) associated with these tanks. If the tanks are to be taken out of service, tank removal would be conducted according to the requirements of the NYSDEC Spills program to obtain closure of Spill No. 98-13424.

- Prior to construction activities, the petroleum contamination discovered in Parking Lots 5 and 6 would be addressed as required by the NYSDEC Spills program to obtain closure of Spill Number 05-04523. Fill material containing petroleum-like odors located west of and beneath the Bronx Terminal Market warehouse buildings also would be addressed in accordance with NYSDEC regulations and guidelines. Confirmatory endpoint samples would be collected to ensure that all petroleum-contaminated soil exceeding applicable guidance values is removed.
- A RAP and HASP would be prepared for all tank removal and spill remediation activities, as required by the NYSDEC. The RAP and HASP also would be submitted to the NYCDEP for approval.
- All activities involving disturbance of existing soils would be conducted in accordance with a NYCDEP-approved RAP, including a HASP, that would detail measures to reduce the potential for exposure (e.g., dust control) and measures to identify and manage known contamination and unexpectedly encountered contamination. The HASP would include an air monitoring protocol and outline mitigation procedures to prevent unsafe exposure to contaminant vapors and particulates. In the event that soil containing petroleum or other contaminated materials is discovered during excavation activities, such soil would be segregated and disposed of in accordance with all applicable Federal, State and local regulations and guidelines. The RAP and HASP for the construction of the proposed stadium would be prepared by the Yankees Organization, and the RAP and HASP for the redevelopment of parkland and parking facilities would be prepared by the New York City Department of Parks and Recreation.
- It is anticipated that all soil containing VOCs exceeding NYSDEC RSCOs will be removed from the site subsurface during tank removal and spill remediation activities. However, if VOC-related contamination is present in groundwater and/or at depths that are impracticable to excavate, residual contamination could remain in the subsurface. In such cases, any structures built above the residual VOC contamination would be constructed with a sub-slab vapor barrier to prevent migration of organic vapors to indoor air. Details on any required vapor barriers would be included in a RAP submitted to the NYCDEP. In areas where no structures are planned (e.g., landscaped areas, parking lots), any residual VOC contamination would be capped by either pavement or a least 2 feet of clean fill that meets TAGM criteria. Post-construction monitoring, if warranted, would be performed at publicly accessible open spaces in accordance with a NYCDEP-approved Operations and Maintenance Plan.
- Any shallow soil with SVOC and/or metals concentrations exceeding NYSDEC RSCOs would be capped by building foundations, asphalt/concrete paving, or at least 2 feet of clean fill that meets TAGM criteria in designated parkland or landscaped areas.
- Erosion and sediment control measures, and stormwater management measures, as described in Chapter 19, "Construction Impacts," would be implemented during redevelopment activities to protect nearby surface water from contaminants potentially entrained in storm water runoff.
- Discharge of any construction de-watering fluids would be conducted in accordance with NYCDEP regulations, including pre-treatment, if necessary, to achieve the effluent limitations.

- Management of the landscaped portions of the Harlem River waterfront park and other landscaped areas of the proposed replacement recreational facilities would include implementation of an Integrated Pest Management (IPM) strategy to minimize use of fertilizers, pesticides and herbicides, as described in Chapter 9, "Natural Resources," thereby avoiding significant adverse impacts to surface water quality of the Harlem River.

Adhering to these procedures would effectively protect site workers, the surrounding community, and the environment from exposure to hazardous materials during and after redevelopment activities. Therefore, the proposed project would not have a significant adverse impact with respect to hazardous materials. ✷

Chapter 11: Waterfront Revitalization Program

A. INTRODUCTION

The proposed project would develop the proposed stadium on portions of Macomb's Dam Park and John Mullaly Park adjacent to the existing Yankee Stadium, located at East 161st Street and River Avenue in The Bronx (see Figures 1-1 and 1-2, Chapter 1, "Project Description"). The proposed project also includes the following:

- Construction of four parking garages, three of which would be built in portions of Macomb's Dam and John Mullaly Parks.
- Street-level, non-destination retail in one of the four garages.
- Development of recreational facilities within a portion of Macomb's Dam Park as part of the replacement of recreational facilities that would be displaced within portions of Macomb's Dam and John Mullaly Parks.
- Creation of new parkland and development of recreational facilities on the site of the existing stadium, on existing parking lots along River Avenue at East 157th Street, and along the Harlem River waterfront west of Exterior Street at the site of two low-scale partially occupied warehouse buildings (Buildings G and H), an abandoned power house building (Building J), and vacant piers within the existing Bronx Terminal Market. These recreational facilities would also be developed as part of the replacement of recreational facilities that would be displaced within portions of Macomb's Dam and John Mullaly Parks.
- Repaving and restriping existing Yankee Stadium Parking Lots 13A and 13B located north of Bronx Terminal Market along the waterfront.
- Extension of existing Yankee Stadium Parking Lot 13A to the south of Pier 1 for new surface parking.

The only elements of the proposed project that are within the coastal zone are the proposed Harlem River waterfront park, the esplanade connecting the proposed waterfront park to the existing ferry landing, and the existing Yankee Stadium Parking Lots 13A and 13B that would be repaved, restriped, and extended to the south (see Figure 11-1). The existing ferry landing and service would be maintained at its current location and capacity. Therefore, this chapter assesses only these elements of the proposed project for compliance with Federal, State, and local coastal zone policies. The New York City Waterfront Revitalization Program Consistency Assessment Form is included in this Environmental Impact Statement (EIS) as Appendix A.

The Federal Coastal Zone Management Act (CZMA) of 1972 was enacted to support and protect the distinctive character of the waterfront and to set forth standard policies for reviewing proposed development projects along coastlines. The program responded to City, State, and Federal concerns about the deterioration and inappropriate use of the waterfront. The CZMA emphasizes the primacy of state decision-making regarding the coastal zone. In accordance with the CZMA, New York State adopted its own Coastal Management Program (CMP), designed to

balance economic development and preservation by promoting waterfront revitalization and water-dependent uses while protecting fish and wildlife, open space and scenic areas, public access to the shoreline and farmland, and minimizing adverse changes to ecological systems and erosion and flood hazards. The New York State CMP provides for local implementation when a municipality adopts a local waterfront revitalization program, as is the case in New York City. The New York City Waterfront Revitalization Program (WRP) is the City's principal coastal zone management tool. The WRP was originally adopted in 1982 and approved by the New York State Department of State (NYSDOS) for inclusion in the New York State CMP. The WRP encourages coordination among all levels of government to promote sound waterfront planning and requires consideration of the program's goals in making land use decisions. NYSDOS administers the CMP at the State level, and the DCP administers the WRP in the City. The WRP was revised and approved by the City Council in October 1999. In August 2002, the NYSDOS and Federal authorities (e.g., the U.S. Army Corps of Engineers [USACOE] and the U.S. Fish and Wildlife Service [USFWS]) adopted the City's 10 WRP policies for most of the properties located within its boundaries.

The policies in the City's WRP are as follows:

- Support and facilitate residential and commercial redevelopment in appropriate coastal zone areas;
- Support water-dependent and industrial uses in New York City coastal areas that are well suited to their continued operation;
- Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers;
- Protect and restore the quality and function of ecological systems within the New York City coastal area;
- Protect and improve water quality in the New York City coastal area;
- Minimize loss of life, structures, and natural resources caused by flooding and erosion;
- Minimize environmental degradation from solid waste and hazardous substances;
- Provide public access to and along New York City's coastal waters;
- Protect scenic resources that contribute to the visual quality of New York City; and
- Protect, preserve, and enhance resources significant to the historical, archaeological, and cultural legacy of the New York City coastal area.

As detailed in the assessment below, the components of the proposed project that are within the coastal zone—the proposed Harlem River waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B—would be consistent with the City's 10 WRP coastal policies, and the WRP's guiding principle of maximizing the benefits derived from economic development, environmental preservation, and public use of the waterfront while minimizing conflicts among these objectives. It would also be consistent with the Bronx Waterfront Plan issued by the Bronx Borough President Adolfo Carrion, Jr. in March 2004, and its objectives to improve existing parkland, develop pedestrian connections to the Harlem River waterfront, and redevelop the Bronx Terminal Market to include a waterfront open space. The Harlem River waterfront park and esplanade would create new open space and ballfields along the Harlem River, would re-establish physical and visual public access to the Harlem River waterfront, and

result in waterfront uses that attract the public and enliven the waterfront as well as benefit the surrounding community.

The proposed approximately 5.11-acre Harlem River waterfront park and 0.71-acre esplanade would provide waterfront access and recreational opportunities that are currently not available within the vicinity of the project area. The removal of Bronx Terminal Market Buildings G, and H, and J and development of these proposed waterfront open space areas would provide views of the Harlem River and improve the visual appearance of this portion of the project area. Bronx Terminal Market Buildings G and H, and the abandoned power house building (Building J), have been determined to be eligible for listing on the State and National Registers of Historic Places. Because these structures would be demolished by the proposed project for development of the Harlem River waterfront park, the proposed project would undertake mitigation measures in consultation with the New York State Historic Preservation Officer (SHPO) to mitigate any significant adverse effects on architectural resources. These mitigation measures would be set forth in a Memorandum of Agreement to be entered into among the New York City Department of Parks and Recreation, the National Park Service, and SHPO.

Any hazardous materials (e.g., asbestos-containing materials [ACMs], lead-based paint, polychlorinated biphenyls [PCB] and mercury-containing lighting fixtures, and on-site hazardous materials such as antifreeze, industrial oils, petroleum products and cleaning fluids) in the existing Bronx Terminal Market buildings to be demolished for the development of the Harlem River waterfront park would be handled and removed in accordance with all applicable regulations and thus would not result in significant adverse impacts. A Health and Safety Plan (HASP) and a Remedial Action Plan (RAP) would be developed to protect site workers and the surrounding community from exposure to hazardous materials during proposed construction activities within the proposed waterfront park and other portions of the project area where soil excavation and/or remediation (e.g., removal of petroleum-contaminated soil) would take place. Any soil containing volatile organic compounds (VOCs) exceeding NYCDEC Recommended Soil Cleanup Objectives (RSCOs) will be removed from the site subsurface during tank removal and spill remediation activities. Any shallow soil within the area proposed for the waterfront park and esplanade with semivolatile compounds (SVOCs) and/or metals concentrations exceeding the NYSDEC RSCOs would be capped by at least 2 feet of clean fill that meets Technical Administrative Guidance Memorandum (TAGM) criteria. Post-construction monitoring, is warranted, would be performed at publicly accessible open spaces in accordance with a NYCDEP-approved Operations and Maintenance Plan.

Construction and operation of the proposed Harlem River waterfront park, esplanade, and the repaving, restriping, and extension to the south of existing Yankee Stadium Parking Lots 13A and 13B would not result in significant adverse impacts to terrestrial plant communities or wildlife, or to floodplains, wetlands, water quality or aquatic biota of the Harlem River. Potential benefits to natural resources resulting from the proposed waterfront park include improved habitat for birds and other wildlife within the landscaped, passive recreational areas that would be developed within the waterfront parkland, improved stormwater retention, and improved fish and benthic invertebrate habitat along the shoreline of the Harlem River waterfront park that would result from the replacement of the existing hard shoreline stabilization structures with softer shoreline stabilization structures and possible development of vegetated intertidal wetlands.

Permits and approvals that could be required include: NYSDEC State Pollution Discharge Elimination System (SPDES) permit for stormwater discharges associated with construction

activities; Tidal Wetlands permit from New York State Department of Environmental Conservation (NYSDEC); water quality certification from NYSDEC; and Nationwide Permits from the U.S. Army Corps of Engineers (USACOE) for in- or above-water construction activities.

B. EXISTING CONDITIONS

The site of the proposed approximately 5.11-acre Harlem River waterfront park and 0.71-acre esplanade contains two low-scale, partially occupied warehouse buildings (Buildings G and H) that are part of the Bronx Terminal Market (a wholesale food market), paved areas for parking, a portion of Pier 1 for the esplanade, and combined Piers 2 and 3. The proposed parking area south of Pier 1 currently contains an abandoned power house building (Building J) associated with Bronx Terminal Market. The three buildings are in dilapidated condition. Within the project area, the entire shoreline is engineered, primarily with timber crib bulkhead, concrete masonry bulkhead, or riprap. The interpier areas are silted in and water depths are less than 6 feet at mean low water. The Bronx Terminal Market Buildings G, H, and J have been determined eligible for listing on the State and National Registers of Historic Places (see Chapter 6, "Historic Resources"). There are no structures on the piers, which date from the early 1890s. The piers are rundown, adding to the degraded appearance of the project area, and are currently used for delivery truck parking. The piers are not easily accessed, and waterfront views are blocked by trucks, metal fencing, concrete traffic barriers, and the Oak Point Link rail connection on the Harlem River. The Harlem River cannot be viewed from the eastern portion of the project area due to the presence of the elevated Major Deegan Expressway and the existing Bronx Terminal Market buildings. There is little to no landscaping or vegetation within the portion of the project area to be developed as the Harlem River waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B that would be repaved, restriped, and extended to the south.

The portion of the project area to be developed as the waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B is located in an M2-1 manufacturing district (see Chapter 2, "Land Use, Zoning, and Public Policy"). M2 zoning districts serve as middle ground for light and heavy industrial areas. M1-1, M1-2, M2-1, C4-4, C8-3, R6 and R8 are the predominant zoning districts surrounding the project site.

C. CONSISTENCY OF PROPOSED PROJECT WITH THE WRP POLICIES

Policy 1: Support and facilitate commercial and residential development in areas well-suited to such development.

Policy 1.1: Encourage commercial and residential redevelopment in appropriate coastal zone areas.

The portion of the proposed project within the coastal zone would be developed as a waterfront park, esplanade, and the repaved and restriped Yankee Stadium Parking Lots 13A and 13B and would not be a commercial or residential development. Therefore, this policy does not apply.

Policy 1.2: Encourage non-industrial development that enlivens the waterfront and attracts the public.

The proposed project would result in waterfront uses that attract the public and enliven the waterfront as well as benefit the surrounding community. The proposed waterfront park and esplanade would provide waterfront access and recreational opportunities that are currently not available within the vicinity of the project area. In addition, it would result in an increase in active recreational resources for the community. Therefore, the proposed project would be consistent with this policy.

Policy 1.3: Encourage redevelopment in the coastal area where public facilities and infrastructure are adequate or will be developed.

Community facilities, services, and infrastructure are sufficient for the proposed waterfront park, esplanade, and parking areas. Therefore, the proposed project would be consistent with this policy.

Policy 2: Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.

Policy 2.1: Promote water-dependent and industrial uses in Significant Maritime and Industrial Areas.

The project area is not located in a Significant Maritime and Industrial Area. Therefore, this policy is not applicable to the proposed project.

Policy 2.2: Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas.

The combined Piers 2 and 3 proposed as the location for the waterfront park, the small portion of Pier 1 proposed for the esplanade, and the area south of Pier 1 proposed for surface parking are not suitable for working waterfront uses. Water depth in the interpier areas and at the pier heads is currently less than 6 feet deep at mean low water. Bottom sediment would have to be removed for access by most vessels. Additionally, the Oak Point Link rail connection, which runs parallel to the shoreline, is adjacent to the pierhead line and essentially precludes working waterfront uses within the project site. Therefore, this policy is not applicable to the proposed project.

Policy 2.3: Provide infrastructure improvements necessary to support working waterfront uses.

The proposed project would not include working waterfront uses. Therefore, this policy is not applicable to the proposed project.

Policy 3: Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.

Policy 3.1: Support and encourage recreational and commercial boating in New York City's maritime centers.

While the project area is not suitable for the promotion of recreational or commercial boating (see response for Policy 2.2), the proposed waterfront park and esplanade would provide for public access to the waterfront. Additionally, the proposed project would not affect the seasonal ferry operation for the proposed stadium. Therefore, the proposed project would be consistent with this policy.

Policy 3.2: Minimize conflicts between recreational, commercial, and ocean-going freight vessels.

The proposed project would not provide facilities for recreational or commercial vessels. Therefore, this policy is not applicable to the proposed project.

Policy 3.3: Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.

The proposed project would not provide facilities for recreational or commercial vessels. Therefore, this policy does not apply.

Policy 4: Protect and restore the quality and function of ecological systems within the New York City coastal area.

Policy 4.1: Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas, Recognized Ecological Complexes, and Significant Coastal Fish and Wildlife Habitats.

The project area is not located within a Special Natural Waterfront Area, Recognized Ecological Complex, or Significant Coastal Fish and Wildlife Habitat. Therefore, this policy is not applicable to the proposed project.

Policy 4.2: Protect and restore tidal and freshwater wetlands.

As presented in Chapter 9, "Natural Resources," the entire shoreline within the project area is engineered and no vegetated tidal wetlands are present. The water depth at the pierhead and interpier areas is less than 6 feet at mean low water and would meet the NYSDEC definition for littoral zone tidal wetlands. NYSDEC has confirmed that the landward extent of tidal wetlands is the seaward face of the existing shoreline engineering structures with the exception of three locations (along the northern edge of Pier 2 within the north cove, within the former interpier area between Piers 2 and 3, and along the shoreline of the southern cove between Piers 3 and 4) where the tidal wetland boundary line extends to the Mean High Water (MHW) elevation. The U.S. Army Corps of Engineers (USACOE) has determined that there are no Federal wetlands located within the project area. Elements of the shoreline stabilization as part of the Harlem River waterfront park design, such as replacement of existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall system) that would permit the development of an intertidal area and the establishment of tidal wetland vegetation at the shoreward portion of the coves would improve wetland resources within the project area. Potential impacts to wetlands during construction of the shoreline improvements would be minimized through the implementation of measures identified during the permitting process for these shoreline enhancements by Federal and State agencies. Therefore, the proposed project would be consistent with this policy.

Policy 4.3: Protect vulnerable plant, fish, and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.

Requests for information on rare, threatened, or endangered species within the vicinity of project area were submitted to the U.S. Fish and Wildlife Service (USFWS), the New York State Department of Environmental Conservation Natural Heritage Program (NYNHP), and National Marine Fisheries Service (NMFS). No Federally listed or proposed endangered or threatened species under the jurisdiction of the USFWS are known to be in the project area. The NYNHP has no record of known occurrences of rare or state-listed species, natural communities or other significant habitats on or in the immediate vicinity of the project area. No endangered or threatened species under the jurisdiction of the NMFS are known to occur

within the project area, although the Federally- and NY State-listed endangered shortnose sturgeon (*Acipenser brevirostrum*) has been identified as a possible (rare) transient species in the Harlem River. Use of the Harlem River channel located to the west of the project site by shortnose sturgeon would be rare, and only on a transient basis while traveling to spawning areas on the Hudson River. Temporary adverse impacts to water quality resulting from increased suspended sediment or sediment disturbance would be limited to the immediate area of activity along the shoreline where the shallow water depths would likely preclude the occurrence of shortnose sturgeon. Furthermore, no significant adverse impacts would occur to the water quality of the Harlem River channel from the construction or operation of the proposed project. Therefore, no significant adverse impacts would occur to the Federally- and New York State-listed endangered shortnose sturgeon and the proposed project would be consistent with this policy.

Policy 4.4: Maintain and protect living aquatic resources.

As presented in Chapter 9, "Natural Resources," the proposed project would not be expected to result in adverse impacts to water quality or aquatic biota. Potential adverse effects to water quality resulting from the discharge of stormwater during construction and operation of the waterfront park, esplanade**,** and existing Yankee Stadium Parking Lots 13A and 13B would be minimized through implementation of a Stormwater Pollution Prevention Plan (SWPPP), and implementation of an Integrated Pest Management (IPM) strategy that would manage landscaped areas with minimal application of pesticides, herbicides, and fertilizers. Additionally, the development of the waterfront park would result in an increase in pervious cover within this portion of the project area, which may result in beneficial effects by decreasing stormwater discharges during rainfall events. The design of the artificial turf recreational fields within the waterfront park (artificial turf with crumb rubber infill) would include a subsurface drainage layer that can be designed to percolate into the soil or to a tile under-drain system. This type of artificial turf system would retain stormwater during precipitation events, decreasing the rate of stormwater discharge to the river or sewer system during precipitation events. The retention of stormwater from portions of the waterfront park that would discharge to the combined sewer system has the potential to benefit the water quality of the Harlem River. Any effects on water quality resulting from shoreline improvement activities, such as increased suspended sediment and resuspension of contaminated sediment, would be temporary and localized and would not result in significant adverse impacts to aquatic biota. The temporary loss of some benthic habitat and of some macroinvertebrates during replacement of the concrete masonry bulkhead and timber crib bulkhead, and improvement of the riprapped areas, would not result in significant adverse impacts to populations of benthic macroinvertebrates using this portion of the Harlem River, nor would it significantly impact the food supply for fish foraging in the area. Encrusting organisms and benthic macroinvertebrates would be expected to recolonize these areas shortly after construction is completed. The proposed gabion wall system and creation of vegetated tidal wetland habitat as part of the waterfront park design would benefit aquatic resources by increasing the diversity of aquatic habitat for benthic macroinvertebrates and fish within the project area. Therefore, the proposed project would be consistent with this policy.

Policy 5: Protect and improve water quality in the New York City coastal area.

Policy 5.1: Manage direct or indirect discharges to waterbodies.

As discussed in the response to Policy 4.4, the construction and operation of the waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B would not be expected to result in significant adverse impacts to water quality. Therefore, the proposed project would be consistent with this policy.Policy 5.2: Protect the quality of New York City's waters by managing activities that generate non-point source pollution.

As discussed in the response to Policy 4.4 and Policy 5.1, the management of stormwater generated within the Harlem River waterfront park in accordance with a SWPPP, retention of stormwater from portions of the waterfront park that would discharge to the combined sewer system, and the implementation of an IPM strategy, would minimize potential adverse effects to water quality of the Harlem River. Therefore, the proposed project would be consistent with this policy.

Policy 5.3: Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, or wetlands.

Improvements to the shoreline stabilization as part of the development of waterfront park and the removal of in-water debris would not result in significant adverse impacts to NYSDEC littoral zone tidal wetlands or to Harlem River water quality. Potential adverse effects to wetlands would be minimized through the implementation of measures identified during the permitting process for these shoreline enhancements by Federal and State agencies. Therefore, the proposed project would be consistent with this policy.

Policy 5.4: Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.

The project area does not contain any potable groundwater, nor does it contain streams or the source of water for wetlands. Within the portion of the project site at Bronx Terminal Market buildings G, H and J, groundwater is typically found between 8 and 10 feet below the ground surface. Groundwater quantity would not be expected to be impacted as a result of the waterfront park component of the proposed project. Measures would be taken during the removal of the three buildings and construction of the waterfront park to minimize potential impacts to groundwater quality during construction of the waterfront park and esplanade. Therefore, the proposed project would be consistent with this policy.

Policy 6: Minimize the loss of life, structures, and natural resources caused by flooding and erosion.

Policy 6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the condition and use of the property to be protected and the surrounding area.

The only portions of the proposed project within the floodplain are the waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B (see Figure 11-1). During construction of these project elements, best management practices would be implemented to prevent erosion and sedimentation. The proposed improvements to the existing shoreline stabilization structures would protect the shoreline from erosion and would not affect erosion or flooding of neighboring areas. Therefore, the proposed project would be consistent with this policy.

Policy 6.2: Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit.

The entire shoreline within the project area is engineered, primarily with timber crib bulkhead, concrete masonry bulkhead, or riprap. While the proposed project would include improvements to this existing shoreline stabilization, these improvements are just one component of the proposed project. Public funding is not being requested for the construction of flood prevention or erosion control measures. Therefore, this policy does not apply.

Policy 6.3: Protect and preserve non-renewable sources of sand for beach nourishment.

The project area does not contain public or private beaches and does not have a non-renewable source of sand. Therefore, this policy does not apply.

Policy 7: Minimize environmental degradation from solid waste and hazardous substances.

Policy 7.1: Manage solid waste material, hazardous wastes, toxic pollutants, and substances hazardous to the environment to protect public health, control pollution, and prevent degradation of coastal ecosystems.

As presented in Chapter 13, "Solid Waste and Sanitation Services," solid waste generated at the proposed waterfront park would be handled by New York City Department of Parks and Recreation and delivered to the New York City Department of Sanitation (DSNY) facilities. Solid waste that would be generated at the proposed waterfront park is not expected to adversely impact New York City's solid waste handling services, and would not be expected to result in significant adverse impacts on solid waste and sanitation services.

Any hazardous materials (e.g., ACMs, lead-based paint, PCB- and mercury-containing lighting fixtures, and on-site hazardous materials such as antifreeze, industrial oils, petroleum products and cleaning fluids) in the three existing Bronx Terminal Market buildings to be demolished for the development of the Harlem River waterfront park would be handled, removed, and disposed of in accordance with all applicable regulations and thus would not result in significant adverse impacts. The RAP and HASP developed for the proposed project would protect site workers and the surrounding community from exposure to hazardous materials during proposed construction activities within the proposed waterfront park and other portions of the project area where soil excavation and/or remediation (e.g., removal of petroleum-contaminated soil) would take place. Petroleum contamination within the proposed location of the waterfront park would be addressed in accordance with NYSDEC regulations and guidelines. In the event that soil containing petroleum or other contaminated materials is discovered during excavation activities, such soil would be segregated and disposed in accordance with all applicable Federal, State and local regulations and guidelines. All soil containing VOCs exceeding NYSDEC RSCOs will be removed from the site subsurface during tank removal and spill remediation activities. However, if VOC-related contamination is present in groundwater and/or at depths that are impracticable to excavate, residual contamination could remain in the subsurface. In such cases, any structures built above would be constructed with a sub-slab vapor barrier to prevent migration of organic vapors to indoor air. Any shallow soil within the area proposed for the waterfront park and esplanade with SVOCs and/or metals concentrations exceeding the NYSDEC RSCOs would be capped by at least 2 feet of clean fill the meets TAGM criteria. Therefore, the proposed project would be consistent with this policy.

Policy 7.2: Prevent and remediate discharge of petroleum products.

As discussed in Chapter 10, "Hazardous Materials," areas of petroleum-contaminated soils have been identified within the area of the proposed waterfront park. The HASP developed for the proposed project would detail measures to be implemented to reduce the potential for exposure to hazardous materials, and measures to identify and manage known contamination and unexpectedly encountered contamination. In the event that soil containing petroleum is discovered during excavation activities, such soil would be segregated and disposed in accordance with all applicable Federal, State and local regulations and guidelines. The possible underground storage tank identified within the proposed waterfront park would be removed and disposed of in accordance with Federal, State and local regulations. Therefore, the proposed project would be consistent with this policy.

Policy 7.3: Transport solid waste and hazardous substances and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.

See the response to Policy 7.1, above.

Policy 8: Provide public access to and along New York City's coastal waters.

Policy 8.1: Preserve, protect and maintain existing physical, visual, and recreational access to the waterfront.

As presented in Policy 1.2, the proposed project would re-establish physical and visual public access to the Harlem River waterfront and result in waterfront uses that attract the public, enliven the waterfront, and benefit the surrounding community. The proposed waterfront park and esplanade would provide waterfront access and recreational opportunities that are currently not available within the vicinity of the project area. Therefore, the proposed project would be consistent with this policy.

Policy 8.2: Incorporate public access into new public and private development where compatible with proposed land use and coastal location.

See the responses to Policies 1.2 and 8.1, above.

Policy 8.3: Provide visual access to coastal lands, waters, and open space where physically practical.

As presented in Policies 1.2 and 8.1, the proposed waterfront park and esplanade would provide visual access to the Harlem River and waterfront recreational opportunities that are currently not available within the vicinity of the project area. Therefore, the proposed project would be consistent with this policy.

Policy 8.4: Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.

As discussed in Policy 1.2, the proposed project includes the development of a public waterfront park and esplanade. Therefore, the proposed project would be consistent with this policy.

Policy 8.5: Preserve the public interest in and use of lands and waters held in public trust by the State and City.

With the development of the waterfront park and esplanade, the proposed project would preserve the public interest in and use of lands and waters held in public trust by the City. Therefore, the proposed project would be consistent with this policy.

Policy 9: Protect scenic resources that contribute to the visual quality of the New York City coastal area.

Policy 9.1: Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.

The visual character of the Harlem River waterfront consists of an urban landscape with manufacturing, industrial, and commercial buildings, and paved surfaces. The proposed project would enhance the project area by replacing the existing vacant or underutilized structures that have a neglected quality with a waterfront park that would enhance the community. Therefore, the proposed project would be consistent with this policy.

Policy 9.2: Protect scenic values associated with natural resources.

With the exception of the Harlem River, natural resources are limited within the project area, and are particularly limited within the portion of the project area along the Harlem River waterfront. The planting of trees to replace those that would be removed from Macomb's Dam and John Mullaly Parks and other landscaping proposed for the waterfront park and the passive recreational areas that would be developed within other portions of the replacement parkland, would provide improved habitat for birds and other wildlife. Therefore, the proposed project would be consistent with this policy.

Policy 10: Protect, preserve, and enhance resources significant to the historical, archaeological, and cultural legacy of the New York City coastal area.

Policy 10.1: Retain and preserve designated historic resources and enhance resources significant to the coastal culture of New York City.

Bronx Terminal Market Buildings G, H, and J have been determined to be eligible for listing on the State and National Registers of Historic Places. Because these structures would be demolished by the proposed project for development of the Harlem River waterfront park, the proposed project would undertake mitigation measures in consultation with SHPO to mitigate any significant adverse effects on architectural resources, which would be set forth in a Memorandum of Agreement. Therefore, the proposed project would be consistent with this policy.

Policy 10.2: Protect and preserve archaeological resources and artifacts.

Since the proposed project involves in-ground disturbance for the development of the proposed stadium and parking facilities, there is a potential for impacts to archaeological resources. As described in Chapter 6, "Historic Resources," LPC was contacted for its preliminary determination of the site's archaeological sensitivity. In a letter dated March 29, 2005, LPC determined that the project area has no archaeological significance. Likewise, in a letter dated August 10, 2005, SHPO has indicated that it has no further archaeological concerns for this project. Therefore, the proposed project would be consistent with this policy. ✷

A. INTRODUCTION

The fans, workers, and players expected at the proposed stadium, four proposed parking garages, and the users of the proposed parkland and replacement recreational facilities, would create new and different demand for drinking water and wastewater treatment than currently exists in the project area. The potential effects on those municipal services are discussed in this chapter.

In summary, the incremental water demand from the proposed project would not be large enough to significantly impact the water supply system's ability to deliver water reliably, and demand for water is not expected to affect local water pressure. Although the proposed project would involve the relocation of several large water and sewer lines, these relocations are not expected to cause interruption to water supply and sewage disposal in the area. The additional sanitary sewage expected to result from the proposed project would not cause the Wards Island Water Pollution Control Plant (WPCP) to exceed its design capacity or its New York State Pollutant Discharge Elimination System permit flow limit. The volume of stormwater from the proposed project would not have a significant adverse impact on the Harlem River or on New York City's combined sewer system. Therefore, the proposed project would not result in any significant adverse impacts to the existing water supply, sewage treatment, and stormwater discharge systems.

B. METHODOLOGY

In 2005, the average attendance at a Yankees baseball game was 50,499 fans with about 700 workers in the stadium. During a sold-out game, the existing stadium can hold about 56,928 fans with about 1,200 workers needed in the stadium. The proposed stadium would have a maximum fan attendance of about 54,000 persons and would also need about 1,200 workers excluding police and other traffic management personnel. The proposed stadium would include facilities, such as a retail store and restaurants that would be open all year, not just during the baseball season. These uses are included in the analysis of infrastructure demand during a baseball game.

Parks and recreational facilities typically have their greatest usage on a warm weekend when people want to be outside. Therefore, the infrastructure analyses are based on a sold-out baseball game occurring on a warm weekend when the parkland and recreational facilities would also experience their greatest usage. In addition, the analyses conservatively assume that all of the park and recreational facilities are in place, not just those that are expected to be in place by 2009. Heritage Field on the site of the existing stadium would not be completed until the end of 2010

Because there are existing uses, including the existing stadium in the project area, this analysis considers the difference between those continued uses in the future without the proposed project and the expected development associated with the proposed stadium and parkland.

C. EXISTING CONDITIONS

WATER SUPPLY

New York City's water supply system is composed of three watersheds—the Croton, Delaware, and Catskill—and extends as far north as the Catskill Mountains. In addition, a small amount of potable water is supplied from groundwater in southeast Queens. In 2005, the New York City Department of Environmental Protection (NYCDEP) delivered approximately 1,093 million gallons of water per day (mgd) to the five boroughs and Westchester County (the peak year was in 1979, when 1,512.4 mgd of water were consumed). The 2005 consumption is equivalent to about 137 gallons per person per day, a reduction of 28 gallons per person per day since 2001. From these watersheds, water is carried to New York City via a conveyance system made up of reservoirs, aqueducts, and tunnels extending as far as 125 miles north and west of the City. Within the City, a grid of water pipes distributes water to customers.

The Croton System provides an average of approximately 10 percent of the City's average daily demand. During droughts, the Croton System provides up to 30 percent of in-City consumption. Water from the Croton system is collected into the New Croton Reservoir in Westchester County from watersheds in Putnam and Westchester Counties. Minor parts of the watersheds extend into Connecticut and Dutchess County. The water is conveyed from the New Croton Reservoir through the New Croton Aqueduct to Jerome Park Reservoir, which is a distribution reservoir. At this point, Croton water enters the City's water distribution system of water mains. Croton water is primarily used in low-lying areas of The Bronx and Manhattan, where the water can be conveyed by gravity. Two pump stations, the Jerome Avenue Pump Station and the Mosholu Pump Station, can supply additional Croton water to areas normally served by the Catskill and Delaware Systems. The Croton System can supply water to the project area, but is temporarily out of service for repair and maintenance.

The Delaware and Catskill watersheds supply all five boroughs and typically deliver about 90 percent of the City's drinking water. These water systems collect water from watershed areas in the Catskill Mountains and deliver it to the Kensico Reservoir in Westchester County. This reservoir acts as the seasonal balancing reservoir. The New York City water system uses more water during the summer months than the upstate aqueducts can transmit. Extra water is stored in the Kensico Reservoir to meet the summer needs. From the Kensico Reservoir, water is sent to the Hillview Reservoir in Yonkers, which balances the daily fluctuations in water use. From there, water is delivered to the City via three water tunnels, Tunnel Nos. 1, 2, and 3. Tunnel No. 1 carries water through The Bronx and Manhattan to Brooklyn; Tunnel No. 2 travels through The Bronx, Queens, Brooklyn, and then through the Richmond Tunnel to Staten Island; and Tunnel No. 3 goes through The Bronx and Manhattan, terminating in Queens.

Under the intersection of Sedgwick Avenue and West 167th Street, Shaft 7 from Water Tunnel No. 1 brings potable water into the distribution system. The potable water is conveyed to distribution points. Two distribution hubs are located within the project area. One is located under the intersection of Jerome Avenue and East 162nd Street, and the second under the intersection of Jerome Avenue and East 164th Street. Various large-diameter water pipes emanate from these distribution hubs. One of these large-diameter pipes (36 inches in diameter) runs under a portion of Macomb's Dam Park, at the site of the proposed stadium. These large-diameter pipes feed potable water to the 12-inch water mains, which are tapped to provide water lines into individual buildings. The 12-inch water mains are arranged in a grid system, which equalizes water pressure in an area and allows a section to be cut off for repair and maintenance

without affecting users not directly connected to that section. There are no reported problems with the water distribution system's capacity, coverage, or pressure in the area.

The project area is currently occupied principally by the existing Yankee Stadium and public uses. As shown in Table 12-1, the peak day existing water demand in the project area is estimated to be slightly more than 500,000 gpd. The peak day occurs only when the Yankees play a home baseball game, which can happen a maximum of 92 times per year. This estimate includes both domestic water use (sinks and toilets) and air conditioning during the summer. Domestic water use enters the sewer system, while water from air conditioning evaporates and irrigation percolates into the soil.

Table 12-1
Existing Water Demand

Use	Number	Rate	Water Demand
Park Users	5,600 persons	5 gallons/person/day	28,000 gallons/day
Stadium Attendees	56,928 persons	5 gallons/person/day	284,640 gallons/day
Stadium Employees	1,200 persons	25 gallons/person/day	30,000 gallons/day
Stadium Full Meals	1,200 full meals	10 gallons/meal	12,000 gallons/day
Stadium Snack Meals	11,000 snack meals	2 gallons/meal	22,000 gallons/day
Air Conditioning	242,400 square feet	0.17 gallons/square foot/day	41,200 gallons/day
Stadium Irrigation	3.04 acres	27,500 gallons/acre/day	82,500 gallons/day
Total	**NA**	**NA**	**500,340 gallons/day**

Note: Rates primarily from the 2001 *City Environmental Quality Review Technical Manual*.

SANITARY SEWAGE

The project area is entirely within the service area of the Wards Island WPCP, which discharges treated wastewater flows (or effluent) into the East River. A New York State Pollutant Discharge Elimination System (SPDES) permit issued by the New York State Department of Environmental Conservation (NYSDEC) regulates the effluent from this WPCP. The Wards Island WPCP is designed to treat a monthly flow of 275 mgd. As shown in Table 12-2, the average actual monthly flow rate at the plant for the latest 12 months of records available (December 2004 through November 2005) is 210 mgd, which is well below the plant's treatment capacity of 275 mgd.

Table 12-2
Monthly Flows at Wards Island WPCP

Year	Month	Flow (mgd)
2004	August	211
	September	193
	October	254
	November	208
	December	210
2005	January	212
	February	203
	March	204
	April	213
	May	184
	June	213
	July	215
	12-month average	**210**

Note: Allowable flow 275 mgd.
Source: NYCDEP.

Combined sewers that collect stormwater runoff (from roof and street drainage) and sanitary sewage serve the area surrounding the project area. During dry weather, the combined sewer lines convey only sanitary sewage and carry it to the Wards Island WPCP. However, during and immediately after precipitation, such as rain and snow, the combined sewer lines convey both sanitary sewage and stormwater. The large volumes of stormwater exceed the capacity of the Wards Island WPCP. In those situations, the Wards Island WPCP treats its maximum permitted volume of combined sewage, and the excess combined sewage from the project area overflows into the Harlem River without treatment at controlled points known as regulators. The regulators prevent flooding in surrounding neighborhoods and damage to the WPCP.

The City sewerage comprises a number of small grids of sewer pipes that allow for smaller and less expensive pipes that are easier to maintain. These grids connect to an interceptor sewer that conveys the sanitary sewage to the WPCP. Four of these grids serve the project area. The largest serves the site of the proposed stadium and Parking Garage B. A 10-by-8.5-foot combined sewer runs under Jerome Avenue. This grid connects to the 10-by-7.5-foot interceptor sewer at Regulator 60, which is located under the foot of Jerome Avenue. The interceptor sewer runs under Exterior Street in this area. A second, small grid of sewer pipes serves the existing stadium and Ruppert Place. It discharges into the interceptor at Regulator 72, which is located under Exterior Street just south of Macombs Dam Bridge. A third system of sewer pipes serves the existing Bronx Terminal Market area. The area southeast of the existing stadium is served by a grid of sewer pipes that connect to the interceptor at Regulator 59 in the vicinity of the 149th Street Bridge.

The existing uses in the project area generate approximately 376,640 gpd of sanitary sewage on a peak day. Water demand for air conditioning and irrigation does not generate sanitary sewage. When the Yankees are not playing at home, the estimated sewage generation is much reduced, about 30,000 gpd, without irrigation of the baseball field.

STORMWATER

As discussed above, the project area is served by combined sewers that discharge combined stormwater and sanitary sewage into the Harlem River during precipitation events. All of the Combined Sewer Overflow (CSO) locations are shown on Figure 12-1. The largest CSO is the 10-by-8.5-foot sewer that discharges just north of the Macombs Dam Bridge. A 48-inch diameter CSO discharges just south of Macombs Dam Bridge, and a 30-inch diameter CSO discharges about halfway between Macombs Dam Bridge and the 149th Street Bridge. A 60-inch diameter CSO discharges in the vicinity of the 149th Street Bridge.

The area of the proposed project is just over 45 acres. In order to ensure that the sewer system functions properly and does not cause flooding, NYCDEP uses a “design storm” that the sewer pipes and all apurtances must be able to accommodate. The design storm used by NYCDEP has a rainfall intensity of 5.95 inches per hour. Given the area’s development, the runoff coefficient is estimated to be about 0.58. The Rational Formula for calculating runoff is:

$$Q = C \times I \times A \text{ where}$$

Q is runoff in cubic feet per second (cfs),
C is the runoff coefficient,
I is the rainfall intensity in inches per hour, and
A is the area in acres.

The existing runoff from the project area is about 155.6 cfs during the design storm. As discussed above, the runoff is discharged into the Harlem River, mostly through the City sewer system.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

Except for the Gateway Center at Bronx Terminal Market, minimal growth and development within the project area is expected to occur in the future without the proposed project by 2009. Most of the Gateway Center Project at Bronx Terminal Market is expected to be built and operating by 2009 (with a second phase of development to be completed by 2014) and will increase the water demand and sewage generation in the area.

WATER SUPPLY

In the future without the proposed project, conditions for overall water supply to New York City are not expected to change significantly. The City has initiated a comprehensive water conservation program that seeks to reduce water use by implementing a metering program and requiring that all new fixtures in the City, including those in existing and new structures, be of low-flow design (Local Law No. 29, 1989). Other measures—including leak detection programs, water meters, and locking fire hydrant caps—are aimed at further reducing the City's water needs and will serve to reduce water demand and flows to sewage facilities. As demonstrated by the reduction in both total water consumption and per capita consumption over the past decade, the water conservation program has been successful. NYCDEP projects that over the next decade, the savings from these conservation measures will exceed any increase in water demand from consumers.

The Croton Filtration Plant has been approved. Construction is underway and is expected to be operational in 2011. The project is being undertaken to meet the public health needs of New York City and to comply with State and Federal drinking water standards.

In addition, Stage 2 of water supply Tunnel No. 3 is now under construction in Queens and Brooklyn. When Tunnel No. 3 is complete, it will enhance and improve the adequacy and dependability of the entire water supply system and improve service and pressure to outlying areas of the City. It will also allow NYCDEP to inspect and repair Tunnel Nos. 1 and 2 for the first time since they were activated.

SANITARY SEWAGE

In 1997, NYCDEP developed two flow projections (high end and low end) for each of its WPCPs in 10-year intervals starting with 2005. Experience has shown that the low-end projections have been somewhat high. For the year 2005, NYCDEP projected the flow for the Wards Island WPCP to be 237.7 mgd, which is about 30 mgd higher than actual. This projection subsumes all expected development and growth within the Wards Island service area. Without the proposed project, little increase in sewage flows is expected from the project area by 2015. NYCDEP expects the Wards Island WPCP to remain within its SPDES permit limits.

STORMWATER

One change is proposed to the existing stormwater system in the future without the proposed project. The developers of the Gateway Center at Bronx Terminal Market are proposing to abandon the existing 30-inch diameter outfall (see Figure 12-1) that discharges into the Harlem

River and replace it with two side-by-side 5-foot by 4-foot outfalls. The new double barreled outfall would be located about 300 feet south of the abandoned outfall. This relocation is being reviewed by NYCDEP and will have to be approved by that agency before the new outfall could be built and the existing outfall abandoned. No other changes to the stormwater system in the vicinity of the proposed project are known.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Table 12-3 presents the expected water demand from the proposed project.

Table 12-3
Proposed Water Demand

Use	Number	Rate	Water Demand
Park Users	8,500 persons	5 gallons/person/day	42,500 gallons/day
Yankee Stadium Attendees	54,000 persons	5 gallons/person/day	270,000 gallons/day
Yankee Stadium Employees	1,200 persons	25 gallons/person/day	30,000 gallons/day
Yankee Stadium Full Meals	1,140 meals	10 gallons/meal	11,400 gallons/day
Yankee Stadium Snack Meal	10,450 meals	2 gallons/meal	20,900 gallons/day
Air Conditioning	242,400 square feet	0.17 gallons/square foot/day	41,200 gallons/day
Yankee Stadium Irrigation	3.04 acres	27,500 gallons/acre/day	82,500 gallons/day
Heritage Field Attendees	3,000 persons	5 gallons/person/day	15,000 gallons/day
Heritage Field Employees	120 persons	25 gallons/person/day	3,000 gallons/day
Heritage Field Irrigation	3.04 acres	27,500 gallons/acre/day	82,500 gallons/day
Total	**NA**	**NA**	**599,000 gallons/day**

WATER SUPPLY

The proposed project would connect to the existing grid of 12-inch diameter water pipes under the streets. No expansion of the water system would be needed. However, a 36-inch water main currently crosses the site of the proposed stadium through Macomb's Dam Park. This water main would have to be relocated from the mapped park to under mapped City streets. The water main would be relocated under East 161st Street and River Avenue as shown on Figure 12-2. A 48-inch water main is located under East 164th Street and is close to the north wall of proposed Garage B. This water main would be relocated farther out into East 164th Street, away from the foundation of proposed Garage B. Then, the new water mains would be installed, inspected, tested, and finally connected into the system before the existing water main is removed. In addition, a number of small water lines are located in the park areas where proposed Garages A and C would be built and in Ruppert Place. These water lines are used primarily for irrigation in the park. These lines would be removed during construction of the garages. Where needed, new irrigation lines would be installed to water the park areas and the trees. These relocations are not expected to cause any interruption to water supply in the area, as discussed in Chapter 19, "Construction Impacts."

The anticipated water demand of the proposed project is estimated at approximately 599,000 gpd of water, which is 98,660 gpd higher than the existing demand of 500,340 gpd. The incremental demand would be an increase of 0.009 percent to the City's current water demand. This increased demand would not be large enough to significantly impact the water supply system's ability to deliver water reliably, and demand for water is not expected to affect local water pressure.

SANITARY SEWAGE

The sanitary sewer pipes would be connected into the existing grid of sewer pipes under the City streets. No expansion of the system would be needed. However, an existing combined sewer line and a storm water line under Ruppert Place would be relocated.

Sanitary sewage generation is conservatively assumed to be equal to the domestic water demand. The water used by air conditioning evaporates and irrigation percolates into the soil. Neither of these water uses enters the City sewer system. Therefore, the new maximum flow with the proposed project would be about 402,800 gpd, which is 26,161 gpd more than the existing flows. This incremental volume is about 0.0095 percent of the permitted flow. This volume of sewage generation would not occur every day, but only when both the proposed stadium and Heritage Field are in maximum use on the same day, which is expected to be rare and represents the reasonable worst case scenario for the purposes of this analysis. The additional sanitary sewage expected to result from the proposed project would not cause the Wards Island WPCP to exceed its design capacity or SPDES permit flow limit. Therefore, sewage generated from the proposed project would not cause any significant adverse impacts to infrastructure systems.

STORMWATER

Stormwater would be discharged into the existing City system, except for parts of the Harlem River waterfront park on the water side of the regulators, which may discharge directly into the Harlem River. No expansion of the City sewer system would be required to serve the proposed project.

During the design storm, the estimated stormwater runoff from the proposed project is estimated to be about 178.3 cfs, which would be an increase of about 22.7 cfs above existing conditions. However, to meet the flow requirements of NYCDEP, detention facilities would be installed to reduce the rate of discharge into the City sewer system.

Without detention, the proposed stadium would have an increased runoff rate. The site of the proposed Yankee Stadium is currently parkland, mainly comprised of grass, and has a low runoff rate. The proposed stadium would have on-site detention structures that would store stormwater and release it at a rate of about 29 cfs. This rate would be a decrease of about 11 cfs from existing conditions. The detention structures would be able to store a total of about 38,000 cubic feet of stormwater. They would discharge to the 10-by-8.5-foot combined sewer under Jerome Avenue and to another combined sewer under East 161st Street. The elevation of the proposed playing field is only slightly higher than the existing combined sewer. The elevation difference may not be sufficient to ensure proper flow of the stormwater from the detention structures to the combined sewers, and the stormwater may have to be pumped. Overall, the discharge rate for the entire proposed project would be about 80 cfs, which is about 75 cfs less than existing conditions.

Similarly, the parking structures and park areas would have detention structure or other measures to control the rate of stormwater runoff to meet NYCDEP standards. Proposed Parking Garages B and D would have new on-site detention basins to control the stormwater flows and meet NYCDEP requirements. Proposed Parking Garages A and C are currently planned to use the abandoned sewer line under Ruppert Place for detention of stormwater. The recreational facilities on top of the garages would also drain to the detention structure. The volume of stormwater from the proposed project would not have a significant adverse impact on the Harlem River or on the City's combined sewer system. ✷

Chapter 13: Solid Waste and Sanitation Services

A. INTRODUCTION

The fans, workers, and players expected at the proposed stadium, four proposed parking garages, and the users of the proposed parkland and replacement recreational facilities, would generate solid waste. The potential effects on municipal and private solid waste services are discussed in this chapter. Because there are current uses, including the existing Yankee Stadium, in the project area, this analysis considers the incremental difference between those continued uses in the future without the proposed project and the expected development associated with the proposed stadium and parkland.

The total solid waste generated from the proposed project would be a minimal increase over the amount generated by the existing stadium and park users. The increase is not expected to overburden New York City's solid waste handling services, and the proposed project would not have a significant adverse impact on solid waste and sanitation services.

B. METHODOLOGY

In 2005, the average attendance at a Yankees baseball game was 50,449 fans with about 700 workers in the stadium. During a sold-out game, the existing stadium can hold about 56,928 fans with about 1,200 workers needed in the stadium. The proposed stadium would have a maximum fan attendance of about 54,000 persons and would also need about 1,200 workers. The proposed stadium would include facilities, such as a retail store and restaurants that would be open all year, not just during the baseball season. These uses would generate a small solid waste demand compared to a baseball game.

Parks and recreational facilities typically have their greatest usage on a warm weekend when people want to be outside. Therefore, the solid waste and sanitation analyses are based on a sold-out baseball game occurring on a warm weekend when the parkland and recreational facilities would also experience their greatest usage. In addition, the analyses conservatively assume that all of the park and recreational facilities are in place, not just those that are expected to be in place by 2009. (Heritage Field on the site of the existing stadium would not be completed until the end of 2010.)

Because there are existing uses, including the existing stadium in the project area, this analysis considers the difference between those continued uses in the future without the proposed project and the expected development associated with the proposed stadium and parkland.

C. EXISTING CONDITIONS

In New York City, residential and institutional refuse is handled by the New York City Department of Sanitation (DSNY), while solid waste from commercial, retail, and manufacturing uses is collected by private carters. Since March 22, 2001, all DSNY handled

solid waste has been disposed of at landfills outside of New York City. Waste materials are taken to transfer stations for sorting and transfer to larger trucks. From there, private carters take the materials to out-of-city landfills and waste-to-energy plants. In New York City fiscal year 2005, (ended June 30, 2005) DSNY handled about 6,742 tons per day of recyclables and about 11,883 tons per day of solid waste Citywide, for a total of about 18,625 tons per day.

Commercial carters pick up refuse from businesses, manufacturers, and offices and take the waste materials to transfer stations where the recyclable materials are separated from the solid waste. The solid waste is consolidated into larger trucks for transport to and disposal in landfills outside New York City. The recyclable materials are sold and transported to manufacturing facilities. Private carters are estimated to handle about 10,474 tons per day of recyclables and solid waste Citywide, not including construction debris and fill materials.

According to the New York Yankees, approximately 20 tons of solid waste are generated during a sold out baseball game. The solid waste from the parking garages is minimal. On a warm summer weekend, about 5,600 people are estimated to use the existing parks. Based on each park user generating a pound of solid waste per day, which is a conservative estimate, the existing parks generate about 2.8 tons of solid waste a day. This analysis is based on the parks being heavily used for active recreation during a warm weekend afternoon and a sold-out game at the existing Yankee Stadium. During the regular season, at least 81 games are scheduled at the existing Yankee Stadium, and the playoffs could add another 11 games. The majority of these games are not sold out, and the average attendance was just less than 47,800 in 2004. Typically, there are about 10 to 12 summer weekends when the parks are heavily used. Therefore, the actual yearly solid waste generation is not equivalent to this level of generation occurring every day of the year.

The solid waste from the existing Yankee Stadium is handled by private carters, and the solid waste from the parks is handled by the New York City Department of Parks and Recreation (NYCDPR). During the baseball season, the parking garage operator is responsible for solid waste from the garages; at other times, NYCDPR is responsible for this waste. Using an average truck load of 10 tons, carters need the equivalent of about 3 truck loads per day to handle these materials. However, more partially loaded truck trips would be needed if the trucks are not fully loaded. The solid waste from the existing Yankee Stadium is transported to a transfer station where recyclables, such as metal, plastic, and paper, are separated from waste materials.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

New York City adopted a Comprehensive Solid Waste Management Plan (SWMP) in August 1992, and the implementation of the plan was altered slightly in May 1993 to gain approval from the New York State Department of Environmental Conservation (NYSDEC). It has since been updated to reflect changing conditions. In order to close the Fresh Kills landfill, New York City developed interim plans to export all the municipal waste that it collects. A long-term plan was developed that led to large-scale trucking of municipal solid waste. A new SWMP was released in October 2004 with a focus on municipal solid waste. The Final Environmental Impact Statement for the new SWMP was released on April 1, 2005. The new SWMP adheres to two main principles: (1) containerization of waste; and (2) long distance export of that waste by barge or rail. Under the new SWMP, solid waste will be taken from the existing Yankee Stadium site, Macomb's Dam Park, and John Mullaly Park to either the Harlem River Yard or the Oak Point Rail Yard for export via train and disposal outside of New York City. Recyclable materials

are expected to be taken to a sorting plant in the Sunset Park section of Brooklyn where, after sorting, the materials would be sold.

Under the new SWMP, the methods of handling commercial solid waste are not expected to change significantly from current methods. In March 2004, DSNY published the Commercial Waste Management Study (CWMS) pursuant to Local Law 74 of 2000. The purpose is to: (1) address the siting and operations of private transfer station and waste collection operations; (2) determine future demand for commercial transfer capacity; and (3) facilitate a transition from the current mode of truck-based export to export by barge and/or rail. The study found that the basic system of private carters collecting and disposing of waste from commercial facilities is expected to remain unchanged. Overall, the major change to solid waste collection systems serving New York City is greater reliance on private carters to transport and dispose of DSNY-handled waste outside New York City. Municipal waste and privately handled waste will continue to be shipped to licensed landfills outside New York City. Recyclables are expected to be sorted and sold.

Within the project area, little change is expected without the proposed project. Therefore, the volume of solid waste will likely remain at or about current levels.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Because the seating capacity of the proposed Yankee Stadium would be almost 3,000 less than at the existing Yankee Stadium, the solid waste generation during a sold out baseball game is estimated to be less than 19 tons, which is about a 1 ton reduction. The usage at parks is expected to increase because of the expanded size and more attractive recreational facilities. This increase is expected to just about offset the expected decrease in solid waste generation at the proposed Yankee Stadium. With the proposed project, private carters are expected to handle the 19 tons of solid waste from a sold out baseball game at the proposed Yankee Stadium, and NYCDPR would handle about 4 tons of solid waste from the proposed new recreational facilities. The private carters would need two truck trips to remove the solid waste, and NYCDPR would need less than one truck trip to remove the solid waste from the parks. As is the current practice, recyclable materials would be separated from the waste materials by the private centers servicing the proposed Yankee Stadium.

This total solid waste generation is a minimal increase over the solid waste that is generated by the existing stadium and park users. Compared to the almost 19,000 tons per day that DSNY handles and the more than 10,000 tons per day that private carters handle, this amount of solid waste is minimal. The increase is not expected to overburden New York City's solid waste handling services, and the proposed project would not have a significant adverse impact on solid waste and sanitation services.

Overall, the proposed project would not result in any significant adverse impacts on solid waste and sanitation systems. ✷

Chapter 14: Energy

A. INTRODUCTION

The fans, workers, and players expected at the proposed stadium, four proposed parking garages, and the users of the proposed parkland and replacement recreational facilities would consume energy. The potential effects on private energy services in the area of the proposed project are discussed in this chapter. Because there are existing uses, including the existing Yankee Stadium in the project area, this analysis considers the incremental difference as it relates to energy demand and consumption between those continued uses in the future without the proposed project and the expected development associated with the proposed stadium and parkland.

The proposed project would increase energy consumption over the existing uses in the project area. The incremental increase in energy demand would be caused primarily by the four new parking garages replacing surface parking, which uses less energy. Compared to the overall energy consumption in New York City, however, this increase is minimal. An existing substation next to the site of the proposed stadium would be used, and a new distribution system is not expected to be needed. Further, this additional demand from the proposed project is not expected to overburden the energy generation, transmission, and distribution systems and would not cause a significant adverse energy impact.

B. METHODOLOGY

In 2005, the average attendance at a Yankees baseball game was 50,449 fans with about 700 workers in the stadium. During a sold-out game, the existing stadium can hold about 56,928 fans with about 1,200 workers needed in the stadium. The proposed stadium would have a maximum fan attendance of about 54,000 persons and would also need about 1,200 workers. The proposed stadium would include facilities such as a retail store and restaurants that would be open all year, not just during the baseball season. These uses are included in the analysis of energy demand during a baseball game.

Parks and recreational facilities typically have their greatest usage on a warm weekend when people want to be outside. Therefore, the energy analyses are based on a sold-out baseball game occurring on a warm weekend when the parkland and recreational facilities would also experience their greatest usage. In addition, the analyses conservatively assume that all of the park and recreational facilities are in place, not just those that are expected to be in place by 2009. Heritage Field on the site of the existing stadium would not be completed until the end of 2010.

Because there are existing uses, including the existing stadium in the project area, this analysis considers the difference between those continued uses in the future without the proposed project and the expected development associated with the proposed stadium and parkland.

C. EXISTING CONDITIONS

Consolidated Edison (Con Edison) delivers electricity to New York City (except the Rockaway Peninsula) and almost all of Westchester County. The electricity is generated by a number of independent power companies as well as Con Edison. Annual electric sales totaled over 60 billion kilowatt hours (KWH) of electricity supplied to Con Edison's delivery area (New York City and Westchester County) in 2004. This is equivalent to about 206.4 trillion British Thermal Units (BTUs) and does not include the energy content in the natural gas, steam, and other energy sources used in New York City.

According to the New York Yankees, the current maximum energy demand for the existing stadium is 3,520 kilowatts (KW). This demand occurs when the existing stadium is occupied and the field lights are turned on. A maximum of 92 games are played at the existing stadium during a year, and the average length of time the lights are used is estimated at 8 hours per game. This yields an energy demand of about 2.6 million KWH, which is the equivalent of about 8.85 billion BTUs. The office and other general uses of Yankee Stadium are estimated to consume about 20.6 billion BTUs. The energy consumed by lighting for Macomb's Dam and John Mullaly Parks is minimal.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

The demand for electricity is expected to increase about 1.5 percent per year in New York City. To meet that demand, a number of power plant construction projects are planned or are currently underway. In addition, a number of electric transmission projects are proposed to bring electric power from outside New York City into it. While not all of the projects are likely to be constructed, sufficient additional generating capacity is expected to be built to meet New York City's projected future energy demand.

Within the project area, little change is expected in the future without the proposed project, except for the Gateway Center at Bronx Terminal Market project. Due to that project, the energy consumption is expected to increase by about 126 billion BTUs above current levels.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The current plan for the proposed Yankee Stadium includes natural gas-fired boilers for heating and hot water. Other energy consuming uses, such as lighting and air conditioning, would likely use electricity delivered by Con Edison. The parklands, parking garages, and street lighting are expected to be powered by electricity. Emergency generators to supply power during an electrical black up would use diesel fuel. The emergency generators consume minor amounts of energy.

The proposed project would increase energy consumption by approximately 46 billion BTUs over the existing uses in the project area (see Table 14-1). The incremental increase in energy demand would be caused primarily by the four new parking garages. Compared to the electric

Table 14-1
Expected Energy Consumption with the Proposed Project

Use	Total Consumption (BTU/year)
Proposed Yankee Stadium Lighting[1]	3,000,000,000
Proposed Yankee Stadium Interior Space[1]	20,600,000,000
Parking Garages[2]	46,500,000,000
Retail[2]	3,300,000,000
Total	**75,400,000,000**

Sources: [1] New York Yankees
[2] 2001 *City Environmental Quality Review Technical Manual*

consumption in New York City of over 206 trillion BTUs, this increase is about 0.02 percent of existing electrical demand and is considered to be minimal. An existing substation next to the site of the proposed stadium would be used, and a new distribution system is not expected to be needed. In addition, a portion of this energy could be supplied by natural gas, which is available in this area of The Bronx. This additional demand from the new stadium and new park facilities is not expected to overburden the area's energy generation, transmission, and distribution systems and would not cause a significant adverse energy impact.

POTENTIAL ENERGY SAVINGS MEASURES

The proposed project would have enclosed areas in the new stadium that would be used as office space by team management, working areas for the press, and locker and worker areas used by the players and game officials. In addition, restaurants, stores, and luxury suites for game attendees would be included in the proposed stadium. The New York State Conservation Construction Code requires building spaces to be energy efficient. Some energy-saving measures currently being considered for use within the proposed stadium include:

- Use of façade glazing;
- Glare prevention;
- Dimming systems for offices;
- Occupancy sensors;
- Energy modeling to optimize all systems; and
- Digital controls to regulate all energy and air delivery systems.

Even without these measures however, the proposed project would not have a significant adverse energy impact. ✷

A. INTRODUCTION

The purpose of this chapter is to evaluate traffic and parking conditions with the proposed project, and to identify potentially significant adverse traffic impacts that would require capacity improvements in order to mitigate those impacts. The proposed stadium would be relocated across East 161st Street from the existing stadium, on a site bounded by East 161st Street on the south, Jerome Avenue on the west, the equivalent of about East 163rd Street on the north, and River Avenue on the east. East 162nd Street would be closed and demapped between River Avenue and Jerome Avenue, and would essentially serve as an entry/exit for one of the new parking garages (Parking Garage B) being proposed as part of the proposed project. Ruppert Place would also be demapped; this is a very low traffic street passing along the western side of the existing stadium, and which is closed to vehicular traffic on game days. In addition, East 157th Street between River Avenue and Ruppert Place would be re-opened to vehicular traffic.

The proposed stadium would be slightly smaller than the current stadium in terms of the amount of seating. Thus, the number of fans and attendees at sold-out ballgames will be slightly less than currently attending games at the stadium. Four new parking structures with a total of approximately 4,735 parking spaces are also part of the proposed project—a net addition of approximately 3,315 spaces above existing parking supplies as described on page 15-45[1]. This would make it easier for fans driving to games to park closer to the stadium, resulting in less circulation on local streets in search of the currently often hard-to-find parking spaces. Decreased traffic circulation on local streets in search of available parking and parking garage spaces, and less parking on the local streets themselves, would also provide a benefit to the local community and local residents in particular.

The creation of 4,735 parking spaces in the four proposed garages would also create a shift in motorists' travel patterns to and from the stadium since some would now exit the Major Deegan Expressway when arriving, and enter the expressway when leaving, further north than they do today[2]. As is described later in this chapter, there would be a greater concentration of traffic on East 157th Street, Jerome Avenue, the Macomb's Dam Bridge Approach, and a portion of East 161st Street near Jerome Avenue, where three of the four new parking garages would be located, and on segments of the expressway that lead to East 157th and East 161st Streets. There would be less traffic on Exterior Street and on the northbound expressway exit ramp to East 149th

[1] The net addition of 3,315 spaces would actually be lower, subtracting the more than 800 spaces used by Yankees fans on Exterior Street, Cromwell Avenue, and between the Bronx Terminal Market site and the Harlem River, that would no longer be available in the future as the Bronx Terminal Market site is redeveloped.

[2] The number of parking spaces has been reduced significantly between the DEIS and FEIS analyses, so traffic assignments have been revised accordingly.

Street, since much of the traffic that now parks south of the existing stadium is expected to shift northward to park in the proposed garages located closer to the proposed stadium.

The changes that this traffic and parking chapter concentrates on include: (1) changes in traffic patterns to and from new garages being built near the proposed stadium; (2) the proposed closure of East 162nd Street to traffic between River Avenue and Jerome Avenue; and (3) increased off-street parking supplies that would reduce the volume of stadium traffic parking on local streets.

The key findings of the traffic impact analyses are as follows: (1) the proposed project would provide Yankees fans with thousands of new parking spaces close to the proposed stadium, thus reducing excessive traffic circulation pre-game by motorists circulating on local streets in search of hard-to-find parking spaces, especially on sellout game days; (2) the proposed project would also eliminate some illegal parking on local streets and on the service road of the northbound Major Deegan Expressway since the parked cars could now be accommodated within off-street parking lots and garages; (3) the proposed project would result in a significant shift of vehicular traffic from some currently used traffic routes to others, primarily to streets such as Jerome Avenue, the Macomb's Dam Bridge Approach, River Avenue, and others; (4) many of the streets and intersections affected would not be able to accommodate substantially increased traffic loads and would be significantly impacted, requiring traffic capacity improvements to mitigate projected impacts, including a game day traffic management plan to accommodate both vehicular and pedestrian flows; and (5) significant impacts on some sections of the Major Deegan Expressway would also require improvements and/or game day traffic management planning to mitigate significant adverse impacts, as motorists shift from some currently used exit and entrance ramps to others. The increased number of parking spaces that would result from the proposed project would still not accommodate the full parking demand, but it would represent a substantial improvement over existing conditions. A number of fans would still park on-street.

Some traffic and pedestrian improvements have been included as part of the proposed project (i.e., the "Build" condition), where the need for such improvements is readily apparent to maintain safe and efficient vehicular and pedestrian flows. These improvements include wider crosswalks, sidewalks, and additional green time at signals for pedestrians to access the new stadium, a new signalized midblock crossing of East 161st Street leading to the new stadium, and others. Where significant adverse traffic impacts would still result, additional improvements needed to mitigate these impacts, such as lane re-striping, modified signal phasing and timing patterns, parking restrictions, and other standard traffic engineering improvements, are identified and evaluated within Chapter 21, "Mitigation." A primary objective of the analyses in this chapter and in Chapter 21 is to "inform" City and State agencies of the location and possible magnitudes of potential impacts that could require additional game day traffic operations improvements, so that a game day traffic management plan encompassing all these elements comparable to that currently implemented at Yankee Stadium can be developed to address those impacts. This plan would consist of proposed project elements, standard traffic mitigation measures, and game day traffic operations improvements (i.e., an additional set of game day mitigation measures). A detailed specification and evaluation of mitigation measures and game day traffic management plan measures are provided in Chapter 21, "Mitigation."

B. METHODOLOGY

The traffic and parking analyses cover a large study area encompassing 24 existing intersections, plus new intersections created for access to and from the proposed project's parking garages. Key segments of the Major Deegan Expressway have also been studied (see Figure 15-1). Existing and proposed Yankee Stadium parking facilities are shown in Figure 15-2.

The analyses begin with an assessment of existing traffic and parking conditions in the study area, and proceed to an analysis of conditions in the future without the proposed project—i.e., the future No Build condition. Existing and No Build analyses are conducted for conditions typically experienced before and after Yankees games on a weekday and a Saturday. The analyses conducted for this EIS included all new traffic counts and an analysis of traffic conditions in four peak periods: a weeknight pre-game arrival peak hour; a weeknight post-game departure peak hour; a Saturday pre-game arrival peak hour; and a Saturday post-game peak departure hour. These peak hours were identified based on hourly traffic counts conducted for this EIS as well as on the peak hours for stadium arrivals and departures. All of the analyses of local intersections and highway conditions were based on *2000 Highway Capacity Manual (HCM)* procedures, in accordance with *CEQR Technical Manual* guidelines. A detailed traffic simulation analysis was also performed using the CORSIM model for the sections of the Major Deegan Expressway being analyzed and to augment 2000 HCM analyses along the Macomb's Dam Bridge Approach.

The next step in the analyses considers changes in vehicular traffic patterns expected with the proposed stadium and proposed parking garages, and an assessment of traffic and parking conditions with the proposed project. These detailed analyses are based on surveys of Yankees fans attending weeknight and weekend games at the stadium. This data enabled the analysis to identify where trips originate from and where traffic in each existing garage near the stadium comes from, and allows the analysis to re-trace those trips and identify what routes to the proposed garages fans are likely to use. It also includes new trips generated by the proposed ballfields, open space, and retail uses to be developed on the site of the current Yankee Stadium. These analyses are presented for the anticipated 2009 Build year.

Like the No Build conditions, the Build conditions analyze roadway conditions with Yankees games on weekdays and Saturdays. These Build analyses identify the location and extent of potential significant adverse impacts generated by the proposed project. The parking analysis addresses the ability of the proposed project to accommodate the parking demands in its Build year. Where potentially significant adverse traffic impacts are identified, the analysis proceeds to identify traffic capacity improvements needed to mitigate those impacts, and evaluates their ability to mitigate in full, using *2000 HCM* procedures and impact mitigation guidelines contained in the *CEQR Technical Manual*. Mitigation needs, measures, and analyses are presented in Chapter 21, "Mitigation."

On game days under existing conditions, transportation management measures are deployed by the New York Police Department, although they may vary depending upon the size of the crowd expected on specific game days, especially sellout days. River Avenue, for example, is typically closed to southbound vehicular traffic between East 161st and East 157th Streets during the post-game period. This helps reduce frictions between fans leaving the stadium and crossing River Avenue once the game ends. Other measures are, at times, deployed as well, such as closing the eastbound "service road" of East 161st Street adjacent to the stadium, or closing East 162nd Street for major games televised nationally (the street may be closed, for use only by

television trailers, etc.). These measures are part of the existing and future No Build analyses. The Build analyses, however, do not assume that these currently deployed measures would remain in place or that equivalent measures would be implemented. It is possible that significant traffic or pedestrian impacts could require similar measures in comparable locations; if so, they would be identified as possible mitigation measures and are addressed in Chapter 21, "Mitigation," and they could become part of an overall game day traffic and management plan.

Detailed level of service summary tables are provided in Appendix B; traffic volume maps are provided in Appendix C. (Appendix A is a non-Traffic appendix, referred to earlier in this FEIS).

C. EXISTING CONDITIONS

ROADWAY NETWORK AND TRAFFIC STUDY AREA

The Major Deegan Expressway is the primary roadway providing traffic access to and from the stadium area. From the north, it accommodates traffic approaching the stadium from much of New Jersey, The Bronx, Westchester, Rockland County, and other upstate New York locations west of the Hudson River, and New England. From the south, it serves traffic coming from Manhattan, the East Bronx, Queens, Brooklyn, Staten Island, and Long Island.

The Major Deegan provides three lanes of traffic in each direction and has several entry and exit points in the stadium area:

Northbound Exit 4 from the Major Deegan Expressway intersects East 149th Street, Exterior Street, River Avenue, and the approach roadway into The Bronx from the Manhattan side of the 145th Street Bridge. It is a one-lane exit ramp that widens slightly as it approaches East 149th Street to provide for two stacking traffic lanes for part of the ramp as it approaches East 149th Street (it does not provide for two full lanes of traffic off of the expressway, however). This is the most direct northbound route to several Yankee Stadium parking lots and the 2,212-space parking garage (existing Parking Garage 8) on the south side of the stadium.

Northbound Exit 5 merges with a ramp up to the Major Deegan Expressway from northbound Exterior Street (from Exterior Street below the expressway) and intersects with East 157th Street just west of the home plate area of the current stadium. Use of this exit ramp also provides access, further north, to the East 161st Street area and to Jerome Avenue, and to parking currently situated off of East 161st Street (Yankees Lot 1). It would also provide access to three of the four proposed parking garages (Parking Garages A, B, and C).

Southbound Exit 6 consists of a long two-lane off-ramp that passes under the Macombs Dam Bridge and splits to provide access to Exterior Street and Bronx Terminal Market (to the right) or River Avenue (to the left). The "split" to "Bronx Terminal Market" provides access to several existing parking lots situated along Exterior Street, between the Major Deegan Expressway and the Harlem River (existing Yankees Lots 13A, 13B, and 13C). The split to "Yankee Stadium," on a long flyover ramp, provides access to the existing 2,212-space Parking Garage 8 situated across from the first base side of the existing stadium, as well as to several smaller parking lots along River Avenue.

Southbound Exit 5 provides access to Jerome Avenue and the Macomb's Dam Bridge Approach, and thus to parking north and just west of the current stadium. It would also be a primary exit route used by southbound traffic heading to proposed Parking Garages A, B, and C. This is a

relatively short exit ramp off of the southbound expressway, providing two stacking lanes as the ramp "touches down" at the foot of the Macombs Dam Bridge and the Macomb's Dam Bridge Approach.

Access to the stadium area is also provided via several local streets and arterials including East 149th Street, East 161st Street, River Avenue, Jerome Avenue, and the 145th Street Bridge and the Macombs Dam Bridge over the Harlem River from Manhattan. These two bridges also provide access from the Harlem River Drive along the west side of the Harlem River in Manhattan. The Harlem River Drive provides a north-south highway alternative to the Major Deegan Expressway in accessing the stadium. Traffic coming to the stadium from New Jersey via the George Washington Bridge, for example, can choose to use the Harlem River Drive and the Macombs Dam Bridge to reach the stadium, as an alternative to using the expressway.

The study area generally consists of a grid network of local streets and avenues, with numbered streets running east-west and "named" streets and avenues generally running north-south.

River Avenue extends along the east side of both the current stadium and the proposed stadium, running directly under the No. 4 subway line overhead and over the B and D subway lines underground. It provides one to two lanes of traffic in each direction, and processes moderate traffic volumes apart from Yankees games, when it is heavily used by both vehicular traffic and pedestrians.

East 161st Street is a major east-west roadway throughout The Bronx, and varies in width and the number of travel lanes available section-by-section. It passes alongside the north side of the existing stadium (which is the south side of the proposed stadium) with generally two wide lanes of traffic in each direction. To the east of Ruppert Place, it divides into a main road and service road; to the west, it passes under the Macomb's Dam Bridge Approach and connects to Jerome Avenue further west.

Jerome Avenue is a two-way north-south roadway that provides one to two travel lanes per direction with curb parking generally available in each direction. It generally carries moderate volumes on non-game days and higher volumes before and after Yankees games. It will serve as the western edge of the proposed stadium.

The Grand Concourse is The Bronx's premier north-south arterial street, providing substantial levels of capacity north-south over the full length of the borough. It consists of three northbound and three southbound lanes between East 138th and East 161st Streets; north of East 161st Street it consists of a main road and a service road, each with two lanes per direction with separating medians. Gerard and Walton Avenues are one-lane streets that comprise a one-way pair, carry much lower volumes than the Grand Concourse, and traverse residential blocks north of East 153rd Street.

Exterior Street is a very wide two-way cobblestone street that currently serves low traffic volumes destined to the Bronx Terminal Market and to existing Yankees Lots 13A, 13B, 13C, and 13D. It is lightly trafficked on non-game days, but is used as a major access road to the Major Deegan Expressway on game days.

East 149th Street is another major east-west roadway arterial throughout the West and South Bronx, consisting of two lanes per direction and curb parking. It connects to the 145th Street Bridge. East 162nd Street, the current northern boundary of Macomb's Dam Park, would be closed as part of the proposed project. It is a two-way east-west street with one travel lane and a

curb parking lane in each direction. Other east-west streets immediately north of East 162nd Street have similar characteristics—one travel lane and a curb parking lane in each direction.

The traffic study area defined for detailed traffic studies as part of this FEIS includes the 24 intersections shown in Figure 15-1 (all intersections are signalized unless otherwise noted). These intersections encompass the major access and departure routes to the existing stadium area, the "corners" of both the existing and proposed stadium sites, and intersections near the major parking facilities that serve the stadium's needs. Sections of the Major Deegan Expressway were also analyzed, as shown in Figure 15-1, including key mainline segments and merge/diverge and weaving areas.

EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE

All new traffic counts were conducted for this FEIS in September 2004, including manual intersection counts, 24-hour Automatic Traffic Recorder (ATR) machine counts, and vehicle classification counts. These volumes were used, along with observations of actual traffic conditions, to determine levels of service for four peak hours—weeknight pre-game and post-game peak traffic hours (5:15–6:15 PM and 10–11 PM, respectively), and weekend pre-game and post-game peak traffic hours (12–1 PM and 4–5 PM, respectively). It should be noted that the weekend counts and level of service analyses were conducted for peak sellout crowds for games versus the Boston Red Sox. Weeknight traffic counts were adjusted to reflect weeknight conditions with near sellout crowds.

The analyses of traffic conditions in urban areas such as this are based on critical conditions at intersections and are defined in terms of levels of service. According to the *2000 Highway Capacity Manual* (HCM) that was used for these analyses, levels of service (LOS) at signalized intersections are defined in terms of a vehicle's total control delay at an intersection, as follows:

- LOS A describes operations with very low delays, i.e., 10.0 seconds or less per vehicle. This occurs when signal progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.
- LOS B describes operations with delays in the range of 10.1 to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. Again, most vehicles do not stop at the intersection.
- LOS C describes operations with delays in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
- LOS D describes operations with delays in the range of 35.1 to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (v/c) ratios. Many vehicles stop, and the proportion of vehicles not stopping declines.
- LOS E describes operations with delays in the range of 55.1 to 80.0 seconds per vehicle. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios.
- LOS F describes operations with delays in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may

also occur at high v/c ratios with cycle failures. Poor progression and long cycle lengths may also contribute to such delays. Often, vehicles do not pass through the intersection in one signal cycle.

Levels of service A, B, and C are considered acceptable; LOS D is generally considered marginally acceptable up to mid-LOS D (45 seconds of delay for signalized intersections), and is considered unacceptable above mid-LOS D. LOS E and F are considered unacceptable.

Although the majority of the intersections analyzed are signalized, several are not. For unsignalized intersections, the *2000 HCM* defines delay as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line: LOS A describes operations with very low delay, i.e., 10.0 seconds or less per vehicle; LOS B describes operations with delays in the range of 10.1 to 15.0 seconds; LOS C has delays in the range of 15.1 to 25.0 seconds; LOS D, 25.1 to 35.0 seconds per vehicle; and LOS E, 35.1 to 50.0 seconds per vehicle, which is considered to be the limit of acceptable delay. LOS F describes operation with delays in excess of 50.0 seconds per vehicle, which is considered unacceptable to most drivers. This condition exists when there are insufficient gaps of suitable size to allow side street traffic to cross safely through a major vehicular traffic stream.

Table 15-1 provides an overview of the "overall" intersection levels of service that characterize the traffic analysis locations area during the peak hours. "Overall" LOS E or F means that serious congestion exists; either one specific traffic movement has severe delays, or two or more of the specific traffic movements at the intersection are at LOS E or F with very significant delays (the overall intersection level of service is a weighted average of all of the individual traffic movements). Another representation of overall existing levels of service can be seen in Figures 15-3 through 15-6. A summary description by analysis time period is provided below after Table 15-1.

Table 15-1
Existing Traffic Level of Service Summary
(Overall Intersection LOS)

Signalized and Unsignalized Instersections (21 signalized; 3 unsignalized)	Overall Intersection LOS			
	Weeknight Pre-game Arrival Peak Hour	Weeknight Post-game Departure Peak Hour	Saturday Pre-game Arrival Peak Hour	Saturday Post-game Departure Peak Hour
Overall LOS A/B	9	9	2	3
Overall LOS C	6	6	4	5
Overall LOS D	5	6	7	6
Overall LOS E/F	4	3	11	10
Number of Movements at LOS E or F (of approximately 104 total)	18	17	33	31

WEEKNIGHT PRE-GAME ARRIVAL PEAK HOUR

In the weeknight pre-game arrival peak hour, 4 of the 24 intersections analyzed operated at overall unacceptable LOS E or F and 5 other intersections operated at LOS D. Eighteen specific traffic movements (e.g., left turns from one street to another, through traffic on one street passing through the intersection, etc.) out of approximately 104 total traffic movements analyzed were at LOS E or F conditions. Overall LOS E or F conditions prevailed at the major touch-down points from the regional highway network to the immediate streets—i.e., the northbound

Deegan's exit ramp intersection at East 149th Street, the southbound Deegan's exit ramps at Macombs Dam Bridge and at East 153rd Street—and at the multi-legged intersection of West 155th Street, Macomb's Place and the Macombs Dam Bridge on the Manhattan side of the bridge.

WEEKNIGHT POST-GAME DEPARTURE PEAK HOUR

In the weeknight post-game departure peak hour, 3 of the 24 intersections analyzed operated at overall unacceptable LOS E or F and 5 other intersections operated at LOS D. Seventeen specific traffic movements were at LOS E or F conditions. Overall LOS E or F conditions prevailed at three of the major egress locations from the stadium area: at the entrance location from westbound East 157th Street onto the northbound Major Deegan Expressway service road, the intersection of River Avenue and East 153rd Street where traffic exiting Parking Garage 8 at times overloads the local street network, and at the intersection of East 149th Street/Exterior Street/River Avenue at which traffic leaving the area heads toward the southbound expressway through this intersection.

WEEKEND PRE-GAME ARRIVAL PEAK HOUR

In the weekend pre-game arrival peak hour, 11 of the 24 intersections analyzed operated at overall unacceptable LOS E or F and 7 other intersections operated at LOS D. Thirty-three specific traffic movements were at LOS E or F conditions. Overall LOS E or F conditions occurred along consecutive intersections of Jerome Avenue/Macomb's Dam Bridge Approach from the Major Deegan Expressway to East 165th Street, for three of the four intersections analyzed along River Avenue north of the stadium, and at the three key Major Deegan Expressway exit ramp touch-down locations cited above for weeknight arrival conditions.

WEEKEND POST-GAME DEPARTURE PEAK HOUR

In the weekend post-game departure peak hour, 10 of the 24 intersections analyzed operated at overall unacceptable LOS E or F and 6 other intersections operated at LOS D. Thirty-one specific traffic movements were at LOS E or F conditions. Overall LOS E or F conditions prevailed along most of River Avenue, at the major departure route intersections leading to the northbound and southbound Major Deegan (as cited above for weeknight post-game departures), and at the West 155th Street/Macomb's Place and other Macomb's Dam Bridge Approach intersections.

A more detailed description of traffic volumes and levels of service by corridor is provided below.

MAJOR DEEGAN EXPRESSWAY NORTHBOUND 149TH STREET OFF-RAMP

The northbound East 149th Street off-ramp is heavily used and congested during the pre-game arrival peak hours both on weeknights and on Saturdays—with close to 600 vehicles per hour (vph) recorded on this ramp in the weeknight pre-game arrival peak hour and 800 vph for the Saturday pre-game arrival peak hour. The exit ramp operates at LOS F during these pre-game arrival periods, with traffic backed up the full length of the ramp and at times spilling back onto the northbound expressway mainline. Traffic volumes on this ramp are much lower during the post-game departure peak hours, with about 200 vph and 350 vph using the exit ramp during those two periods, respectively. Levels of service on this exit ramp are at LOS D for the weeknight post-game departure period, and at LOS E for the Saturday post-game departure period.

EXTERIOR STREET

Exterior Street, north of 149th Street, is characterized by a modest level of traffic activity even during the pre-game and post-game periods—approximately 400 vph northbound in the weeknight pre-game peak arrival hour and 200 vph southbound during that period, and about 150-200 vph in each direction during the weeknight post-game peak departure hour. On Saturdays, pre-game peak hour volumes are approximately 400 vph northbound and just 50 vph southbound, while post-game peak hour volumes are approximately 150 vph northbound and 300 vph southbound. These volumes reflect conditions just north of East 149th Street. Traffic conditions are acceptable north of East 149th Street due to the low overall volumes on Exterior Street. However, levels of service are at overall unacceptable LOS F during all four pre-game and post-game peak analysis hours at the multi-legged intersection of Exterior Street, River Avenue, East 149th Street, and the exit ramp from the northbound Major Deegan Expressway due to the multiple signal phases needed to accommodate traffic demands on all approaches to the intersection. Southbound Exterior Street generally operates at marginally acceptable/unacceptable LOS D at this location, except for the Saturday post-game departure peak hour, at which time it operates at LOS E.

145TH STREET BRIDGE

The 145th Street Bridge is heavily traveled during all four peak analysis periods, since it not only serves stadium trips, but also provides an important link between Manhattan and The Bronx. Weeknight pre-game volumes are highest eastbound (Bronx-bound) over the bridge, with approximately 1,050 vph, while weeknight post-game volumes are about 550 vph. On Saturdays, Bronx-bound pre-game peak hour volumes are approximately 875 vph while post-game volumes are about 775 vph. Congestion is significant on the Bronx-bound approach of the bridge, with LOS E or F occurring during all four traffic analysis periods. On the west end of the bridge, at the intersection of East 145th Street and Lenox Avenue in Manhattan, acceptable LOS C or D characterizes the four traffic analysis peak hours.

NORTHBOUND MAJOR DEEGAN EXPRESSWAY SERVICE ROAD AT 157TH STREET

The northbound Major Deegan Expressway service road, which includes the on-ramp from Exterior Street and the off-ramp from northbound Exit 5, is traveled by approximately 1,400 vph approaching East 157th Street, while the westbound East 157th Street approach carries about 325 vph in the weeknight pre-game peak hour. Post-game on weeknights, the northbound exit ramp from the expressway is closed, and so the northbound approach can be used just by northbound traffic leaving the Exterior Street corridor beneath the expressway, approximately 700 vph, while about 850 vph of traffic leaving the existing stadium garages and heading to the northbound expressway use westbound East 157th Street. On Saturdays, in the pre-game peak arrival hour, about 1,475 vph use the combined expressway off-ramp and the ramp up from northbound Exterior Street, while East 157th Street is used by about 230 vph. Saturday post-game traffic includes approximately 600 vph on the northbound Exterior Street approach (the expressway exit ramp is closed) and about 800 vph on westbound East 157th Street. Traffic levels of service are at unacceptable LOS E or F at this location during the post-game departure periods on both weeknights and Saturdays, as a substantial volume of traffic leaving the existing stadium parking lots and garages converges at this location.

SOUTHBOUND MAJOR DEEGAN EXPRESSWAY EXIT AT 153RD STREET

The southbound exit ramp flyover from the Major Deegan Expressway intersects East 153rd Street right in front of the stadium's largest existing parking garage, the 2,212-space Parking Garage 8. The exit ramp volume is obviously much higher pre-game than post-game, with 465-665 vph using the ramp pre-game on weeknights and Saturdays, and 100 vph or less using it during the post-game hours. The ramp's approach to the East 153rd Street intersection occurs at an unsignalized location, although it is staffed by traffic enforcement agents at most times. During both the weeknight and Saturday pre-game arrival hours, the intersection operates at overall LOS F; during the post-game departure hours, the overall intersection is at LOS D, but with one or more specific traffic movements at LOS E or F.

RIVER AVENUE

River Avenue borders the existing stadium between East 157th and East 161st Streets, and is used as a primary route to and from the existing stadium parking facilities, mostly at the avenue's southern and northern ends where parking facilities are located. The volumes using River Avenue both before and after games vary block by block, depending on whether there are parking facilities on those blocks, and whether traffic is heading to or away from those parking facilities.

At the southern end of River Avenue, between East 149th and East 150th Streets, traffic volumes are peaked reflecting pre-game incoming traffic and post-game departing traffic. During the weeknight pre-game arrival peak hour, northbound volumes are approximately 625 vph while southbound volumes are under 150 vph. During the weeknight post-game departure peak hour, these volumes and their directionality are reversed—about 650 vph southbound and 165 vph northbound. Similar patterns characterize the Saturday pre- and post-game conditions. Pre-game, there are about 775 vph northbound and 75 vph southbound at the southern end of River Avenue near East 149th Street, while post-game volumes are close to 700 vph southbound and 200 vph northbound.

Traffic volumes along River Avenue adjacent to the current stadium just south of East 161st Street, and adjacent to the site of the proposed stadium just north of East 161st Street, are moderate. Weeknight pre-game and post-game volumes, as well as Saturday pre-game and post-game volumes, are generally in the 200-350 vph range per direction. These volumes are significantly lower than those further south along River Avenue, since most of the parking facilities serving the stadium are south or north of this East 161st Street area.

Further north between East 164th and East 165th Streets, traffic volumes are higher than at East 161st Street. Weeknight pre-game volumes are approximately 250-300 vph per direction; weeknight post-game volumes are about 400 vph northbound, while southbound they are less than 100 vph since River Avenue is closed south of East 161st Street by the New York City Police Department (NYPD) traffic enforcement agents. Saturday pre-game volumes are about 150-200 vph per direction, and post-game volumes are about 600 vph northbound and under 100 vph southbound.

As shown in Figures 15-3 through 15-6, the intersections analyzed along River Avenue generally operate at acceptable levels of service during the weeknight pre-game and post-game hours, with some exceptions, most notably at River Avenue/East 157th Street (next to existing Parking Garage 8) and at River Avenue/East 161st Street during the weeknight post-game hour. Overall traffic levels of service are worse for Saturday pre-game and post-game conditions, with nearly all intersections above and including East 161st Street operating at unacceptable LOS D (above mid-D), LOS E, or LOS F.

THE GRAND CONCOURSE

The Grand Concourse is divided into a main road and service road in each direction north of East 161st Street. During the weeknight pre-game period, there is a distinctive directionality to traffic patterns, with northbound volumes (in the 1,500-1,725 vph range at East 161st and East 165th Streets) significantly higher than southbound volumes (generally about 900 vph within that same segment of roadway). Weeknight post-game volumes at 10-11 PM are much lower, generally about 600-850 vph northbound and 400-750 vph southbound. On Saturdays, pre-game peak hour volumes are approximately 670-870 vph northbound and 1,100-1,500 vph southbound, while post-game volumes on this segment of the Grand Concourse range from about 1,100 to 1,550 vph northbound and 750 to 1,300 vph southbound.

During both the weeknight pre-game and post-game hours and the Saturday pre-game and post-game hours, the Grand Concourse/East 165th Street intersection operates at overall LOS C, with all individual traffic movements operating at acceptable levels of service. The Grand Concourse/East 161st Street intersection operates at overall LOS D during all four traffic analysis periods, but with several individual movements operating at LOS E or F, most notably the eastbound and westbound approaches of East 161st Street to the intersection.

EAST 161ST STREET

The East 161st Street corridor is also a major east-west carrier in The Bronx, and passes right by the north side of the existing stadium and would form the southern edge of the proposed stadium. It is a heavily used street carrying approximately 600 to 975 vph eastbound approaching River Avenue in the weeknight pre-game and post-game peak hours, and 950-1,025 vph westbound during those same traffic periods. For Saturday pre-game conditions, East 161st Street carries approximately 500 vph in each direction and 850 vph in the westbound direction approaching River Avenue. Post-game on Saturdays, it carries about 600 vph eastbound (virtually all on the westbound main road since the service road along the north side of the current stadium is closed during the post-game period), and close to 900 vph westbound.

East 161st Street traffic is separated from north-south traffic by underpasses at two locations—at the Macomb's Dam Bridge Approach and at the Grand Concourse. At each location, East 161st Street traffic separates into a main road which goes under the two north-south streets, and a service road that allows for its traffic to turn onto the north-south streets. At both locations, service road traffic volumes along East 161st Street are high in certain analysis periods. For example, approaching the Grand Concourse, the eastbound and westbound East 161st Street service roads carry 300-550 vph in each direction.

Overall, five locations are analyzed along the East 161st Street corridor: at the Grand Concourse, Walton Avenue, River Avenue, the Macomb's Dam Bridge Approach, and Jerome Avenue. Since the East 161st Street/Macomb's Dam Bridge Approach location has two intersections (a signalized intersection of the westbound East 161st Street service road with the Macomb's Dam Bridge Approach, and the unsignalized intersection of the eastbound service road with the Macomb's Dam Bridge Approach), six intersections along this corridor are addressed in this EIS. In the weeknight pre-game peak traffic hour, each of these six intersections operates at acceptable overall levels of service, although each intersection has at least one individual traffic movement operating at LOS E or F during at least one of the four traffic analysis hours. For example, the eastbound East 161st Street approach to the Grand Concourse operates at LOS E or F during all four traffic analysis hours. The intersection of East 161st Street and River Avenue has each of its movements at LOS E or F in the Saturday post-game peak departure hour. The intersection of the East 161st

Street westbound service road and the Macomb's Dam Bridge Approach has several traffic movements that operate at LOS E or F during the two Saturday traffic analysis hours. Details of the analysis by intersection movement, as mentioned previously, appear in Appendix B.

JEROME AVENUE

Jerome Avenue is oriented east-west on its southernmost portion before terminating at the northbound Major Deegan Expressway service road. Five intersections of Jerome Avenue with other streets are analyzed in the EIS—at Ogden Avenue, Woodycrest Avenue, East 162nd Street, East 164th Street, and East 165th Street. Jerome Avenue generally carries approximately 600-700 vph northbound and 350-575 vph southbound in the weeknight pre-game peak traffic hour, 300-575 vph northbound and 300-800 vph southbound in the weeknight post-game peak traffic hour, 575-800 vph northbound and 500-825 vph southbound in the Saturday pre-game peak hour, and 225-700 vph northbound and 450-675 vph southbound in the Saturday post-game peak hour.

In the weeknight pre-game peak hour, each of these five intersections operates at overall acceptable levels of service. On Saturdays, during the pre-game peak arrival hour, Jerome Avenue experiences overall intersection level of service problems at three of the five locations, i.e., at East 165th, East 164th, and East 162nd Streets. Its intersection with East 161st Street has several individual movements that operate at LOS E even though the overall intersection operates at LOS D. During the Saturday post-game traffic departure hour, all five intersections operate at overall acceptable levels of service with all individual movements operating at LOS D or better.

SOUTHBOUND MAJOR DEEGAN EXPRESSWAY EXIT AT THE MACOMBS DAM BRIDGE

The Macombs Dam Bridge is an important connecting link between the East 161st Street area and Upper Manhattan. During the weeknight pre-game peak traffic period, approximately 1,300 vph travel eastbound over the bridge into The Bronx while about 1,350 vph travel westbound into Manhattan from The Bronx. During the weeknight post-game period, the corresponding volumes are approximately 875 vph eastbound and 1,165 vph westbound. Traffic volumes remain very high on weekends as well, about 1,000 vph eastbound and 1,000 vph westbound over the bridge during the pre-game hour, and 1,050 vph eastbound and 1,400 vph westbound post-game.

The two intersections on either side of the bridge experience congestion problems under existing conditions. The intersection of Macomb's Place and West 155th Street and the bridge, on the Manhattan side of the bridge, experiences overall LOS E or F conditions weeknights in the pre-game hour and Saturdays in the post-game hour. The other two time periods analyzed have specific traffic movements operating at LOS E or F while the overall intersections operate acceptably. The intersection of the southbound Major Deegan Expressway exit ramp at the Macombs Dam Bridge (Bronx-side) operates at overall LOS E or F during three of the four traffic peak hours analyzed, with specific traffic movements operating at LOS E or F during all four traffic analysis periods. This is the location where southbound traffic from the expressway can first approach the stadium area; it is also used to get to the East 161st Street corridor from the southbound expressway.

PARKING

An inventory of public parking lots and garages within the area bounded by East 149th and 165th Streets between the Harlem River and the Grand Concourse was conducted for the nearby proposed Gateway Center at Bronx Terminal Market retail development, and has been used as

the source material for the parking analyses for the proposed Yankee Stadium. This inventory included hourly parking facility occupancy surveys during weeknight and weekend game day periods. Overall, there are 16 "numbered" Yankee Stadium parking lots or garages in the area, the majority of which have capacities in the 100- to 600-vehicle range (see Figure 15-2), totaling 6,995 spaces. Other off-street parking facilities exist within ¼ to ½ mile of the stadium, but are not included in the official "dedicated" Yanking Stadium parking totals. They include Rex Parking (225-space capacity), Bautista Parking (50-space capacity), and Kinney Parking (155-space capacity).

During the Bronx Terminal Market weeknight parking surveys, stadium attendance reached approximately 44,000 fans. That EIS's off-street parking accumulations were increased by approximately 22 percent to account for the near sellout attendance of 54,000 being analyzed in this EIS for the proposed stadium.

As shown in Table 15-2, on a typical weeknight Yankees sellout, all 19 public parking facilities are open to their full capacity of approximately 7,425 spaces by about 5 PM. Between 6-7 PM, the hour before a typical weeknight Yankees game, occupancy reaches about 70 percent, and increases up to about 96 percent at 7-8 PM, when a game is already in progress.

Table 15-2
Hourly Parking Occupancy by Percentage: Weeknight Game

Parking Facility	Capacity	4 – 5 PM	5 – 6 PM	6 – 7 PM	7 – 8 PM
Yankee Stadium Parking Lot #1	412	14%	23%	54%	100%
Yankee Stadium Parking Garage #3	1,205	22%	58%	97%	100%
Yankee Stadium Parking Lot #5	59	0%	8%	45%	100%
Yankee Stadium Parking Lot #6	76	0%	2%	29%	100%
Yankee Stadium Parking Lot #7	150	0%	1%	3%	100%
Yankee Stadium Parking Garage #8	2,411	32%	67%	99%	100%
Yankee Stadium Parking Lot #9	76	1%	86%	100%	100%
Yankee Stadium Parking Lot #10	114	25%	75%	100%	100%
Yankee Stadium Parking Lot #11	176	0%	20%	100%	100%
Yankee Stadium Parking Garage #12	470	1%	3%	71%	100%
Yankee Stadium Parking Lot #13A	400	1%	4%	31%	95%
Yankee Stadium Parking Lot #13B	504	1%	4%	19%	91%
Yankee Stadium Parking Lot #13C	210	2%	19%	30%	64%
Yankee Stadium Parking Lot #13D	296	1%	31%	50%	91%
Yankee Stadium Parking Lot #14	231	14%	17%	30%	53%
Yankee Stadium Parking Lot #15	205	0%	1%	22%	97%
Subtotal	**6,995**	**16%**	**39%**	**70%**	**96%**
Rex Parking Lot	225	0%	27%	84%	100%
Bautista Parking Lot	50	0%	40%	100%	100%
Kinney Parking Garage	155	0%	26%	45%	100%
TOTAL	**7,425**	**15%**	**38%**	**70%**	**96%**

Several of the parking facilities closest to the stadium—Parking Lots/Garages 1, 3, 5, 8, 9, 10, and 11, which total approximately 4,453 spaces—were essentially 100 percent occupied. The four parking lots on the west side of the Major Deegan Expressway and the west side of the Metro-North Railroad (MNR) tracks—Parking Lots 13A, 13B, 13C, and 13D, which total

approximately 1,410 spaces—filled to about 88 percent of capacity. Yankees fans parking in these four locations need to use an overpass to cross over the MNR tracks to get to the stadium.

As shown in Table 15-3, on a typical weekend game with a sellout crowd (approximately 54,000 attendees), total occupancy in the 19 facilities is at about 48 percent between 11 AM and 12 PM. Between 12–1 PM, approximately 87 percent of the spaces are filled, and overall occupancy peaks at about 98 percent more than an hour after a 1 PM weekend game has started. At 2-3 PM on a sellout weekend day, all but 3 of the 16 Yankees parking lots and garages filled to capacity. Parking Garge 8 filled to about 96 percent of capacity, and Lot 7 and Parking Garage 12 filled to approximately 90 to 92 percent of capacity.

Table 15-3
Hourly Parking Occupancy by Percentage: Weekend Game

Parking Facility	Capacity	11 AM – 12 PM	12 – 1 PM	1 – 2 PM	2 – 3 PM
Yankee Stadium Parking Lot #1	412	28%	80%	100%	100%
Yankee Stadium Parking Garage #3	1,205	54%	98%	100%	100%
Yankee Stadium Parking Lot #5	59	37%	97%	100%	100%
Yankee Stadium Parking Lot #6	76	1%	24%	100%	100%
Yankee Stadium Parking Lot #7	150	0%	21%	90%	90%
Yankee Stadium Parking Garage #8	2,411	52%	86%	96%	90%
Yankee Stadium Parking Lot #9	76	46%	100%	100%	100%
Yankee Stadium Parking Lot #10	114	32%	73%	100%	100%
Yankee Stadium Parking Lot #11	176	11%	91%	100%	100%
Yankee Stadium Parking Garage #12	470	7%	73%	92%	92%
Yankee Stadium Parking Lot #13A	400	55%	100%	100%	100%
Yankee Stadium Parking Lot #13B	504	79%	100%	100%	100%
Yankee Stadium Parking Lot #13C	210	43%	100%	100%	100%
Yankee Stadium Parking Lot #13D	296	56%	97%	100%	100%
Yankee Stadium Parking Lot #14	231	99%	100%	100%	100%
Yankee Stadium Parking Lot #15	205	70%	100%	100%	100%
Subtotal	**6,995**	**48%**	**88%**	**98%**	**98%**
Rex Parking Lot	225	67%	89%	100%	100%
Bautista Parking Lot	50	0%	20%	100%	100%
Kinney Parking Garage	155	48%	100%	100%	100%
TOTAL	**7,425**	**48%**	**87%**	**98%**	**98%**

A substantial amount of parking activity also occurs both on-street and in other unofficial off-street areas. For example, off-street, additional parking occurs "behind" the existing Bronx Terminal Market buildings west of Exterior Street, i.e., between the buildings lining the west side of Exterior Street and the Harlem River. Over 400 parking spaces are at times used at that location on sellout game days. Additional parking also occurs illegally along the northbound Major Deegan Expressway service road north of East 157th Street, with more than 200 cars observed parking there on major sellout game days. There is also a significant amount of parking that occurs within the lower parking level of the Concourse Plaza Shopping Center, which is about 1-2 blocks east of the Grand Concourse along the south side of East 161st Street. This shopping center has a posted capacity of approximately 1,200 spaces overall. It is open 24 hours per day, seven days a week. Yankees fan parking takes place on the below-grade level, with several hundred parking spaces

typically available on game days. All of these "non-official" Yankee Stadium parking venues receive Yankees fan parking, often because no other spaces are available at more desirable locations closer to the stadium (excluding the expensive valet parking available at Yankees Lots 5 and 6 on the east side of River Avenue immediately across the street from the existing stadium).

On-street parking regulations were also inventoried for this same parking study area, and extended slightly northward to East 167th Street and eastward—thus covering the area from East 151st to East 167th Streets between the Grand Concourse and Jerome Avenue plus a portion of the Highbridge neighborhood between East 161st and East 165th Streets west of Jerome Avenue. Typical weekday parking regulations were recorded on a block-by-block basis, and the number of legal parking spaces available for use by future travelers into the area were detailed. On-street parking surveys used in the *Gateway Center at Bronx Terminal Market EIS*[1] formed the starting point, augmented by additional data conducted for this EIS for the proposed stadium.

Both sides of River Avenue from East 151st to East 167th Streets are most typically characterized by a blend of very stringent parking regulations, such as No Parking Anytime, Tow Away Zone-No Parking Stadium Event, and No Standing Anytime, with unmetered non-game day parking available except for "alternate side-of-the-street" parking between East 153rd and East 158th Streets. Exterior Street restrictions consist of Bronx Terminal Market-only customer parking in some areas and others between East 149th Street and the Major Deegan Expressway ramps with no parking regulations. Grand Concourse parking regulations consist of a mix of No Parking Anytime, 1 Hour Meter Parking 8:30 AM–7 PM, and No Standing Bus Stop signs, with some blocks of "alternate side-of-the-street" parking available. East 161st Street parking regulations are stringent with No Parking Anytime between Jerome and River Avenues, and limited two-hour parking between River Avenue and the Grand Concourse. East-west cross-streets between East 151st and East 161st Streets, and north-south avenues such as Gerard and Walton Avenues' regulations consist mainly of "alternate side-of-the-street" parking.

Overall, there are approximately 3,216 legal parking spaces available on-street within the entire area surveyed (over 300 blockfaces). During the hour(s) immediately preceding a weeknight game, curb parking occupancy increases to approximately 100 percent until game time. After 7 PM, occupancy of curb spaces increases to 110 percent of capacity, as virtually all legal spaces are used and illegal parking and double parking occurs, with hardly any legal spaces available for use. This means that the total number of vehicles parked on-street is greater than the number of legal spaces available. During the hours immediately preceding a Saturday day game, curb parking reaches approximately 90 percent or higher in the hour before game time, increasing to 106 percent once game time is reached, again due to illegal parking. Under existing conditions, there are 110 to 270 legal unoccupied curb spaces during game times in the study area; most of these are within the residential areas north of East 165th Street and west of Jerome Avenue. Other spaces are available on Cromwell Avenue, located behind the Bronx House of Detention. Hour-by-hour curb parking data is shown in Table 15-4.

[1] The Office of the Deputy Mayor for Economic Development. *Gateway Center at Bronx Terminal Market FEIS*, December 2005.

Table 15-4
On-Street Hourly Parking Occupancy:
Weeknight and Saturday Games

Time	Weeknight Game	Saturday Game
11:00 AM–12:00 PM	N/A	2,968 (92%)
12:00–1:00 PM	N/A	3,193 (99%)
1:00–2:00 PM	N/A	3,413 (106%)
2:00–3:00 PM	N/A	N/A
3:00–4:00 PM	N/A	N/A
4:00–5:00 PM	N/A	N/A
5:00–6:00 PM	3,114 (97%)	N/A
6:00–7:00 PM	3,331 (104%)	N/A
7:00–8:00 PM	3,552 (110%)	N/A

Notes: The number of parking spaces observed to be occupied per hour are shown first, followed by the percentage of the total capacity occupied. The area studied has approximately 3,216 legal game-day spaces.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

TRAFFIC CONDITIONS

BACKGROUND DEVELOPMENTS

The future without the proposed project, i.e., the future No Build condition, is established in order to provide the baseline against which the impacts of the proposed project can be compared. Future year conditions were analyzed for year 2009, the first year in which the proposed stadium would be completed and open.

The future No Build condition includes an annual background traffic growth rate of 0.5 percent in the area (as specified in the *CEQR Technical Manual*) and major new developments expected to be in place by 2009. Three such developments have been identified: the proposed 1 million-square-foot Gateway Center at Bronx Terminal Market to be built along Exterior Street north of East 149th Street; the proposed 153rd Street Bridge that would allow for a new crossing of the MNR tracks that extend north-south throughout most of The Bronx; and the proposed Bronx Criminal Courthouse being built along the north side of East 161st Street about 1-2 blocks east of the Grand Concourse.

The Gateway Center at Bronx Terminal Market retail development would be built in the immediate environs of the stadium and would have the greatest effect on stadium area traffic and parking conditions. The volume of vehicle trips expected to be generated by the one million square feet of destination retail space in 2009 was identified in the *Gateway Center at Bronx Terminal Market FEIS* (December 2005), as follows:

- 972 inbound vehicle trips and 912 outbound vehicle trips during the weeknight pre-game peak hour.
- No inbound or outbound vehicle trips in the weeknight post-game peak hour since the retail development is not expected to be open at that time (10-11 PM).
- 988 inbound vehicle trips and 869 outbound vehicle trips during the Saturday pre-game peak hour.

- 671 inbound vehicle trips and 734 outbound vehicle trips during the Saturday post-game peak hour.

These vehicle trips were assigned to and from the retail development's parking garages along specific routes detailed for the *Gateway Center at Bronx Terminal Market FEIS*. Most of this traffic would use the Major Deegan Expressway to get to and from the retail development, with the development's garage driveways located primarily along Exterior Street, and secondarily along River Avenue.

The 153rd Street Bridge and the Bronx Criminal Courthouse would be built outside of the proposed project's traffic study area, and would affect traffic volumes and patterns primarily along the Grand Concourse and East 161st Street. No Build traffic volume data for these three background developments were taken directly from the traffic impact studies prepared for those projects' EISs. The proposed 153rd Street Bridge project would not generate new vehicle traffic, but would slightly alter the routing of traffic as it passes onto and across the Grand Concourse. These traffic diversions were taken directly from its environmental impact statement. The proposed Bronx Criminal Courthouse would generate new vehicle trips for both its Phase 1 and Phase 2 components. According to its environmental impact statement, it would generate a net total of 59 inbound and 552 outbound vehicle trips in its weekday PM peak hour. Although the courthouse would be expected to close its business day at 5:00 PM, with most of its outbound trips on the street network by 5:15 or 5:30 PM, it was conservatively assumed—after discussions with the New York City Department of Transportation—that these PM peak hour generated volumes would be applied to the stadium's 5:15-6:15 PM pre-game arrival peak hour.

There are three other roadway improvements being considered within the study area that are expected to begin or be completed by 2009. The New York State Department of Transportation (NYSDOT) is currently planning to reconstruct the deck of the elevated portion of the Major Deegan Expressway corridor between East 138th Street and the Macombs Dam Bridge, including temporary widening of the elevated deck and several ramps so that the current six lanes of traffic can be maintained throughout reconstruction. This is a major construction project expected to begin in 2010 and last approximately three years. It would not add capacity or alter traffic patterns in the area.

The New York City Department of Transportation (NYCDOT) is currently planning to reconstruct the East 161st Street tunnel below the Grand Concourse as part of the Grand Concourse streetscaping and rehabilitation project between East 161st and East 166th Streets. NYCDOT's proposed streetscaping plan for the Grand Concourse in this area, and for reconstruction of Lou Gehrig Plaza just west of the Grand Concourse, would alter the distribution of traffic flows between the southbound Grand Concourse's main road and service road as well as through the Grand Concourse/East 161st Street intersection. The proposed streetscape design would require all southbound service road traffic to make right turns onto westbound East 161st Street (under existing conditions, southbound service road traffic can proceed straight through the intersection or make right turns).

The New York City Department of Design and Construction (DDC) will be rehabilitating East 149th Street between Exterior Street/River Avenue and Anthony J. Griffin Place beginning in 2007 and ending in 2009 to widen sidewalks, reconstruct the street, relocate utilities, and possibly create a striped median. DDC has stated that this will not change the operation or capacity of the Exterior Street/River Avenue or the Grand Concourse intersections on East 149th Street within the study area, and all lanes will be maintained during construction. In conjunction with DDC's planned rehabilitation of East 149th Street, NYCDOT is simultaneously progressing

reconstruction of the 145th Street Bridge. The proposed design of both of these two projects—the number of travel lanes, the alignment of travel lanes across the East 149th Street/145th Street Bridge corridor, presence of medians and exclusive left turn lanes, and other design characteristics—are also being coordinated with roadway improvements and traffic mitigation measures being undertaken as part of the Gateway Center at Bronx Terminal Market project. These projects will not disrupt traffic in 2009 because they will be complete; or if they are under construction, the projects will maintain current traffic flows. Their expected traffic capacities are incorporated in the analysis of future No Build and Build conditions.

The Gateway Center at Bronx Terminal Market retail development, 153rd Street Bridge, and Bronx Criminal Courthouse projects would also be required to mitigate significant traffic impacts associated with those projects, and these mitigation measures, i.e., reconstruction of the intersection of the northbound exit ramp from the Major Deegan Expressway with East 149th Street, River Avenue, and Exterior Street, lane re-striping and lane use designations, and other physical improvement measures, are all included within the No Build conditions analysis for the proposed Yankee Stadium. The Gateway Center at Bronx Terminal Market development would also close minor streets in its project site area (Cromwell Avenue north of Exterior Street; East 150th Street between Exterior Street and River Avenue) and would provide an all-new channelization plan for Exterior Street and River Avenue alongside its site. These physical improvements are all included in the 2009 No Build conditions analysis. It should be noted that the mitigation "package" included in the No Build condition for the multi-legged intersection of the northbound Deegan exit ramp, East 149th Street, Exterior Street, and River Avenue is a major improvement proposal incorporating numerous traffic capacity improvement elements.

The specific measures from other projects included in the No Build analysis include the following:

Northbound Major Deegan Expressway Exit Ramp, East 149th Street, Exterior Street and River Avenue:

- Reconstruct the intersection with each of the approaches "closer together" to minimize crossing times needed for vehicles and pedestrians.
- Widen the curb-to-curb distance on the exit ramp to provide two 12-foot-wide travel lanes rather than the existing one travel lane with some stacking area for two cars.
- Channelize the southbound Exterior Street approach to provide an exclusive right turn lane, an exclusive left turn lane, and a through lane.
- Re-stripe the eastbound 145th Street Bridge approach, including removal of a section of the raised concrete median barrier, to provide two 12-foot-wide through lanes and one 11-foot-wide exclusive left turn lane, plus two 12-foot-wide receiving lanes on the bridge.
- Shift the westbound East 149th Street approach concrete divider 12 feet southward, re-striping the westbound approach with one 12-foot-wide left turn lane and two 12-foot-wide through lanes.
- Re-stripe northbound Exterior Street to provide two 12-foot-wide travel lanes.
- Re-channelize the triangular-shaped concrete island that separates southbound Exterior Street and southbound River Avenue.
- Incorporate signal phasing and timing modifications.

Grand Concourse and East 161st Street:

- Prohibit parking on the north side of westbound East 161st Street and re-stripe this approach to provide one 14-foot-wide exclusive left turn lane and one 14-foot wide shared through-right lane.
- Re-stripe the eastbound 161st Street approach to provide one 12-foot-wide exclusive left turn lane, one 12-foot-wide through lane, and one 12-foot-wide shared through-right lane.
- Modify the signal phasing and timing plan.

Jerome Avenue and East 161st Street:

- Re-stripe the northbound lane configuration from its current exclusive left turn lane, through lane, and exclusive right turn lane to become a left-through lane, a through lane, and an exclusive right turn lane, each 11 feet wide.
- Shift the southbound centerline 5 feet to the west by reducing the southbound parking lane width from 13 feet to 8 feet.
- Modify the signal phasing and timing plan by adding a new lag eastbound/westbound protected left turn phase and eliminating the lead protected northbound phase.

Northbound Major Deegan Expressway Exit Ramp, Northbound Exterior Street Ramp, and East 157th Street:

- Combine the northbound Deegan service road (northbound Exterior Street) and the northbound Deegan exit ramp into one signal phase, and reduce the cycle length from 90 seconds to 60 seconds (weeknight and Saturday pre-game peak hours).

2009 NO BUILD TRAFFIC CONDITIONS

Traffic volumes on the study area street network would be expected to increase as a result of the Gateway Center at Bronx Terminal Market, 153rd Street Bridge, and Bronx Criminal Courthouse projects. Intersection-by-intersection traffic volume network maps for the four traffic analysis hours are presented in Appendix C.

The most significant changes in traffic volumes would be expected to occur along Exterior Street and River Avenue as a result of the Gateway Center at Bronx Terminal Market development project, and with more moderate increases along the Grand Concourse and East 161st Street as a result of the three background development projects.

Tables 15-5 and 15-6 provide overviews of the levels of service that would be expected to characterize the traffic study area during the peak traffic analysis hours for weeknight games and Saturday afternoon games, respectively.

Table 15-5
2009 No Build Traffic Levels of Service (Overall Intersection LOS): Weeknight Pre-game and Post-game Traffic Periods

Signalized and Unsignalized Intersections (21 signalized; 3 unsignalized)	Existing Conditions		No Build Conditions	
	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour
Overall LOS A/B	9	9	7	9
Overall LOS C	6	6	8	4
Overall LOS D	5	6	2	8
Overall LOS E/F	4	3	7	3
Number of Movements at LOS E or F (of approximately 104 total)	18	17	21	16

Table 15-6
2009 No Build Traffic Levels of Service (Overall Intersection LOS): Saturday Pre-game and Post-game Traffic Periods

Signalized and Unsignalized Intersections (21 signalized; 3 unsignalized)	Existing Conditions		No Build Conditions	
	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour
Overall LOS A/B	2	3	3	3
Overall LOS C	4	5	4	4
Overall LOS D	7	6	0	5
Overall LOS E/F	11	10	17	12
Number of Movements at LOS E or F (of approximately 104 total)	33	31	31	38

- In the weeknight pre-game arrival peak hour, three "new" intersections would operate at overall LOS E or F conditions than currently occur. These three intersections are East 161st Street at the Grand Concourse and at Walton Avenue primarily due to additional traffic generated through those intersections by the proposed Bronx Criminal Courthouse and diversions from the proposed 153rd Street Bridge, and River Avenue and East 153rd Street right next to the proposed Gateway Center at Bronx Terminal Market retail development. Twenty-one traffic movements would operate at LOS E or F, increased from 18 in existing conditions.
- In the weeknight post-game departure hour, one new intersection would operate at overall LOS E or F—East 161st Street at River Avenue. One existing intersection operating at LOS E or F would improve to LOS C or LOS D with traffic engineering improvements in place in the future No Build conditions. Overall, the same number of intersections would operate at overall LOS E or F. One less traffic movement would operate at LOS E or F when compared to existing conditions.
- In the Saturday pre-game arrival peak hour, six new intersections would operate at overall LOS E or F conditions than currently occur. These additional congested locations would include several intersections along the East 161st Street corridor, plus River Avenue and East 162nd Street (the northern signalized intersection) and at East 153rd Street. When compared to existing conditions, two fewer traffic movements would operate at LOS E or F.

- In the Saturday post-game departure peak hour, two new intersections would operate at overall LOS E or F conditions than currently occur. These two locations would be River Avenue and East 164th Street, and Lenox Avenue and West 145th Street. When compared to existing conditions, seven additional traffic movements would operate at LOS E or F.

Another representation of 2009 No Build levels of service can be seen in Figures 15-7 through 15-10.

PARKING

Future No Build parking conditions in the year 2009 would be similar to those described in the *Gateway Center at Bronx Terminal Market FEIS* for that project's Build condition, and would be very different than under existing conditions. The Gateway Center at Bronx Terminal Market retail development would displace two major parking facilities currently used by Yankees fans on game days, as well as hundreds of on-street parking spaces along Exterior Street, Cromwell Street, and the unofficial parking on the Bronx Terminal Market site (i.e., between the Bronx Terminal Market buildings and the Harlem River). The two off-street parking facilities being displaced are Parking Garage 12 (alongside the former Bronx House of Detention, along the west side of River Avenue between East 151st and East 153rd Streets) and Parking Lot 13D (along the east side of Exterior Street at its northern end). A total of approximately 766 off-street parking spaces would be lost from these two parking facilities, and another approximately 800 on-street and unofficial parking spaces used by Yankees fans along Exterior Street and Cromwell Avenue and alongside the Harlem River would also be lost.

The Gateway Center at Bronx Terminal Market retail development, however, would construct about 2,610 parking spaces as part of the retail component of the development with about 1,200 spaces available during Yankees games. The majority of the displaced parkers (about 1,000–1,100 of the 1,600 displaced parkers) were assumed in the *Gateway Center at Bronx Terminal Market FEIS* to park in that project's parking garages while the remainder were assumed to park either in Concourse Plaza or on-street further away from the stadium. The traffic and parking studies conducted for the Gateway Center at Bronx Terminal Market retail development indicated that for a weeknight game day condition, parking accumulation in that project's garages would peak at about 1,694 cars (65 percent occupancy) at 7:00-8:00 PM; for a Saturday game day condition, parking accumulation would peak at about 2,208 cars (85 percent occupancy) at 2-3 PM. When accounting for a sellout game on a weeknight, the garage would peak at about 2,079 cars (80 percent occupancy) at 7–8 PM.

The *Gateway Center at Bronx Terminal Market FEIS* projected that, on weeknight and weekend game days, all Yankees fans would be able to be accommodated in the neighborhood, albeit with use of some more remote locations with longer access walks to and from the stadium before and after games. Tables 15-7 and 15-8 show the partial redistribution of parking from displaced Lots 12 and 13D to the Gateway Center garage; the garage capacity of 1,200 reflects spaces available for Yankees parking.

On-street parking occupancy is also assumed to increase by ½ percent per year, or about 2-3 percent by the year 2009. There would continue to be widespread illegal and double parking, with curb parking occupancy increasing over existing levels of 100 to 110 percent on game days just after ballgames begin, as Yankees fans circulate seeking unavailable on-street spaces.

Table 15-7
Hourly Parking Occupancy by Percentage: Weeknight Game

Parking Facility	Capacity	4-5 PM	5-6 PM	6-7 PM	7-8 PM
Yankee Stadium Parking Lot No. 1	412	14%	23%	54%	100%
Yankee Stadium Parking Garage No. 3	1,205	22%	58%	97%	100%
Yankee Stadium Parking Lot No. 5	59	0%	8%	45%	100%
Yankee Stadium Parking Lot No. 6	76	0%	2%	29%	100%
Yankee Stadium Parking Lot No. 7	150	0%	1%	3%	100%
Yankee Stadium Parking Garage No. 8	2,411	32%	67%	99%	100%
Yankee Stadium Parking Lot No. 9	76	1%	86%	100%	100%
Yankee Stadium Parking Lot No. 10	114	25%	75%	100%	100%
Yankee Stadium Parking Lot No. 11	176	0%	20%	100%	100%
Yankee Stadium Parking Lot No. 13A	400	1%	4%	31%	95%
Yankee Stadium Parking Lot No. 13B	504	1%	4%	19%	91%
Yankee Stadium Parking Lot No. 13C	210	2%	19%	30%	64%
Yankee Stadium Parking Lot No. 14	231	14%	17%	30%	53%
Yankee Stadium Parking Lot No. 15	205	0%	1%	22%	97%
Rex Parking Lot	225	0%	27%	84%	100%
Bautista Parking Lot	50	0%	40%	100%	100%
Kinney Parking Garage	155	0%	26%	45%	100%
Gateway Center Garage	1,200	7%	36%	62%	86%
Total	**7,859**	**15%**	**40%**	**70%**	**95%**

Note: The capacity of 1,200 for Gateway Center Garage reflects the approximate number of spaces that could be available for Yankee Stadium attendees on game days.

Table 15-8
Hourly Parking Occupancy by Percentage: Weekend Game

Parking Facility	Capacity	11 AM-12 PM	12-1 PM	1-2 PM	2-3 PM
Yankee Stadium Parking Lot No. 1	412	28%	80%	100%	100%
Yankee Stadium Parking Garage No. 3	1,205	54%	98%	100%	100%
Yankee Stadium Parking Lot No. 5	59	37%	97%	100%	100%
Yankee Stadium Parking Lot No. 6	76	1%	24%	100%	100%
Yankee Stadium Parking Lot No. 7	150	0%	21%	90%	90%
Yankee Stadium Parking Garage No. 8	2,411	52%	86%	96%	96%
Yankee Stadium Parking Lot No. 9	76	46%	100%	100%	100%
Yankee Stadium Parking Lot No. 10	114	32%	73%	100%	100%
Yankee Stadium Parking Lot No. 11	176	11%	91%	100%	100%
Yankee Stadium Parking Lot No. 13A	400	55%	100%	100%	100%
Yankee Stadium Parking Lot No. 13B	504	79%	100%	100%	100%
Yankee Stadium Parking Lot No. 13C	210	43%	100%	100%	100%
Yankee Stadium Parking Lot No. 14	231	99%	100%	100%	100%
Yankee Stadium Parking Lot No. 15	205	70%	100%	100%	100%
Rex Parking Lot	225	67%	89%	100%	100%
Bautista Parking Lot	50	0%	20%	100%	100%
Kinney Parking Garage	155	48%	100%	100%	100%
Gateway Center Garage	1,200	40%	73%	90%	90%
Total	**7,859**	**49%**	**86%**	**97%**	**97%**

Note: The capacity of 1,200 for Gateway Center Garage reflects the approximate number of spaces that could be available for Yankee Stadium attendees on game days.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

TRAVEL DEMAND PROJECTIONS

The proposed stadium is expected to have slightly less seating (54,000-seat capacity) than the existing stadium. While the new stadium would not result in an increase in auto trips, as discussed later in this chapter, shifts in fan access patterns are anticipated due to its more northerly location and the new garages that would be constructed to serve it. The potential effects on traffic operations in the surrounding roadway network are discussed later in this chapter. Presented below is a summary of the projected travel characteristics of stadium attendees.

In addition to the new stadium, the Proposed Action would yield a net increase in parkland totaling approximately 4.63 acres.[1] Also, approximately 12,000 square feet of retail space would be constructed in the base of new Parking Garage D along River Avenue at East 151st Street.[2] For each of these components, travel demand estimates were developed to project generated future trips. It is expected that game day travel to these ancillary uses would be substantially different from when there is no game at the new stadium. On game days, travel to retail uses is likely to have a very high linkage with trips to the stadium, whereas non-game day activities would be higher. Nevertheless, for a conservative assessment, typical day trip generation estimates for these uses were incorporated into the game day analysis.

PROPOSED YANKEE STADIUM

Several transportation surveys have been conducted for Yankees games previously. Those surveys show that the escalation in attendance realized in recent years has resulted in some shift of the fan base and has affected the decision-making of fans on how to travel to and from Yankee Stadium. To validate and supplement the findings established previously, a travel survey was conducted in September 2004 to collect data on existing stadium-related travel patterns. This survey involved interviewing patrons at two well-attended Yankees home games on a Sunday afternoon and on a Wednesday evening. These interviews provided information on current travel origins and destinations, modal splits, and temporal distribution. The data were then compared to results from other surveys, including a summer 2001 survey undertaken by Vollmer Associates, LLP, to solidify the necessary assumptions on travel characteristics for projecting future trips to and from the new stadium. Information from a separate auto-only survey conducted in the summer of 2004 by Urbitran Associates, Inc. for the New York State Department of Transportation (NYSDOT) was also used for vehicle trip distribution purposes. Based on the results obtained from the various surveys, trip generation estimates for a 54,000-attendance capacity event were developed and are presented in Table 15-9.

For both the weekday and weekend game conditions, the primary mode of travel is auto, making up 63 and 68 percent of the total stadium trips, respectively. This is based on the average of two

[1] The traffic analysis was based on 5.91 acres, while the revised plan envisions 4.63 acres. The trip generation for 5.91 acres is, therefore, slightly conservative by projecting a higher volume of trips.

[2] The traffic analysis was based on 19,000 sf of local retail space, while the revised plan envisions 12,000 sf. The trip generation for 19,000 sf is, therefore, slightly conservative by projecting a higher volume of trips.

Table 15-9
Projected Trip Generation Characteristics: Stadium Component

54,000 Capacity Attendance

Modal Split (1)

	Weekday	Weekend
Auto	63.0%	68.0%
Taxi	1.0%	1.0%
Charter Service	2.0%	5.0%
Subway	32.0%	24.0%
Bus	0.5%	0.5%
Ferry	1.0%	0.5%
Walk Only	0.5%	1.0%
Total	100%	100%

Vehicle Occupancy (1)

	Weekday		Weekend	
Auto	2.65	Persons per Vehicle	2.75	Persons per Vehicle
Taxi	2.75	Persons per Vehicle	2.75	Persons per Vehicle
Charter Service	30	Persons per Vehicle	30	Persons per Vehicle

Temporal Distribution (2)

	Auto	Taxi	Charters	Subway	Bus	Ferry	Walk	Weighted	In	Out
Weekday Pre-game Peak Hour	45%	45%	45%	55%	55%	100%	90%	49.0%	100%	0%
Weekday Post-game Peak Hour	65%	65%	65%	75%	75%	100%	90%	69.0%	0%	100%
Weekend Pre-game Peak Hour	50%	50%	50%	65%	65%	100%	90%	54.0%	100%	0%
Weekend Post-game Peak Hour	65%	65%	65%	75%	75%	100%	90%	68.0%	0%	100%

Person Trips by Mode and Distribution

	Auto		Taxi/Black Car		Charter Service		Subway		Bus		Ferry		Walk Only		Total	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	15,309	0	243	0	486	0	9,504	0	149	0	540	0	243	0	26,474	0
Weekday Post-game Peak Hour	0	22,113	0	351	0	702	0	12,960	0	203	0	540	0	243	0	37,112
Weekend Pre-game Peak Hour	18,360	0	270	0	1,350	0	8,424	0	176	0	270	0	486	0	29,336	0
Weekend Post-game Peak Hour	0	23,868	0	351	0	1,755	0	9,720	0	203	0	270	0	486	0	36,653

Taxi Trips

	Demand		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	88	0	88	88	0	0	88	88
Weekday Post-game Peak Hour	0	128	0	0	128	128	128	128
Weekend Pre-game Peak Hour	98	0	98	98	0	0	98	98
Weekend Post-game Peak Hour	0	128	0	0	128	128	128	128

Vehicle Trips by Mode and Distribution

	Auto		Taxi/Black Car		Charter Service		Total	
	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	5,777	0	88	88	16	0	5,881	88
Weekday Post-game Peak Hour	0	8,345	128	128	0	23	128	8,496
Weekend Pre-game Peak Hour	6,676	0	98	98	45	0	6,819	98
Weekend Post-game Peak Hour	0	8,679	128	128	0	59	128	8,866

Sources: (1) Derived from 2001 Vollmer and 2004 AKRF travel surveys
(2) Vollmer 2001 and AKRF/EWT/Vollmer 2004 survey data

comprehensive surveys conducted for Yankees games—the 2001 survey conducted by Vollmer Associates and the 2004 survey conducted by AKRF, Inc. This is a conservative (i.e., high) estimate of auto use since the most recent surveys on game days show decreasing auto use and more transit use resulting from an increased fan base from Manhattan (which is more transit-oriented with the proximity of several subway lines), and a decreased volume of trips from traditional suburban fan base areas like New Jersey. The Manhattan "share" of game day trips doubled between 2001 and 2004; since Manhattan-based trips are more transit-oriented than suburban-based trips, the auto share of all trips has diminished. By using the average of the two modal split surveys (2001 and 2004), the traffic analyses conducted in this FEIS are 1.6 percent higher on weeknights and 4 percent higher on weekends than the actual auto use occurring today, as per the 2004 surveys. Travel by subway comprises 32 percent of trips on a weekday and 24 percent on the weekend. The remaining travel modes, including taxis and black cars, charter service, city bus, ferry, and walk only combine to total 5 and 8 percent on a weekday and on a weekend day, respectively.

The auto shares used—63 percent for weeknight games and 68 percent for weekend games—are appropriate and reasonable. Traffic surveys conducted for New York Mets games at Shea Stadium showed that 62 percent of fans drove. Surveys conducted for the United States Tennis Association for the U.S. Open showed that 56-57 percent of attendees drove, even with no Mets game at Shea Stadium and all of the Mets' approximately 10,000 parking spaces available for use by U.S. Open attendees.

The increased provisions of parking garage spaces under the proposed project is aimed at accommodating fans who currently park at relatively remote locations or who park illegally on City streets or on the service road of the Major Deegan Expressway and who circulate excessively in the area in search of hard-to-find legal parking spaces. The traffic analyses, however, do not assume an auto trip reduction "credit" for this reduction in excessive existing traffic circulation, even though some reduction is likely to occur. Traffic that currently circulates through the area in search of parking spaces, passes through several intersections en route to their final parking destination. With easier-to-find parking, there would be less unnecessary circulation and a lower volume through some intersections in the area. The traffic analysis, therefore, is somewhat conservative since it does not assume a credit for such a reduction in volumes. Surveys have found that the fan base is increasingly using transit to get to the stadium. In addition, the Major Deegan Expressway—the major roadway leading to the stadium—is heavily trafficked and also heavily congested. Therefore, it is not expected that increasing off-street parking capacity would induce more people to drive to the stadium beyond that estimated in this EIS.

The traffic analyses conducted as part of this FEIS are also conservative in several other ways, in addition to the aforementioned conservatism in the auto share used in the analysis. First, the analyses are based on a 54,000 attendance sellout game at the proposed stadium. A sellout game at the existing stadium, with its 57,000 attendance capacity, can attract approximately 3,000 more fans that the proposed stadium. Accounting for auto share, average auto occupancy, and the temporal distribution of pre-game fan arrivals and post-game fan departures, the existing stadium attracts 320 to 480 more vehicle trips in the peak arrival and departure hours than the proposed stadium would. Second, even on announced sellout days, there are "no shows" (reported at up to about 15 percent by the New York Yankees organization). A credit (or reduced volume of traffic) was not assumed for "no shows" in the FEIS's traffic impact analyses. And third, the assumed background traffic growth of 0.5 percent per year was applied to all existing

volumes, which, on game days, includes stadium-generated traffic (which would not increase from current sellout day levels).

The number of cars arriving at and departing from the stadium area is not expected to change because of these factors. Peak hour traffic generated by the proposed stadium would remain the same as with the existing stadium; cars currently parking illegally on local streets or at remote locations in residential areas to the north and east, with lengthy walking distances, would now be able to park closer to the stadium and off of local streets. The illegal parking that occurs today on the service road of the Major Deegan, the illegal parking on local streets, and fans parking on residential streets, could in the future be more fully accommodated off-street, providing a substantial benefit to the local community with the proposed project.

With regard to the temporal distribution patterns of arrival and departure activities, there are several contributing factors, including travel preference, transportation system constraints, and game competitiveness. For example, fans may prefer to arrive early to enjoy the pre-game activities that are available at and around the stadium. Some may arrive late because of congestion on the roadway or the subway system. Finally, many may depart early to either avoid massive exits at the end of sellout games or forgo seeing the ending of a "blowout" game. Several sets of survey data were reviewed to develop representative temporal distribution estimates. Among the numerous travel options, vehicular traffic tends to spread over the longest period of time. This is attributed primarily to constraints in the roadway network as well as available parking near the stadium. Data from past and present surveys were evaluated in detail to estimate the percent of the total anticipated traffic arriving or departing within the peak hour.

For autos, taxis, and charter service, the analysis assumes 45 to 50 percent of the total projected trips arriving during the peak hour and 65 percent of the total departing during the peak hour. Transit trips were estimated at 55 to 65 percent during the arrival peak hour and 75 percent during the departure peak hour. As for ferries, travel is limited to two to four boats for each game by NY Waterways (other limited ferry service may be provided at times, as well). Hence, 100 percent of the ferry trips were assumed to occur during the peak travel hours. Finally, short-distance trips that are made solely on foot were assumed to also occur within a much shorter timeframe—90 percent during each of the peak hours.

Using the information derived above, person trip and vehicle trip projections were developed. For a weekday night game, approximately 26,500 person trips and 6,000 vehicle trips were projected during the weeknight pre-game peak arrival hour. The weeknight post-game peak departure hour generates 37,100 person trips and 8,600 vehicle trips. For a weekend day game, 29,300 person trips and 6,900 vehicle trips occur during the pre-game peak arrival hour, while 36,700 person trips and 10,000 vehicle trips were estimated in the post-game peak departure hour.

These vehicle trip projections account for each taxi/black car arrival counting twice (bringing people to the stadium and then leaving empty) and each departure also counting twice (coming to the stadium area empty and then leaving with their riders). This is slightly conservative in over-counting trips, since many or most black cars actually drop off their passengers before the game, park in the area during the game, and then leave full after the game—two vehicle trips rather than the four conservatively assumed in the analyses that follow.

REPLACEMENT RECREATIONAL FACILITIES

Replacement recreational facilities being constructed as part of the proposed project are expected to result in a similar number of playing fields, basketball courts, and handball courts as exist

currently. In addition, the existing Yankee Stadium footprint would be preserved and converted into "Heritage Field," which could be used for little league, high school, and other baseball games. The New York City Department of Parks and Recreation (NYCDPR) has stated that an organized game at this field would not occur simultaneously with a Yankees game at the new stadium. Therefore, during the analysis peak hours, the new parkland configuration is likely to exhibit similar trip generation characteristics as currently. A trip increment was incorporated into the analysis to represent a reasonable worst-case assessment for the additional 4.63 acres of recreational facilities. Information summarized in the *Gateway Estates FEIS* (April 1996) and the *ITE Trip Generation Manual, 7th Edition* was used to develop travel rates for the parkland trip estimates, as presented in Table 15-10. During the weeknight pre-game arrival peak hour, approximately 80 person trips and 3 vehicle trips were projected for the additional parkland. Negligible activities would occur during the weeknight post-game departure peak hour. On weekends, approximately 190 person trips and 8 vehicle trips are projected for the pre-game arrival peak hour, and 130 person trips and 6 vehicle trips are projected for the post-game departure peak hour.

LOCAL RETAIL

New retail trips would be made primarily towards the southern end of the traffic study area, where approximately 12,000 square feet of local retail space would be available in the ground floor of proposed Parking Garage D. Information presented in the *Retail and Industrial Zoning Text Amendments FGEIS* (October 1996) and the *Melrose Commons Urban Renewal Area FEIS* (1994) was used to develop the retail trip estimates. Since the new retail uses are likely to have close connections with the Yankees (i.e., memorabilia store, sports bar, etc.), conservative assumptions of their game-time characteristics were made to include new trips not necessarily linked to trips to the proposed stadium. As shown in Table 15-11, on a typical weeknight, approximately 225 person trips and 36 vehicle trips would be generated during the pre-game arrival peak hour, while about 50 person trips and 8 vehicle trips would occur during the post-game departure peak hour. For a weekend game, the same person trip and vehicle trip estimates were determined for the pre-game arrival peak hour. During the post-game departure peak hour, the new retail space is expected to generate 180 person trips and 30 vehicle trips.

TRIP DISTRIBUTION AND ASSIGNMENT TO THE ROADWAY NETWORK

Although the proposed 54,000-seat stadium would contain almost three thousand fewer seats than the existing 56,928-seat stadium, the same number of daily vehicular trips to and from the proposed stadium have been assigned to the roadway network to be conservative—i.e. approximately the same number of hourly vehicular trips to and from the stadium would occur in the future. However, the provision of four new major parking garages as part of the Proposed Action, would affect traffic access and departure patterns.

Accounting for the effects of the proposed stadium and its garages on the roadway network has been accomplished by re-routing existing trips from existing routes to future routes to the proposed new off-street parking facilities. In order to identify these current and expected trip patterns, detailed origin and destination data were used. This included two recent survey sources—trip origin-and-destination surveys conducted for this EIS by AKRF for all travel modes, and surveys conducted on behalf of NYSDOT by Urbitran Associates that specifically identified the trip origins for all cars parked in each existing Yankees lot and garage in the area. Taxi/black car trips would not increase, but the routes would shift slightly because of the proposed stadium location, and the proposed taxi/black car pick up/drop off area at the north end of the stadium.

Table 15-10
Projected Trip Generation Characteristics: Parkland Component

5.91 Acres

Daily Trip Rates (1)

WD Person Trips	139	Trips per Acre
WE Person Trips	158	Trips per Acre

Modal Split (1)

Auto	12.0%
Taxi	0.0%
Charter Service	0.0%
Subway	5.0%
Bus	5.0%
Ferry	0.0%
Walk Only	78.0%
Total	100%

Vehicle Occupancy (1)

Auto	2.80	Persons per Vehicle
Taxi	2.00	Persons per Vehicle

Temporal Distribution (1,2,3)

	Person Trips		
	Total	In	Out
Weekday Pre-game Peak Hour	10%	45%	55%
Weekday Post-game Peak Hour	2%	10%	90%
Weekend Pre-game Peak Hour	20%	55%	45%
Weekend Post-game Peak Hour	14%	34%	66%

Person Trips by Mode and Distribution

	Auto		Taxi/Black Car		Charter Service		Subway		Bus		Ferry		Walk Only		Total	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	4	5	0	0	0	0	2	2	2	2	0	0	29	36	37	45
Weekday Post-game Peak Hour	2	2	0	0	0	0	0	1	0	1	0	0	2	11	2	15
Weekend Pre-game Peak Hour	12	10	0	0	0	0	5	4	5	4	0	0	81	66	103	84
Weekend Post-game Peak Hour	5	10	0	0	0	0	2	4	2	4	0	0	35	68	44	86

Taxi Trips

	Demand		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	0ut	In	Out
Weekday Pre-game Peak Hour	0	0	0	0	0	0	0	0
Weekday Post-game Peak Hour	0	0	0	0	0	0	0	0
Weekend Pre-game Peak Hour	0	0	0	0	0	0	0	0
Weekend Post-game Peak Hour	0	0	0	0	0	0	0	0

Vehicle Trips by Mode and Distribution

	Auto		Taxi/Black Car		Delivery		Total	
	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	1	2	0	0	0	0	1	2
Weekday Post-game Peak Hour	0	1	0	0	0	0	0	1
Weekend Pre-game Peak Hour	4	4	0	0	0	0	4	4
Weekend Post-game Peak Hour	2	4	0	0	0	0	2	4

Sources: (1) *Gateway Estates FEIS* (April 1996)
(2) *ITE Trip Generation Manual*, *7th Edition* (regional park)
(3) Assumptions based on sources (1) and (2) and reasonable professional judgment of area travel patterns

Table 15-11
Projected Trip Generation Characteristics: Retail Component

19,000 Square Feet

Daily Trip Rates (1,2)

Person Trips	47.42	Trips per 1,000 SF
Truck Trips	0.35	Trips per 1.000 SF

Modal Split (3)

Auto	25.0%
Taxi	0.0%
Charter Service	0.0%
Subway	25.0%
Bus	0.0%
Ferry	0.0%
Walk Only	50.0%
Total	100%

Vehicle Occupancy (3)

Auto	1.56	Persons per Vehicle
Taxi	1.56	Persons per Vehicle

Temporal Distribution (2,4)

	Person Trips			Delivery Trips
	Total	In	Out	In/Out
Weekday Pre-game Peak Hour	25%	50%	50%	2%
Weekday Post-game Peak Hour	5%	50%	50%	0%
Weekend Pre-game Peak Hour	25%	50%	50%	0%
Weekend Post-game Peak Hour	20%	50%	50%	0%

Person Trips by Mode and Distribution

	Auto		Taxi/Black Car		Charter Service		Subway		Bus		Ferry		Walk Only		Total	
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	28	28	0	0	0	0	28	28	0	0	0	0	57	57	113	113
Weekday Post-game Peak Hour	6	6	0	0	0	0	6	6	0	0	0	0	11	11	23	23
Weekend Pre-game Peak Hour	28	28	0	0	0	0	28	28	0	0	0	0	57	57	113	113
Weekend Post-game Peak Hour	23	23	0	0	0	0	23	23	0	0	0	0	44	44	90	90

Taxi Trips

	Demand		Inbound Only		Outbound Only		Total Trips	
	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	0	0	0	0	0	0	0	0
Weekday Post-game Peak Hour	0	0	0	0	0	0	0	0
Weekend Pre-game Peak Hour	0	0	0	0	0	0	0	0
Weekend Post-game Peak Hour	0	0	0	0	0	0	0	0

Vehicle Trips by Mode and Distribution

	Auto		Taxi/Black Car		Delivery		Total	
	In	Out	In	Out	In	Out	In	Out
Weekday Pre-game Peak Hour	18	18	0	0	0	0	18	18
Weekday Post-game Peak Hour	4	4	0	0	0	0	4	4
Weekend Pre-game Peak Hour	18	18	0	0	0	0	18	18
Weekend Post-game Peak Hour	15	15	0	0	0	0	15	15

Source: (1) *Retail and Industrial Zoning Text Amendments FGEIS* (October 1996)
(2) *Motor Trucks in the Metropolis*, Wilbur Smith and Associates (1969)
(3) *Melrose Commons Urban Renewal Area FEIS* (1994)
(4) Professional assumptions of game time characteristics

Trips for two additional land uses, parkland and retail, were also assigned to local roadways. The following sections discuss the distribution and assignment of autos, taxis/black cars, and charter buses to the proposed stadium, and auto trips to the proposed park space and new retail land uses.

TRIP DISTRIBUTION

Stadium Autos

Auto traffic projected to be generated by the proposed stadium was assigned to the roadway network based on two surveys conducted in 2004 at the existing Yankee Stadium. Surveys were conducted for this project in September 2004 for a weeknight game and a weekend game. Surveys were also conducted for the NYSDOT in late June and early July 2004 for a weeknight game and a weekday game (starting at 1:05 PM), but not for a weekend game. All of these sources were used to determine trip origins for this EIS analyses. Table 15-12 shows the resulting trip origin/destination assumptions used in the analysis.

Table 15-12
Stadium Auto Trip Origins and Destinations

Trip Origin	Pre-game Weeknight Arrivals		Post-game Weeknight Departures		Pre-game Saturday Arrivals		Post-game Saturday Departures	
	Percent	Autos Per Hour	Percent	Autos Per Hour	Percent	Autos Per Hour	Percent	Autos Per Hour
Northern New Jersey	22.1%	1,277	23.6%	1,969	21.5%	1,435	21.5%	1,866
Southern & Central New Jersey	9.0%	520	9.6%	801	10.5%	701	10.5%	911
Manhattan	5.7%	329	2.7%	225	5.0%	334	5.0%	434
Staten Island	2.4%	138	0.9%	75	2.0%	134	2.0%	174
Brooklyn	3.8%	220	3.4%	284	2.5%	167	2.5%	217
Queens	5.3%	306	4.8%	401	5.5%	367	5.5%	477
Long Island	13.6%	786	14.7%	1,227	13.5%	901	13.5%	1,172
The Bronx	3.1%	179	2.0%	167	3.0%	200	3.0%	260
New England	17.1%	988	17.8%	1,485	15.0%	1,002	15.0%	1,302
New York – East of Hudson River	11.7%	676	12.7%	1,060	10.5%	701	10.5%	911
New York – West of Hudson River	6.2%	358	7.8%	651	11.0%	734	11.0%	955
Totals	100.0%	5,777	100.0%	8,345	100.0%	6,676	100.0%	8,679

Source: NYSDOT "Yankees and Shea Stadium Access and Alternatives Study Data Collection Report," December 2004, and September 2004 Yankee Stadium Travel Demand Surveys.

The largest share of auto trips is from Northern New Jersey, ranging from 21.5 percent for weekend games to 23.6 percent after weeknight games. The next two highest percentages are from New England and Long Island, which account for 15.0 to 17.8 percent of trips to/from New England and 13.5 and 14.7 percent of trips to/from Long Island. Other non-New York City trip origins include Upstate New York counties east and west of the Hudson River such as Westchester, Rockland, Putnam, Dutchess and Orange Counties, which combine for 17.9 to 21.5 percent of peak hour trips. Southern and Central New Jersey trips account for another 9.0 to 10.5 percent of trips.

Weekday auto trips from the five boroughs of New York City range from 13.8 percent after weeknight games to 20.3 percent before weeknight games. The pre-game and post-game distribution is 18.0 percent on weekends. About half of the New York City trips originate in Manhattan and Queens, which range from 7.5 to 11.0 percent. Auto trips originating in or

destined to the Bronx range from 2.0 to 3.1 percent, and Brooklyn and Staten Island trips account for between 4.3 and 6.2 percent of all auto trips to Yankee Stadium.

The auto trip origins vary slightly by peak hour analyzed. For example, there is a higher percentage of weeknight pre-game auto trips originating from Manhattan than returning to Manhattan after the game. That is because some people drive to the game after work (in Manhattan) but return home to non-Manhattan locations after the game. This can also be seen, for example, in a higher percentage of autos heading home to Long Island after weeknight games than the percentage originating from Long Island pre-game. On weekends, the typical Yankee Stadium auto trip is not linked with other work origins, so the arrival and departure percentages are the same.

Stadium Taxis/Black Cars

Existing taxi/black car trips would expect to have shifts in their pickup and drop off locations. Based on travel demand surveys, the peak hour trips would consist of 88 vph before a weeknight game, 128 vph after a weeknight game, 98 vph before a weekend game, and 128 vph after a weekend game. The taxi trips include yellow "medallion" taxis from Manhattan, livery taxis a.k.a. "gypsy cabs" from the Bronx and other outer boroughs, and limousines or "black cars" hired from Manhattan and some non-Manhattan locations. It is assumed for the purposes of this EIS's analyses that approximately half of the total taxi/black car trips would consist of medallion taxis or gypsy cabs, and the other half would be black cars. It is assumed most taxis and black cars would originate in Manhattan or the Bronx.

Stadium Charter Buses

The peak hour traffic volumes for charter buses would be 16 to 45 vph in the pre-game peak hours and 23 to 59 vph in the post-game peak hours. No changes to the arrival or departure patterns of these buses would occur with the proposed stadium. It is envisioned that charter buses would continue to drop-off and pick-up passengers along River Avenue north of the stadium, and predominantly park in Lot 15 on River Avenue between East 164th and 165th Streets as they do today.

Trucks and Deliveries

No peak hour trips are estimated for deliveries. All truck trips would occur during off-peak hours, including food and beverage services, trash pick-up, and satellite TV trucks.

Parkland and Retail Autos

The additional parkland space would generate only one to four peak hour trips, and the retail development would generate an additional 6 to 36 peak hour trips. It is estimated that all of these trips would be generated locally in the Bronx.

TRIP ASSIGNMENTS

Stadium Autos

As stated above, the proposed stadium would not generate additional traffic, but would result in shifts in current traffic patterns. The regional trip origin-and-destination distribution was used to assign auto trips to regional routes en route to the stadium area and then to individual roadways. The trips were routed based on the NYSDOT origin-and-destination surveys, which cross-referenced auto trips between bridge crossings and individual parking lots. Using this detailed origin-and-destination data, trips were assigned to roadways within the study area including the

southbound or northbound Major Deegan Expressway, Macombs Dam Bridge, 145th Street Bridge, and local Bronx streets like Jerome Avenue, the Grand Concourse, River Avenue, and East 149th and 161st Streets.

Figures 15-11 and 15-12 illustrate the overall regional route assignments for weeknight and weekend games, respectively. The two figures show arrival percentages on the southbound Major Deegan Expressway, Macombs Dam Bridge, 145th Street Bridge, northbound Major Deegan Expressway, and the combined arrival percentages on all local Bronx roadways such as Jerome Avenue, River Avenue, the Grand Concourse, East 161st Street, and East 149th Street. The departure percentages are identical after a weekend game and vary slightly following a weeknight game.

As shown in these two figures, the majority of auto trips arrive via the southbound Major Deegan. These trips consist of most of New Jersey's, New England's, and Upstate New York's autos from the George Washington Bridge, Cross Bronx Expressway, and the New York State Thruway, respectively. The next most common approach roadway is the northbound Major Deegan, which consists of most of Long Island's, Queens', Brooklyn's and Manhattan's autos from the Triboro, Throgs Neck and Whitestone Bridges, with smaller shares of Staten Island's, New England's and New Jersey's autos. Traffic on the Macomb's Dam and 145th Street Bridges consist of some autos from New Jersey, Upstate New York areas west of the Hudson River, and Manhattan. Finally, the local Bronx trips are predominantly Bronx origins, with small portions of autos from New England, Upstate New York areas east of the Hudson River, and Long Island that may use local streets for part of their access routes to the stadium area.

From these approach roadways, traffic was assigned intersection-by-intersection into the proposed garages. These traffic assignments will be discussed further in the "Proposed Parking Garage Circulation and Access" section. Table 15-13 shows the number of peak hour trips routed to the proposed garages.

Table 15-13
Build Peak Hour Auto Trips
Assigned to the Proposed Parking Garages and Other Parking Facilities

Parking Facility	Parking Capacity (spaces)	Pre-game Weeknight Arrivals (vph)	Post-game Weeknight Departures (vph)	Pre-game Saturday Arrivals (vph)	Post-game Saturday Departures (vph)
A	1,700	1,299	1,596	1,462	1,687
B	966	359	541	419	563
C	1,120	625	1,048	874	1,109
D	949	221	375	276	457
Proposed Parking Garage Totals	**4,735**	**2,504**	**3,560**	**3,031**	**3,816**
Other Parking Facilities	N/A	3,273	4,785	3,645	4,863
Estimated Stadium Totals	**N/A**	**5,777**	**8,345**	**6,676**	**8,679**

Since proposed Parking Garages A and C have the most capacity and are located directly across East 161st Street from the two primary entrances to the new stadium, it has been assumed that these two garages would attract the largest percentages and volumes of autos pre-game and would generate the largest percentages and volumes of autos post-game. Proposed Parking Garage B would be located alongside the northern edge of the proposed stadium, and would have a significant amount of its parking spaces reserved for Yankees staff and others, who

would need to be there before the peak arrival hour and would stay beyond the peak departure hour (about 120 spaces). Therefore, the percentage and volume of autos entering Parking Garage B in the pre-game arrival peak hour and leaving Parking Garage B in the post-game departure peak hour are lower than those for Parking Garages A and C. The same is true for proposed Parking Garage D, primarily since it is the longest walk from the new stadium of the four proposed garages.

Proposed Parking Garage Circulation and Access

This section identifies the primary routes that would be taken by Yankees fans driving to each of the proposed garages as assumptions in the traffic assignment process, and identifies from which existing lots the future trips would divert. Most of the new parking to be provided would be located across East 161st Street from the new stadium on the existing stadium parcel, with another lot directly north of the proposed stadium, and a garage on River Avenue at East 151st Street. These garages would provide parking spaces for the numerous motorists who currently park legally or illegally along the service road of the northbound Major Deegan Expressway, along East 161st Street, and the Macomb's Dam Bridge Approach, within the right-of-way of Exterior Street, on the Bronx Terminal Market site between the market and the Harlem River, or in the Bronx House of Detention garage that would be removed as a result of the proposed Gateway Center at Bronx Terminal Market shopping center, in the Concourse Village Shopping Center parking garage, and small retail, light industrial, or warehouse parking lots. It would also provide closer parking spaces and would shift some of the parking demand from existing facilities to the new parking sites. The new garage driveways and traffic re-routing descriptions are presented below (refer to Chapter 1, "Project Description," for illustrations of the proposed garages).

Parking Garage A (1,700 spaces): Parking Garage A would have one driveway on the Macomb's Dam Bridge Approach providing a right-in/right-out access on the Bronx-bound side of the bridge. It would also have two driveways on East 157th Street—one between River Avenue and Ruppert Place, and the other east of the Major Deegan Expressway Service Road aligned with the intersection of East 153rd and East 157th Streets. Parking Garage A would also have a below-ground connection to Parking Garage C. East 157th Street would be opened to vehicular traffic from River Avenue to a point just east of Ruppert Place so autos could access Parking Garage A via East 157th Street (East 157th Street is currently permanently closed to all vehicular traffic).

The majority of vehicles traveling southbound on the Major Deegan accessing Parking Garage A before games would be expected to use the East 153rd Street flyover ramp from Exit 6, turn left onto East 153rd Street, merge onto East 157th Street, and turn right into the garage. Some traffic would exit the Deegan at Exit 5 onto the Macomb's Dam Bridge Approach towards the Bronx and turn right into the garage. Northbound Major Deegan traffic would primarily use Exit 5 to the northbound Deegan service road, turn right onto East 157th Street, and then turn left into Parking Garage A. Eastbound vehicles traveling over the Macombs Dam Bridge would cross the bridge and turn right into Parking Garage A.

A portion of the trips on these routes would re-route from the Harlem River area parking lots (Parking Lots 13A, 13B, and 13C), the proposed Gateway Center at Bronx Terminal Market garage, illegal parking along the northbound Major Deegan service road, and the existing garage at East 153rd Street/River Avenue (Parking Garage 8). The displaced player and employee parking lots' (Parking Lot 14) trips would be accommodated at proposed Parking Garage B.

Post-game, vehicles returning to the northbound Major Deegan would have two possible routes upon exiting Parking Garage A. Most would be expected to use the East 157th Street exits to the northbound Deegan service road. Some autos would use the right-out only exit onto the eastbound Macomb's Dam Bridge Approach. Before East 162nd Street, they could turn left onto Jerome Avenue, and turn right onto the service road. Autos heading westbound over the Macombs Dam Bridge could either use the underground connection to Parking Garage C and turn right onto the bridge, or exit onto East 157th Street to the northbound service road to the Manhattan-bound Macombs Dam Bridge loop ramp. The majority of autos destined to the southbound Major Deegan would be expected to use either of the East 157th Street exits to the East 153rd Street flyover ramp directly to the Deegan, or the underground connection to Parking Garage C to westbound Macomb's Dam Bridge Approach and turn left directly onto the southbound Deegan just before the bridge.

Parking Garage B (966 spaces): Parking Garage B would have two access points, located at the former East 162nd Street intersections with River and Jerome Avenues.

Vehicles using the northbound Major Deegan before a game could use Exit 5 to the northbound Deegan service road, turn right onto Jerome Avenue, and right into the garage; or they could use Exit 4 and proceed northbound on River Avenue past East 161st Street to the garage. Autos traveling westbound across East 161st Street could turn right onto River Avenue and proceed north to the garage. Autos on the southbound Grand Concourse could cross to River Avenue using East 165th Street and continue to the garage. Autos traveling southbound on the Major Deegan could use Exit 5, turn left onto the Macomb's Dam Bridge Approach, merge with Jerome Avenue traffic, and continue to the garage.

These access routes can be expected to divert some traffic from the existing garage at East 164th Street and River Avenue (Parking Garage 3), the Concourse Plaza Shopping Center, existing valet-only lots on River Avenue south of the stadium that would be displaced by additional parkland (Parking Lots 5 and 6), existing on-street parking north of East 164th Street and east of River Avenue, and existing illegal on-street parking along East 161st Street.

After a game, River Avenue between East 161st and East 164th Streets would be heavily used by pedestrians using River Avenue, which may cause drivers leaving Parking Garage B to divert northward on River Avenue. Only a small percentage of drivers would attempt to drive south from Parking Garage B on River Avenue following a game, which is reflected in the projected trip assignments. Most autos destined to the southbound Major Deegan would be expected to use southbound Jerome Avenue to the Macomb's Dam Bridge Approach and turn left onto the southbound Deegan on-ramp just before the bridge. The northbound Major Deegan would be accessed by turning left onto southbound Jerome Avenue and continuing to the Deegan service road. A small percentage of drivers might avoid southbound Jerome Avenue and instead drive north on Jerome Avenue, continue north and proceed directly to the Cross Bronx Expressway.

Parking Garage C (1,120 spaces): Parking Garage C would have three driveways and an underground connection to Parking Garage A. Two right-in/right-out driveways would be provided on the Manhattan-bound side of the Macomb's Dam Bridge Approach, and one would be located on East 161st Street between Jerome Avenue and the Macomb's Dam Bridge Approach viaduct overhead.

Autos traveling southbound along the Major Deegan would be expected to predominantly use Exit 5, turn left onto the Macomb's Dam Bridge Approach, and turn right into Parking Garage A and proceed to Parking Garage C using the underground connection. Autos traveling northbound

on the Major Deegan would most likely take Exit 5 to the northbound Deegan service road, turn right onto Jerome Avenue, and turn right onto East 161st Street to the garage. Autos going eastbound across the Macombs Dam Bridge would turn right into Parking Garage A to the underground connection to Parking Garage C. Autos approaching this garage from local streets before a game would mostly use southbound Jerome Avenue, River Avenue or the Grand Concourse, and turn onto East 161st Street to the garage's driveways.

Auto trips from existing parking facilities that may divert to Parking Garage C include the autos that would otherwise use Harlem River parking lots (Parking Lots 13A, 13B, and 13C), the proposed Gateway Center at Bronx Terminal Market garage, illegal parking along East 161st Street, on-street parking under the Macomb's Dam Bridge Approach, and the northbound Major Deegan service road, the existing garage at East 153rd Street/River Avenue (Parking Garage 8), and a portion of on-street parking east of River Avenue. Autos displaced from the parking lot currently on this site (Parking Lot 1), would also be accommodated within this garage.

After a game, autos wanting to proceed westbound across the Macombs Dam Bridge could turn right directly onto the westbound Macomb's Dam Bridge Approach from separate exits on different levels. Autos destined to the northbound Major Deegan could turn left out of the East 161st Street exit onto westbound East 161st Street, turn left onto Jerome Avenue, and turn right onto the northbound Deegan service road. There would be two routes to go southbound on the Major Deegan from Parking Garage C. The majority of autos would likely exit by turning right directly onto the westbound Macomb's Dam Bridge Approach, and turn left onto the southbound Major Deegan on-ramp before the bridge. The other, perhaps less-desirable, route would entail autos exiting at East 161st Street, proceeding east on East 161st Street past River Avenue to the Grand Concourse, turning right onto the southbound Grand Concourse, and proceeding to the flyover ramp to the southbound Major Deegan at the southern end of the Grand Concourse near East 138th Street. Local Bronx trips would be served by exiting onto East 161st Street, turning left towards Jerome Avenue, and turning right onto northbound Jerome Avenue, or turning right on East 161st Street towards the Grand Concourse, and turning left onto the northbound Grand Concourse.

Parking Garage D (949 spaces): Autos using Parking Garage D would be able to access the site from the main driveway on River Avenue between East 150th and 151st Streets and a second, "back door," driveway on Gerard Avenue. Exiting traffic could use the main driveway onto River Avenue or a high-speed exit ramp onto Gerard Avenue at the north end of the garage, just north of East 151st Street.

Before games, most southbound Major Deegan autos could use Exit 6 to the East 153rd Street flyover ramp, turn right onto East 153rd Street, and right onto southbound River Avenue leading to the garage. Autos using the northbound Major Deegan could use Exit 4 and proceed north on River Avenue to the garage. Autos traveling eastbound across the 145th Street Bridge or westbound on East 149th Street could turn onto northbound River Avenue to the garage.

Traffic would be diverted to this garage, for example, from the proposed Gateway Center at Bronx Terminal Market garage, on-street parking east of River Avenue, and the Concourse Plaza Shopping Center. The displaced parking lot trips (Parking Lots 9 and 11) would be accommodated within this garage.

Following a game, there would be multiple routes to return to each major roadway. Using the River Avenue exit, autos making a left turn could continue south on River Avenue to East 149th Street and make a right turn going westbound across the 145th Street Bridge, or continue onto

southbound Exterior Street to the southbound Major Deegan. By turning right onto River Avenue and proceeding north on River Avenue, autos could turn left on East 153rd Street, turn left onto westbound East 157th Street, and turn right onto the northbound Deegan service road. Fewer cars would use the exit onto Gerard Avenue, turn left onto East 153rd Street, and follow the same route as vehicles using northbound River Avenue.

Recreational Facility and Retail Trips by Auto

Recreational facility and retail auto trips were assigned as new trips to/from local streets. Since most of the recreational facilities would be developed on the roofs of Parking Garages A and C, the trips would be most likely to originate from residential areas, such as Jerome Avenue further north of the study area. Hence, all the peak hour parkland trips were assumed to use Jerome Avenue either to Parking Garage C at East 161st Street or Parking Garage C at the Macomb's Dam Bridge Approach. The retail trips would use Parking Garage D, the site of approximately 12,000 square feet of local retail space. Retail trips would primarily originate from the Grand Concourse, so about 70 percent of trips were assumed to approach the site from westbound East 149th Street onto northbound River Avenue, with approximately 30 percent of the trips assumed to use westbound East 153rd Street onto southbound River Avenue to Parking Garage D.

Taxis/Black Cars

Taxis and black cars represent a modest amount of overall traffic to the stadium – for example, they comprise approximately 176 vehicle trips (in and out) in the weeknight pre-game arrival peak hour as compared to approximately 5,777 total auto trips. Taxi and black car trips were assigned to the roadway network, both under existing conditions and under expected future conditions with the new stadium, in order to identify where their shifts could contribute significantly to traffic conditions.

Weeknight and weekend peak hour trip assignments for medallion and gypsy cab pre-game drop-offs have been assumed as follows: approximately 20 percent from the southbound Major Deegan via the Exit 6 flyover ramp to East 153rd Street; approximately 20 percent along eastbound East 161st Street from Anderson or Jerome Avenues, the southbound Major Deegan via Exit 5/Macomb's Dam Bridge Approach, and the Macombs Dam Bridge; about 20 percent westbound on East 161st Street from trip origins further east on East 161st Street and from the southbound Grand Concourse; about 15 percent on southbound River Avenue from further north on River Avenue or the southbound Grand Concourse; approximately 15 percent from the northbound Major Deegan via Exit 5/East 157th Street to East 153rd Street; and about 10 percent on northbound River Avenue from East 149th Street, the northbound Major Deegan via Exit 4/East 149th Street, and the Grand Concourse. Existing pick-ups for peak hour medallion and gypsy cabs have been observed to predominantly occur on East 161st Street east of River Avenue.

Weeknight and weekend peak hour trip assignments for black car pre-game drop-offs have been assumed to be as follows: approximately 20 percent to/from the southbound Major Deegan via the Exit 6 flyover ramp to East 153rd Street; approximately 45 percent along eastbound East 161st Street from the southbound Major Deegan via Exit 5/Macomb's Dam Bridge Approach, the Macombs Dam Bridge, and the northbound Major Deegan Exit 5 via Jerome Avenue; about 5 percent westbound on East 161st Street from the southbound Grand Concourse; and approximately 30 percent from the northbound Major Deegan via Exit 5/East 157th Street to East 153rd Street. Existing pick-ups for peak hour black cars have been observed under existing conditions to primarily occur along East 161st Street east of River Avenue.

As part of the proposed project, a designated taxi/black car pick-up/drop-off area is planned along East 164th Street between Jerome and River Avenues north of the stadium. It is expected that the majority of black cars would use this area, and that the majority of medallion and gypsy cabs would continue to drop off and pick up customers along East 161st Street. It is also expected that there would be a decrease in existing taxi/black car activity that currently occurs along East 153rd Street near home plate of the current stadium ("the Bat" area); this activity would occur closer to the new stadium instead.

BUILD 2009 TRAFFIC VOLUMES

The proposed stadium facilities would provide increased parking, thus reducing trips at some analysis locations further from the stadium, such as the East 161st Street/Grand Concourse intersection and the northbound Major Deegan at Exit 4/East 149th Street intersection, and reducing illegal parking along East 161st Street, the Macomb's Dam Bridge Approach, Jerome Avenue, and the northbound Major Deegan service road. Traffic volumes would increase at intersections closer to the proposed stadium and garages, such as East 153rd Street/East 157th Street, East 161st Street/Macomb's Dam Bridge Approach, and East 161st Street/Jerome Avenue. The following sections provide examples of increased or decreased volumes on roadway links between intersections.

Major Deegan Expressway Northbound: Traffic volumes during the weeknight and weekend pre-game arrival peak hours would decrease on the northbound Major Deegan Exit 4/East 149th Street off-ramp by approximately 190-340 vph. Traffic volumes would increase on the northbound Major Deegan Exit 5/East 157th Street off-ramp by approximately 430 vph. During the post-game departure peak hours, traffic volumes would increase on the northbound Major Deegan service road by up to 125 vph, and by an additional 510-570 vph at Jerome Avenue. This is based on the expected shift of parking demand from Lots 13A, 13B, and 13C to the proposed Parking Garages A and C.

Major Deegan Expressway Southbound: Pre-game arrival traffic volumes can be expected to increase by approximately 390-455 vph on the southbound Major Deegan Exit 5/Macombs Dam Bridge off-ramp, and by about 330-610 vph at East 153rd Street from the southbound Exit 6/Bronx Terminal Market exit. The traffic increase at East 153rd Street would be due to a diversion of about 470-700 vph on the Exit 6 split to Exterior Street and the Harlem River Lots. As a result, the overall volume of traffic using the Major Deegan Exit 6 off-ramp would slightly decrease by about 60-115 vph. During the post-game departure peak hours, traffic volumes would decrease on southbound Exterior Street and River Avenue to the southbound Major Deegan by about 140 vph. Trips would increase on the southbound Major Deegan flyover ramp at East 153rd Street by approximately 300-350, and on the southbound Major Deegan on-ramp at the Macombs Dam Bridge by about 140-150 vph.

Jerome Avenue: Traffic volumes would increase on northbound Jerome Avenue approaching East 161st Street by 340-430 vph before games as more vehicles approach Parking Garage C on East 161st Street, and decrease by approximately 50 vph after games because parking would no longer occur on the northbound Deegan service road. Southbound Jerome Avenue traffic volumes would increase approaching the northbound Deegan service road by 510-560 vph after games because of Parking Garage C traffic, and would decrease by a negligible 10 vph before games due to the elimination of northbound Deegan service road parking.

River Avenue: On River Avenue near East 149th Street, projected volumes would decrease before games by 50 vph in the northbound direction and decrease post-game in the southbound

direction by 10-80 vph. Between East 153rd and 157th Streets, traffic volumes on River Avenue would increase before and after games in the northbound and southbound directions, respectively, because of the entrance to Parking Garage A on East 157th Street west of River Avenue, by 150-250 vph. Near East 161st Street, traffic volumes would increase by 30 vph in the northbound direction before games and increase by approximately 50 vph in the southbound direction after games due to Parking Garage B traffic.

East 161st Street: Near Jerome Avenue, eastbound traffic volumes would increase by 320-370 vph approaching Parking Garage C before games. Westbound East 161st Street volumes after games would increase by 270-300 vph, also because of Parking Garage C. Approaching River Avenue, eastbound volumes would decrease before games by approximately 40 vph because fewer autos would use the garage at East 153rd Street/River Avenue (Parking Garage 8) and could be accommodated in Parking Garage C. Westbound East 161st Street traffic volumes before games would increase slightly (about 10 vph) approaching River Avenue, but decrease substantially after games. These volumes would decrease by 230 vph because fewer cars would need to park on-street along the Grand Concourse, East 161st Street east of River Avenue, on Gerard and Walton Avenues, and in the Concourse Plaza Shopping Center; these trips would most likely use Parking Garage A or C.

Macombs Dam Bridge: On the bridge span, traffic volumes would increase by about 60 vph before games and 40-60 vph after games because fewer autos would park just over the bridge in Manhattan due to increased parking availability in Parking Garages A and C. On the bridge approach on the Bronx side, traffic would increase by 440-470 vph in the eastbound direction due in part to the aforementioned bridge trips, but primarily due to increased trips exiting the southbound Deegan at Exit 5 and turning left towards Parking Garages A, B and C. The post-game westbound bridge approach volumes would increase by 180-220 vph because of increased use of the southbound Deegan ramp just before the bridge.

The Grand Concourse: Pre-game and post-game traffic volumes on the Grand Concourse would generally decrease with additional parking close to the stadium. Some turning movements would be higher and others would be lower, since stadium-related traffic would be concentrated more towards the west near the proposed stadium and parking facilities.

Taxi/Black Car Re-Routing

Due to the diversions toward the proposed stadium and the designated taxi/black car pick up/drop off area on East 164th Street, total peak hour taxi volumes would decrease by 30-35 vph along East 153rd Street between the northbound Major Deegan service road and the southbound Major Deegan flyover ramp in the weeknight and weekend pre-game peak hours; most pick-ups after games have been observed to occur on East 161st Street east of River Avenue, so there would not be a post-game diversion on East 153rd Street. Due to taxi diversions from East 161st Street to East 164th Street, traffic volumes would decrease on East 161st Street between the Macomb's Dam Bridge Approach and River Avenue by about 10-15 vph in the pre-game peak hours and 65 vph in each of the post-game peak hours. Diverted taxi trips onto East 164th Street would increase trips on Jerome and River Avenues between East 164th Street and East 161st Street by about 45-50 vph on each street in the pre-game peak hours and 65 vph in the post-game peak hours.

East 162nd Street Closure

Currently, East 162nd Street is a two-way, one block street connecting Jerome and River Avenues, and consists of "T" intersections on its east and west ends. Traffic volumes on game days range from approximately 220 to 300 vehicles per hour. The road carries relatively few vehicles because it is not a through street, and is one of several two-way streets in a series that connect Jerome Avenue to River Avenue, including East 164th and 165th Streets immediately to the north. Upon the closure of East 162nd Street, autos, taxis and trucks would divert to either East 164th or East 165th Street.

The NYCT Bx13 (Ogden Avenue-W. 181st Street) bus uses eastbound East 162nd Street to complete its southbound Ogden Avenue route to southbound River Avenue, westbound East 161st Street, and southbound Jerome Avenue to return to northbound Ogden Avenue. The bus could divert one block to the north upon closure of East 162nd Street so that instead of turning right onto eastbound East 162nd Street from Jerome Avenue, it would turn right onto eastbound East 164th Street to southbound River Avenue, and continue along the original route back to northbound Ogden Avenue. If the East 162nd Street leg of the route currently serves trips to Yankee Stadium or John Mullaly Park, it could continue to serve those trips on East 164th Street. The bus trips (up to 10 per hour) have been assumed to divert onto East 164th Street in the Build traffic condition.

Southbound River Avenue Reopened Between East 161st and 158th Streets

Currently, southbound River Avenue is closed to vehicular traffic between East 161st and 158th Streets to assist pedestrians who cross the street following the game. In the post-game peak hours, southbound River Avenue vehicles are usually forced to turn right at East 161st Street. With the proposed stadium located north of East 161st Street, this closure would no longer be warranted. Therefore, the Build analyses route vehicles onto southbound River Avenue and eastbound East 161st Street in the future with the proposed stadium. In the post-game peak hours, approximately 75-100 additional trips per hour would proceed southbound on River Avenue past East 161st Street, and about 10-15 additional trips would turn left onto eastbound East 161st Street. These trips would divert from either the southbound River Avenue right turn at East 161st Street or from southbound Gerard Avenue, where they are made today.

Eastbound East 161st Street Service Road Reopened Between Ruppert Place and River Avenue

The eastbound service road on East 161st Street is often closed to vehicular traffic to assist pedestrians crossing East 161st Street after games. During the weeknight game surveyed, this closure was not instituted, so no adjustments to the traffic volumes were necessary. During the weekend game, the service road was closed. When this service road is closed, motorists destined further east to local streets such as Gerard and Walton Avenues and the Grand Concourse must use the main road of East 161st Street to Gerard Avenue and then weave across to the service road. Also, eastbound East 161st Street vehicles destined to southbound River Avenue must bypass this right turn—no right turns are allowed from the main road. So, in the Build traffic volumes, through and right turn volumes were added to the eastbound service road. In the weekend post-game peak hour, approximately 20 vph have been diverted to the eastbound service road right turn onto River Avenue from the main line, and another 180 vph have been diverted to the eastbound service road through movement at River Avenue from the main road.

TRAFFIC LEVELS OF SERVICE AND IMPACTS

The assessment of potential significant traffic impacts of the proposed stadium is based on significant impact criteria defined in the *CEQR Technical Manual*. For No Build LOS A, B, or C

conditions that deteriorate to unacceptable LOS D, E, or F in the future Build condition, a significant traffic impact is defined. For future No Build LOS A, B, or C conditions that deteriorate to LOS D, mitigation to mid-LOS D (45.0 seconds of delay for signalized intersections and 30.0 seconds of delay for unsignalized intersections) is required.

For a No Build LOS D, an increase of Build delay by 5 or more seconds is considered a significant impact if the Build delay meets or exceeds 45.0 seconds. For a No Build LOS E, the threshold is a 4-second increase in Build delay; for a No Build LOS F, a 3-second increase in Build delay is significant. However, if a No Build LOS F condition already has delays in excess of 120 seconds, an increase in Build delay of more than 1 second is considered significant, unless the proposed action would generate fewer than 5 vehicles through that intersection in the peak hour (signalized intersections) and fewer than 5 passenger-car-equivalents (PCEs) in the peak along the critical approach (unsignalized intersections). In addition, for unsignalized intersections, for the minor street to generate a significant impact, 90 PCEs must be identified in the Build condition in any peak hour.

The projection of future Build traffic levels of service was based on a series of improvements to traffic and pedestrian operations that would be incorporated as part of the proposed project, including:

- A major pedestrian crossing of East 161st Street between Ruppert Place and the proposed stadium will necessitate creation of a new signalized intersection with an approximately 60-foot-wide crosswalk to accommodate the large pedestrian flows at this primary location. A signal warrant analysis conducted for this location has shown that the proposed signal would meet NYCDOT signal warrant criteria.
- Signalize the intersection of the Macomb's Dam Bridge Approach and the eastbound East 161st Street service road, and operate the two service road intersections as a single signalized location. Thus, the existing two intersections of East 161st Street's service roads with Macomb's Dam Approach (on both sides of the Macomb's Dam Bridge Approach viaduct over East 161st Street) will effectively be combined into one intersection. Sidewalk widths and crosswalk widths will be expanded at this location as detailed in Chapter 16, "Transit and Pedestrians." A signal warrant analysis conducted for this location has shown that the proposed signal would meet NYCDOT signal warrant criteria.
- Pedestrian priority across River Avenue at East 161st Street in order to facilitate crossings between subway station stairwells on the east side of River Avenue and the new stadium on the west side of River Avenue. A game day crosswalk extension and an all-pedestrian phase, which would be managed and operated by TEAs are assumed at this location to facilitate pedestrian needs.
- Signalize the intersection of East 153rd and East 157th Streets at the entrance/exit for proposed Garage A. A signal warrant analysis for this location has shown that the proposed signal would meet NYCDOT signal warrant criteria.
- Maintaining right-in and right-out only operations at the entrances/exits of proposed Garages A and C along the Macomb's Dam Bridge Approach.
- Re-opening of River Avenue southbound after games between East 161st and East 157th Streets (currently closed post-game).

No other game day traffic operations improvements were made at this stage. Where significant adverse traffic impacts are identified in this section of the FEIS, mitigation measures are identified and evaluated in Chapter 21, "Mitigation." Traffic improvements identified above as

part of the proposed project, together with traffic mitigation measures identified in Chapter 21, would form a game day traffic management plan. The purpose of the analyses conducted for the FEIS was to inform the process and the affected and concerned agencies of the location and magnitude of significant adverse traffic impacts so that an effective traffic management plan can be fashioned to address potential problems.

For example, under existing stadium conditions, NYPD closes sections of River Avenue when needed—primarily as games end—and directs traffic to optimal routes out of the stadium area. Pre-game, at times, the southbound Major Deegan exit ramp to Bronx Terminal Market parking lots is closed depending on the expected attendance for games and expected demand for parking at those lots. The existing game day traffic management plan responds to expected conditions based on expected attendance levels, the opponent (Mets and Red Sox games often get additional treatments), and real-time conditions. It is fully expected that game day planning for the new stadium will receive the same level of attention and action.

The findings of the detailed traffic and parking analyses conducted for the FEIS show that, absent a comprehensive game day traffic management plan tailored to conditions at the new stadium, adverse traffic levels of service and significant adverse traffic impacts can be expected. This would not be dissimilar from existing conditions which are also characterized by adverse pre-game and post-game traffic conditions.

With the proposed project, traffic would be more be concentrated on the streets immediately bordering the new parking garages, including River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, and East 161st Street, as is reported later in this chapter of the FEIS. A total of 34 intersections have been analyzed (23 signalized and 11 unsignalized), including both existing intersections and newly-created intersections, either at proposed parking garage intersections with the local street network or the newly-proposed signalized intersection of 161st Street and Ruppert Place. Tables 15-14 and 15-15 provide a summary of the projected Build levels of service and significant impacts for both weeknight game conditions and for weekend game conditions, respectively. Figures 15-13 through 15-16 provide an illustrative summary of levels of service and potential significant adverse impacts by location within the study area.

Table 15-14
2009 Build Traffic Levels of Service (Overall Intersection LOS):
Weeknight Pre-game and Post-game Traffic Periods

Signalized and Unsignalized Intersections (23 signalized; 11 unsignalized)	No Build Conditions		Build Conditions	
	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour
Overall LOS A/B	7	9	13	9
Overall LOS C	8	4	6	7
Overall LOS D	2	8	2	4
Overall LOS E/F	7	3	13	14
Number of Intersections with Significant Impacts	--	--	13	10
Number of Movements at LOS E or F (of approximately 104 total in No Build, 125 in Build)	21	16	38	30

Table 15-15
2009 Build Traffic Levels of Service (Overall Intersection LOS): Saturday Pre-game and Post-game Traffic Periods

Signalized and Unsignalized Intersections (23 signalized; 11 unsignalized)	No Build Conditions		Build Conditions	
	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour	Pre-game Arrival Peak Hour	Post-game Departure Peak Hour
Overall LOS A/B	3	3	11	2
Overall LOS C	4	4	6	8
Overall LOS D	0	5	1	5
Overall LOS E/F	17	12	16	19
Number of Intersections with Significant Impacts	--	--	15	16
Number of Movements at LOS E or F (of approximately 104 total in No Build, 125 in Build)	31	38	37	50

WEEKNIGHT PRE-GAME ARRIVAL PEAK HOUR

In the weeknight pre-game arrival peak hour, the number of intersections operating under overall LOS E or F conditions would increase from 7 in the No Build condition to 13 in the Build condition (recognizing that there are 9 more intersections being analyzed in the Build condition, mainly at proposed parking garage entrance/exit locations). Thirty-eight specific traffic movements would operate at LOS E or F conditions (out of the 125 analyzed), as compared to 21 such traffic movements (out of 104) in the No Build condition. Thirteen intersections would be significantly impacted. The location of potential significant adverse traffic impacts would be focused primarily on the River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, East 161st Street, and East 153rd/East 157th Street corridors (described later in this chapter).

WEEKNIGHT POST-GAME DEPARTURE PEAK HOUR

In the weeknight post-game departure peak hour, the number of intersections operating under overall LOS E or F conditions would increase from 3 in the No Build condition to 14 in the Build condition (again recognizing that there are 9 more intersections being analyzed in the Build condition, mainly at proposed parking garage entrance/exit locations). Thirty specific traffic movements would operate at LOS E or F conditions (out of the 129 analyzed), as compared to 16 such traffic movements (out of 104) in the No Build condition. Ten intersections would be significantly impacted. The location of potential significant adverse traffic impacts would again, as noted above for the weeknight pre-game arrival peak hour, be focused primarily on the River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, East 161st Street, and East 153rd/East 157th Street corridors, with many of these impacts located at garage exits onto local streets or at intersections immediately adjacent to the garage exits (described later in this chapter).

WEEKEND PRE-GAME ARRIVAL PEAK HOUR

In the weekend pre-game arrival peak hour, the number of intersections operating under overall LOS E or F conditions would decrease from 17 in the No Build condition to 16 in the Build condition (because the two intersections of the Macomb's Dam Bridge Approach and East 161st Street would be signalized and operate as a single intersection). Thirty-seven specific traffic movements would operate at LOS E or F conditions (out of the 125 analyzed), as compared to

31 such traffic movements (out of 104) in the No Build condition. Fifteen intersections would be significantly impacted. The location of potential significant adverse traffic impacts would again be focused primarily on the River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, East 161st Street, and East 153rd/East 157th Street corridors (described later in this chapter).

WEEKEND POST-GAME DEPARTURE PEAK HOUR

In the weekend post-game departure peak hour, the number of intersections operating under overall LOS E or F conditions would increase from 12 in the No Build condition to 19 in the Build condition (again recognizing that there are 9 more intersections being analyzed in the Build condition, mainly at proposed parking garage entrance/exit locations). Fifty specific traffic movements would operate at LOS E or F conditions (out of the 125 analyzed), as compared to 38 such traffic movements (out of 104) in the No Build condition. Sixteen intersections would be significantly impacted. The location of potential significant adverse traffic impacts would again be focused primarily on the River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, East 161st Street, and East 153rd/East 157th Street corridors, with the majority of these impacts located right at garage exits onto local streets (described later in this chapter).

RIVER AVENUE

Including new intersections created at access/egress driveways for proposed garages, a total of 10 intersections were analyzed along River Avenue. As many as six of these intersections can be expected to be significantly impacted during the pre-game and post-game traffic analysis hours. River Avenue is a relatively narrow street in the area, with limited traffic-carrying capacity. The intensity of traffic impacts would be most severe at River Avenue's intersection with East 161st Street, the focal point of thousands of fans crossing River Avenue to get to the new stadium from subway stairwells on the east side of the street before games, and the reverse after games. In order to account for the intensity of pedestrian movements, and the possibility that they would overstep the confines of sidewalk widths and use part of the roadbed, a capacity "penalty" was added to the vehicular analysis, reflecting the high level of friction that would affect vehicular traffic movements. In order to help accommodate the intense pedestrian activities at this intersection, the Build analyses also assume that an all-pedestrian phase would be provided within the signal phasing plan. This further exacerbates vehicular levels of service and delays since that "green time" provided to pedestrians would not be available for use by vehicles.

JEROME AVENUE

Six intersections were analyzed along Jerome Avenue, extending from its western end near the northbound Major Deegan service road and Ogden Avenue to East 165th Street. As many as five of these intersections are expected to be significantly impacted, with the intersection of Jerome Avenue and East 161st Street being most impacted during each of the four traffic analysis periods. This intersection is located immediately before the entrance to proposed Parking Garage C along East 161st Street just east of Jerome Avenue with a substantial amount of stadium traffic expected to use that garage access/egress location. This intersection is also significantly affected by traffic leaving Parking Garage B post-game, heading southbound through this intersection en route to the northbound Major Deegan Expressway. A significant amount of queuing can be expected as cars seek to enter these major new garages pre-game, and to leave them post-game.

THE MACOMB'S DAM BRIDGE APPROACH

Including the intersection of the southbound Major Deegan as it enters the street network just to the east of the Macombs Dam Bridge, and the intersection of Macomb's Place, East 155th Street, and the Macombs Dam Bridge on the west side of the bridge, a total of six intersections were analyzed, including entrance/exit driveways to proposed Parking Garages A and C between the bridge and East 161st Street. As part of initial traffic planning, it was assumed that each of these garage accessways would operate as right turn in and right turn out only, prohibiting left turns across the relatively narrow Macomb's Dam Bridge Approach. Up to three of these intersections would be significantly impacted in the traffic analysis peak hours; each of the intersections would be significantly impacted in Saturday post-game departure peak hours. The same penalty "assessed" at the River Avenue and East 161st Street intersection was also assessed at the intersection of the Macomb's Dam Bridge Approach and East 161st Street due to the concentration of pedestrians leaving and entering Parking Garages A and C at this intersection, and their potential effect on vehicular capacity.

EAST 161ST STREET

The East 161st Street corridor passes right in front of the proposed stadium. Including the new entrance/exit driveways to proposed Parking Garages A and C, a total of seven intersections were analyzed (some have been included as part of the three corridor summaries immediately above). Up to five of these intersections would be significantly impacted during the traffic analysis periods. The newly-signalized intersection of East 161st Street and a 60-foot wide crosswalk to the stadium extending from Ruppert Place, however, can be expected to operate at acceptable levels of service.

EAST 153RD AND 157TH STREETS

For the most part, the six intersections situated along these two streets, are located at the entrance/exits to proposed or existing garages (proposed Parking Garages A and C, and existing Parking Garage 8) or nearby. Three to four of these intersections would be significantly impacted during the traffic analysis hours.

As noted previously, for the most part, significant traffic impacts would be caused by the concentration of thousands of new parking garage spaces along the corridors leading to them—River Avenue, Jerome Avenue, the Macomb's Dam Bridge Approach, East 161st Street, and East 153rd/East 157th Streets. Today, many of these cars are either parking: (1) on the west side of Exterior Street for which there is direct access from the southbound Major Deegan with a long exit ramp, which does not affect streets near the stadium, but is not nearly as direct a walk to the stadium as it would be under the proposed project; (2) on the service road of the northbound Major Deegan and illegally on East 161st Street and in the local community; and (3) at a much greater walking distance from the stadium, such as in the Concourse Plaza Shopping Center parking garage and on streets well-distanced from the stadium. The location of new parking garages with thousands of spaces right across from the proposed stadium would provide much-needed parking close to the new stadium but would also concentrate traffic flows above street capacity at streets near the stadium. The provision of additional green time for pedestrians, where needed at key locations, also contributes to exacerbated vehicular traffic conditions.

Many of these potential significant adverse traffic impacts can be mitigated by standard traffic engineering capacity improvements, e.g., signalization improvements, prohibition of parking and enforcement of No Parking areas to gain travel lanes, and other similar measures. Other impact locations will require the development and implementation of a game day traffic management

plan that goes beyond the improvements described as part of the proposed project and beyond the mitigation measures described in Chapter 21, "Mitigation." It could include, for example, signage directing fans to specific parking areas when key streets are becoming congested, and turn prohibitions or even street closures for short periods pre-game or post-game that direct vehicular traffic away from locations saturated with pedestrians. These measures and plans are reviewed further in Chapter 21, "Mitigation."

PARKING

The proposed project would increase net parking supplies in the area by 3,315 spaces. Proposed Parking Garages A and C, totaling 2,820 spaces, would replace existing Lots 1 (412 spaces) and 14 (231 spaces, dedicated solely to New York Yankees staff and personnel). As described previously, these two proposed garages would be connected underground, beneath the Macomb's Dam Bridge Approach. Access and egress to the street network would be provided at two locations along East 157th Street, three locations along the Macomb's Dam Bridge Approach, and one location along East 161st Street. This would afford fans parking there with several options to enter and leave. Proposed Parking Garage B, with 966 spaces, would be located along the north edge of the new stadium, approximately where East 162nd Street is located today. Under the proposed action, East 162nd Street would be demapped to provide space for the northern part of the stadium and for this proposed garage. Proposed Parking Garage D, totaling 949 spaces, would be located along the east side of River Avenue between East 150th and East 151st Streets, replacing existing Parking Lot 9 (76 spaces) and Parking Lot 11 (176 spaces). Existing Parking Lots 5 and 6 (59 and 76 spaces, respectively) would also be removed.

As shown in Table 15-16, the existing supply of Yankee Stadium-dedicated parking spaces would increase slightly from the existing 7,425 spaces to 7,859 spaces under the No Build condition as two existing parking facilities (Garage 12 and Lot 13D) are replaced by the planned Gateway Center at Bronx Terminal Market retail development with about 1,200 spaces available there for Yankees fans. The four proposed garages would provide 4,735 parking spaces, while 895 spaces would be removed from the surface lots currently on those sites. Park space would displace 135 spaces in Lots 5 and 6. Re-striping and limited valet parking would expand the capacity of lots 7, 10, 13A, 13B, 13C, and 15 by 376 spaces. Overall, the proposed action would increase the total off-street parking supply to 10,740 spaces (with 10,310 of these in Yankee Stadium-dedicated parking facilities)—a net increase of 3,315 spaces over existing conditions.

Table 15-16
Projected Parking Spaces

Existing Facility	Proposed Facility	Existing Capacity	No Build Capacity	Build Capacity
1		412	412	0
3		1,205	1,205	1,205
5		59	59	0
6		76	76	0
7		150	150	220
8		2,411	2,411	2,411
9		76	76	0
10		114	114	172
11		176	176	0
12		470	0	0
13A		400	400	407
13B		504	504	550
13C		210	210	221
13D		296	0	0
14		231	231	0
15		205	205	389
	A	0	0	1,700
	B	0	0	966
	C	0	0	1,120
	D	0	0	949
	Subtotal	**6,995**	**6,229**	**10,310**
Rex Parking Lot		225	225	225
Bautista Parking Lot		50	50	50
Kinney Parking Garage		155	155	155
Gateway Center Garage*		0	1,200	0
Totals		**7,425**	**7,859**	**10,740**

Note: * The Gateway Center Garage capacity listed is the approximate number of spaces that would be available to Yankees fans parking during the Yankees season in the No Build condition. In the Build condition, the facility would not likely be used by Yankees fans.

These parking supply totals include other "non-Yankee Stadium" parking facilities available in the area to Yankees fans on game days, including: the Rex parking site near the intersection of East 153rd and East 157th Streets near the "Bat" area of the existing stadium, and its 225 spaces; the Bautista parking site at East 151st Street between Gerard and Walton Avenues, and its 50 parking spaces; and the Kinney parking site at East 161st Street and River Avenue, with its 155 parking spaces. Parking spaces within the Gateway Center at Bronx Terminal Market development's garages would likely not be needed and are not included in the totals, however, and with the other three general parking facilities (providing a total of 430 spaces), there would be 10,740 spaces potentially available to Yankees fans on sellout game days. This increased number of parking spaces that would result from the proposed project would still not accommodate every stadium attendee driving to the stadium, but it would represent a substantial improvement over existing conditions. A number of fans would still seek to park on-street, as they do today.

A detailed projection of parking accumulation for each Yankee Stadium-dedicated parking facility is provided in Tables 15-17 and 15-18 for the weeknight and weekend game conditions. They indicate that, overall, weeknight parking demands and weekend parking demands could both be fully accommodated by the combination of parking lots and garages dedicated to Yankees fan use. On weeknights, they would be approximately 87 percent occupied, while on weekends they would be approximately 91 percent occupied. In parking estimation, approximately 90 percent occupancy is generally defined as full occupancy. Table 15-19 shows the total parking accumulation for the weeknight and weekend Build scenarios.

Table 15-17
Projected Parking Accumulation—Weeknight Build Scenario

Time	Parking Garage No. 3				Parking Lot No. 7				Parking Garage No. 8				Parking Lot No. 10			
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.
3 – 4 PM	0	0	0	0%	0	0	0	0%	0	0	0	0%	0	0	0	0%
4 – 5 PM	153	0	153	13%	2	0	2	1%	310	0	310	13%	25	0	25	15%
5 – 6 PM	583	0	736	61%	85	0	87	40%	1212	0	1,522	63%	59	0	84	49%
6 – 7 PM	157	0	893	74%	70	0	157	71%	350	0	1,872	78%	45	0	129	75%
7 – 8 PM	152	0	1,045	87%	48	0	205	93%	130	0	2,002	83%	0	0	129	75%
8 – 9 PM	0	0	1,045	87%	0	0	205	93%	0	0	2,002	83%	0	0	129	75%
9 – 10 PM	0	15	1,030	85%	0	5	200	91%	0	20	1,982	80%	0	4	125	73%
10 – 11 PM	0	926	104	9%	0	139	61	28%	0	1,723	259	11%	0	82	43	25%
11 PM – 12 AM	0	104	0	0%	0	61	0	0%	0	259	0	0%	0	43	0	0%

Time	Parking Lot No. 13A				Parking Lot No. 13B				Parking Lot No. 13C				Parking Lot No. 15			
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.
3 – 4 PM	0	0	0	0%	0	0	0	0%	0	0	0	0%	0	0	0	0%
4 – 5 PM	15	0	15	4%	7	0	7	1%	4	0	4	2%	4	0	4	1%
5 – 6 PM	87	0	102	25%	112	0	119	22%	86	0	90	41%	233	0	237	61%
6 – 7 PM	140	0	242	59%	149	0	268	49%	54	0	144	65%	80	0	317	81%
7 – 8 PM	50	0	292	72%	115	0	383	70%	0	0	144	65%	11	0	328	84%
8 – 9 PM	0	0	292	72%	0	0	383	70%	0	0	144	65%	0	0	328	84%
9 – 10 PM	0	0	292	72%.	0	0	383	70%	0	0	144	65%	0	5	323	83%
10 – 11 PM	0	252	40	10%	0	284	99	18%	0	119	25	11%	0	323	0	0%
11 PM – 12 AM	0	40	0	0%	0	99	0	0%	0	25	0	0%	0	0	0	0%

Time	Rex Parking Lot				Bautista Parking Lot				Kinney Garage							
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.				
3 – 4 PM	0	0	0	0%	0	0	0	0%	0	0	0	0%				
4 – 5 PM	0	0	0	0%	0	0	0	0%	0	0	0	0%				
5 – 6 PM	0	0	0	0%	0	0	0	0%	40	0	40	26%				
6 – 7 PM	20	0	20	9%	20	0	20	40%	30	0	70	45%				
7 – 8 PM	160	0	180	80%	10	0	30	60%	75	0	145	94%				
8 – 9 PM	0	0	180	80%	0	0	30	60%	0	0	145	94%				
9 – 10 PM	0	0	180	80%	0	0	30	60%	0	0	145	94%				
10 – 11 PM	0	30	150	67%	0	30	0	0%	0	125	20	13%				
11 PM – 12 AM	0	150	0	0%	0	0	0	0%	0	20	0	0%				

Time	Parking Garage A				Parking Garage B				Parking Garage C				Parking Garage D			
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.
3 – 4 PM	0	0	0	0%	50	0	50	5%	0	0	0	0%	0	0	0	0%
4 – 5 PM	320	0	320	19%	70	0	120	12%	142	0	142	13%	25	0	25	3%
5 – 6 PM	1,299	0	1,619	95%	359	0	479	50%	625	2	765	68%	221	18	228	24%
6 – 7 PM	81	0	1,700	100%	307	0	886	81%	355	0	1,120	100%	238	0	466	49%
7 – 8 PM	0	0	1,700	100%	180	0	966	100%	0	0	1,120	100%	175	0	641	68%
8 – 9 PM	0	0	1,700	100%	0	0	966	100%	0	0	1,120	100%	0	0	641	68%
9 – 10 PM	0	25	1,675	99%	0	70	896	93%	0	20	1,100	98%	0	5	636	67%
10 – 11 PM	0	1,596	79	5%	0	541	355	37%	0	1048	52	5%	4	375	265	28%
11 PM – 12 AM	0	79	0	0%	0	355	0	0%	0	52	0	0%	0	265	0	0%

Table 15-18
Projected Parking Accumulation—Weekend Build Scenario

Time	Parking Garage No. 3				Parking Lot No. 7				Parking Garage No. 8				Parking Lot No. 10			
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.
10 – 11 AM	0	0	0	0%	0	0	0	0%	0	0	0	0%	0	0	0	0%
11 AM – 12 PM	286	0	286	24%	40	0	40	18%	639	0	639	27%	90	0	90	52%
12 PM – 1 PM	766	0	1052	87%	100	0	140	64%	1401	0	2040	85%	64	0	154	90%
1 PM – 2 PM	45	0	1097	91%	68	0	208	95%	41	0	2081	86%	0	0	154	90%
2 PM – 3 PM	0	0	1097	91%	0	0	208	95%	0	0	2081	86%	0	0	154	90%
3 PM – 4 PM	0	42	1055	88%	0	22	186	85%	0	60	2021	84%	0	12	142	83%
4 – 5 PM	0	1028	27	2%	0	132	54	25%	0	1816	205	9%	0	85	57	33%
5 – 6 PM	0	27	0	0%	0	54	0	0%	0	205	0	0%	0	57	0	0%
Time	**Parking Lot No. 13A**				**Parking Lot No. 13B**				**Parking Lot No. 13C**				**Parking Lot No. 15**			
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.
10 – 11 AM	0	0	0	0%	0	0	0	0%	0	0	0	0%	0	0	0	0%
11 AM – 12 PM	253	0	253	62%	325	0	325	59%	75	0	75	34%	82	0	82	21%
12 PM – 1 PM	104	0	357	88%	135	0	460	84%	105	0	180	81%	255	0	337	87%
1 PM – 2 PM	0	0	357	88%	0	0	460	84%	0	0	180	81%	0	0	337	87%
2 PM – 3 PM	0	0	357	88%	0	0	460	84%	0	0	180	81%	0	0	337	87%
3 PM – 4 PM	0	0	357	88%	0	0	460	84%	0	0	180	81%	0	5	332	85%
4 – 5 PM	0	204	153	38%	0	253	207	38%	0	130	50	23%	0	322	10	3%
5 – 6 PM	0	153	0	0%	0	207	0	0%	0	50	0	0%	0	10	0	0%
Time	**Rex Parking Lot**				**Bautista Parking Lot**				**Kinney Garage**							
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.				
10 – 11 AM	0	0	0	0%	0	0	0	0%	0	0	0	0%				
11 AM – 12 PM	0	0	0	0%	0	0	0	0%	75	0	75	48%				
12 PM – 1 PM	0	0	0	0%	10	0	10	20%	80	0	155	100%				
1 PM – 2 PM	195	0	195	87%	40	0	50	100%	0	0	155	100%				
2 PM – 3 PM	0	0	195	87%	0	0	50	100%	0	0	155	100%				
3 PM – 4 PM	0	20	175	78%	0	0	50	100%	0	30	125	81%				
4 – 5 PM	0	30	145	64%	0	30	20	40%	0	95	30	19%				
5 – 6 PM	0	145	0	0%	0	20	0	0%	0	30	0	0%				
Time	**Parking Garage A**				**Parking Garage B**				**Parking Garage C**				**Parking Garage D**			
	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.	IN	OUT	ACC.	%OCC.
10 – 11 AM	0	0	0	0%	70	0	120	12%	0	0	0	0%	0	0	0	0%
11 AM – 12 PM	238	0	238	14%	373	0	493	51%	250	0	250	22%	106	0	106	11%
12 PM – 1 PM	1,462	0	1,700	100%	419	0	912	94%	874	4	1,120	100%	276	18	364	38%
1 PM – 2 PM	0	0	1,700	100%	54	0	966	100%	18	0	1,120	100%	309	0	673	71%
2 PM – 3 PM	0	0	1,700	100%	0	0	966	100%	0	0	1,120	100%	0	0	673	71%
3 PM – 4 PM	0	8	1,692	100%	0	59	907	94%	0	6	1,114	99%	0	32	641	68%
4 – 5 PM	0	1,687	5	0%	0	563	344	36%	0	1,109	5	0%	15	457	199	21%
5 – 6 PM	0	5	0	0%	0	284	60	6%	0	5	0	0%	0	199	0	0%

Table 15-19
Total Parking Accumulation—Weeknight and Weekend Build Scenarios

Time	Weeknight				Weekend			
	TOTAL IN	TOTAL OUT	TOTAL ACC.	% OCC.	TOTAL IN	TOTAL OUT	TOTAL ACC.	% OCC.
10:00AM-11:00AM	0	0	0	0%	70	0	120	1%
11:00AM-12:00PM	0	0	0	0%	2,832	0	2,952	27%
12:00PM-1:00PM	0	0	0	0%	6,051	22	8,981	84%
1:00PM-2:00PM	0	0	0	0%	752	0	9,733	91%
2:00PM-3:00PM	0	0	0	0%	0	0	9,733	91%
3:00PM-4:00PM	50	0	50	0%	0	296	9,437	88%
4:00PM-5:00PM	1,077	0	1,127	10%	15	7,941	1,511	14%
5:00PM-6:00PM	5,001	20	6,108	57%	0	1,451	60	1%
6:00PM-7:00PM	2,096	0	8,204	76%	0	60	0	0%
7:00PM-8:00PM	1,106	0	9,310	87%	0	0	0	0%
8:00PM-9:00PM	0	0	9,310	87%	0	0	0	0%
9:00PM-10:00PM	0	169	9,141	85%	0	0	0	0%
10:00PM-11:00PM	0	7,593	1,548	14%	0	0	0	0%
11:00PM-12:00AM	0	1,548	0	0%	0	0	0	0%

New proposed Parking Garages A, B, and C are projected to be 100 percent occupied; they would be the closest garages to the new stadium. New Parking Garage D, located several blocks south of the new stadium, would reach approximately 68 to 71 percent occupancy. The five other existing parking facilities near the stadium (Parking Lots/Parking Garages 3, 7, 8, 10, and 15) would reach occupancy levels generally in the 75 to 95 percent range. The three parking lots most remote from the stadium, which are accessed by the pedestrian overpass over the Metro-North Railroad tracks, would reach about 65 to 88 percent occupancy as a result of their locations relative to new garages next to the stadium.

VEHICULAR AND PEDESTRIAN SAFETY

The *CEQR Technical Manual* calls for an assessment of vehicular and pedestrian safety for proposed projects. Traffic accident data were supplied for this project by NYCDOT for the three-year period from 1999 through 2001. Table 15-20 presents a summary of the number of accidents reported for intersections located within the FEIS's traffic analysis area.

Table 15-20
Traffic Study Area Accident History (1999-2001)

Location	1999 Total Accidents	1999 Pedestrian Accidents	2000 Total Accidents	2000 Pedestrian Accidents	2001 Total Accidents	2001 Pedestrian Accidents	3 Year Average (All)	3 Year Average (Peds)
River/149th	11	0	10	0	7	0	9.3	0.0
Deegan/157th	0	0	0	0	0	0	0.0	0.0
River 153rd	4	0	9	0	10	0	7.7	0.0
Gerard/153rd	1	0	1	0	4	0	2.0	0.0
River/151st	2	0	3	0	7	0	4.0	0.0
Gerard/151st	2	0	5	0	6	0	4.3	0.0
River/157th	4	0	4	0	3	0	3.7	0.0
River/161st	24 (1)	2	16	3	4	0	14.7	1.7
Walton/161st	5	0	12	0	9	0	8.7	0.0
Jerome/MDB	15 (2)	0	21	1	15	1	17.0	0.7
MDB Ramp	6	0	8	0	2	0	5.3	0.0
Gerard/161st	6	0	11	3	18	3	11.7	2.0
River/162nd	6	0	0	0	2	0	2.7	0.0
Jerome/164th	6	1	8	0	5	1	6.3	0.7
River/164th	7	0	2	0	1	0	3.3	0.0
Jerome/165th	8	0	13	0	8	1	9.7	0.3
River/165th	11	0	8	1	6	1	8.3	0.7
Gerard/165th	10	1	9	0	7	0	8.7	0.3
Concourse/149th	16	0	36 (4)	4	33 (5)	5	28.3	3.0
Concourse/151st	7	0	10	0	12	0	9.7	0.0
Concourse/158th	15 (3)	1	9	0	12	0	12.0	0.3
Gerard/164th	0	0	0	0	7	1	2.3	0.3

Notes: (1) includes 21 personal injuries
(2) includes 20 personal injuries
(3) includes 26 personal injuries
(4) includes 27 personal injuries
(5) includes 31 personal injuries

A review of Table 15-18 indicates that there are four moderate-to-high total accident locations today: (1) the Grand Concourse and East 149th Street (28.3 total accidents per year), which is outside the stadium traffic study area, and which may receive lower traffic demands as a result of the proposed project; (2) Jerome Avenue and the Macomb's Dam Bridge Approach (17.0 accidents per year), which would be a focus of increased traffic with the proposed action; (3) River Avenue and East 161st Street (14.7 total accidents per year), which is the site of

substantial vehicular and pedestrian traffic under existing conditions and would remain a major vehicular and pedestrian focal point under the proposed project; and (4) the Grand Concourse and East 158th Street (12.0 total accidents per year), which would also not receive new traffic under the proposed project.

With regard to pedestrian accidents, none of the critical intersections in the traffic study area are the focal points of significant pedestrian accidents under existing conditions.

The proposed stadium and its garages would shift vehicular and pedestrian activity to streets and intersections along River Avenue, Jerome Avenue, Macombs Dam Bridge, and East 161st Street. Game-day traffic management plans would seek to minimize safety risks to pedestrians and vehicles.

The permanent closure of East 162nd Street between River Avenue and Jerome Avenue would shift East 162nd Street traffic to other connecting east-west streets, most notably East 164th Street, which is the next street to the north. The projected shift in volume would be modest, and neither River Avenue/East 164th Street nor Jerome Avenue/East 164th Street is a high accident location, and both would be unlikely to deteriorate to that level given their current averages of 3.3 and 6.3 accidents per year, respectively.

F. THE MAJOR DEEGAN EXPRESSWAY

Because of its importance to regional travel and proximity to the project site, analyses were performed to assess the potential impacts of the proposed stadium on the Major Deegan Expressway. The key northbound and southbound Major Deegan Expressway segments in the vicinity of on-ramps and off-ramps (influence area) were analyzed, including the section of the northbound Major Deegan Expressway between the East 138th Street on-ramp and the Major Deegan service road on-ramp north of Jerome Avenue, including diverges at the Exit 4/East 149th Street off-ramp and the Exit 5/East 157th Street off-ramp, and the southbound Major Deegan Expressway diverges at Exit 5/Macombs Dam Bridge and Exit 6/Bronx Terminal Market.

It is beyond the scope of the *2000 HCM* to analyze a highway section that is operating at over-saturated conditions. Therefore, a simulation of the Major Deegan Expressway corridor using the CORSIM model was used instead, because it better replicates existing and projected future conditions on the highway, which are at congested levels of service at numerous locations today on game days and even on non-game days. The ability to account for traffic conditions that influence the immediate study area is critical when modeling traffic conditions before and after Yankees games, and during any peak hour when delays on the northbound Major Deegan Expressway result from traffic congestion entering the Highbridge Interchange north of the area.

The CORSIM model reports the density in passenger cars per mile per lane (pc/mi/ln) and an average speed for the highway section being analyzed, but does not readily report the level of service. Levels of service are necessary to assess potential impacts of the proposed stadium on the highway as per *CEQR Technical Manual* guidelines. The *2000 HCM* defines level of service thresholds for merge and diverge areas using density in pc/mi/ln, and these thresholds have been applied to the results of the CORSIM model. The level of service thresholds for each density range are as follows:

- LOS A describes operations with very low densities (i.e., 0–10 pc/mi/ln) and high free flow speeds.

- LOS B describes operations with fairly low densities (i.e., 10.1–20 pc/mi/ln) and moderate to high free flow speeds.
- LOS C describes operations with moderate densities (i.e., 20.1–28 pc/mi/ln) and moderate free flow speeds.
- LOS D describes operations with moderate to high densities (i.e., 28.1–35 pc/mi/ln) and moderate to low free flow speeds. A mid-LOS D density of 30 pc/mi/ln is considered the high range of acceptable density. Densities greater than 30 pc/mi/ln are unacceptable but are commonplace on highways in New York City.
- LOS E describes operations with high densities (i.e., 35.1 and higher pc/mi/ln) and low free flow speeds. 45 pc/mi/ln is considered the maximum density for sustained flows at capacity on a typical freeway. Queuing can begin at densities higher than this.
- LOS F describes operations with very high densities and very low free flow speeds. Queuing is common within LOS F, which leads to failure conditions and congestion.

According to the *CEQR Technical Manual*, highway or ramp sections being analyzed—including mainline capacity sections, weaving areas, and ramp junctions—should not deteriorate more than one-half of a level of service between No Build and Build conditions when No Build level of service is in the D, E, or F range. The following significant impact criteria clarifications have been provided by the New York City Department of City Planning and used in the Build analyses to assess potential impacts of the proposed development on the Major Deegan Expressway:

- For No Build LOS D to Build LOS D: Since the starting value of LOS E is 28 pc/mi/ln and the highest value of LOS E is 35 pc/mi/ln, one half of the difference between these two is 3.5 pc/mi/ln. Hence, an increase in the projected density of 4 pc/mi/ln or more as a result of traffic volume added between the No Build and Build conditions is considered a significant impact.
- For No Build LOS D to Build LOS E: Since the value of mid-LOS D is 31.5 pc/mi/ln and the starting value of LOS E is 35 pc/mi/ln, one half of the difference between these two is 1.75 pc/mi/ln. Therefore, an increase in the projected density of 2 pc/mi/ln or more between No Build and Build is considered a significant impact.
- For No Build LOS E to Build LOS F: The same criteria as No Build LOS D to Build LOS E applies.

According to these guidelines, at least one section or analysis location on the northbound Major Deegan Expressway would be significantly impacted in all peak hours under Build conditions even though, in some cases, these significant impacts were identified for decreases in travel speeds of less than 1 to 2 miles per hour, which would likely be imperceptible to most motorists.

The southbound Major Deegan would be significantly impacted upstream of the Exit5/Macombs Dam Bridge off-ramp in both the weeknight and weekend pre-game peak hours. The southbound expressway would not be impacted in the post-game peak hours. A summary of findings is presented in Table 15-21, and mitigation measures are addressed in Chapter 21, "Mitigation," including the use of highway variable message signs (VMSs) and on-street signage to direct traffic to appropriate highway access and egress routes.

Table 15-21
Overview of Significant Impact Findings: Major Deegan Expressway

Analysis Period	Northbound Major Deegan	Southbound Major Deegan
Weeknight Pre-game Peak Hour	4 "significant impacts," with average speed reductions of 0.2 to 3.3 mph	2 "significant impacts," with very substantial speed reductions.
Weeknight Post-game Peak Hour	2 "significant impacts," with average speed reductions of 0.8 and 7.1 mph	No "significant impacts"
Weekend Pre-game Peak Hour	1 "significant impact," with average speed reduction of 0.8 mph	2 "significant impacts," with very substantial speed reductions
Weekend Post-game Peak Hour	2 "significant impact," with average speed reduction of 0.3 mph	No "significant impacts"

NORTHBOUND MAJOR DEEGAN EXPRESSWAY

EXISTING CONDITIONS

Traffic volumes on the Major Deegan mainline range from 3,590 to 4,920 vph between the East 138th Street on-ramp and East 149th Street off-ramp, 3,380 to 4,330 vph between the East 149th Street off-ramp and the East 157th Street off-ramp, and from 2,210 to 4,190 vph between the East 157th Street off-ramp and the Major Deegan service road on-ramp. Existing traffic volumes exiting the Major Deegan Expressway at the East 149th Street off-ramp range from approximately 210 to 810 vph. Exiting traffic volumes at the East 157th Street off-ramp range from approximately 940 to 1195 vph during pre-game peak hours; the ramp is closed during post-game periods. Existing traffic entering the Major Deegan Expressway at the service road on-ramp range from 1,400 to 1,960 vph.

Table 15-22 shows existing levels of service, speeds, and densities for the northbound Major Deegan Expressway. As shown in Table 15-20, existing conditions just before the East 149th Street off-ramp are only at marginally-acceptable LOS D conditions in the weeknight post-game departure peak hour; all other peak periods operate at unacceptable LOS E or F conditions. Recurring delays related to the Cross Bronx Expressway interchange further north frequently cause queues to extend into this area of the northbound Major Deegan Expressway.

Table 15-22
Existing Conditions on the Northbound Major Deegan Expressway

Approach	Existing Weeknight Pre-game Peak Hour			Existing Weeknight Post-game Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
South of East 138th Street On-Ramp Merge	10.1	128.9	F	39.0	27.4	C
Between East 138th On-Ramp Merge and 149th Off-Ramp Diverge	12.4	116.2	F	33.8	34.7	D
Between East 149th Off-Ramp Diverge and East 157th Off-Ramp Diverge	18.6	70.9	F	32.6	35.6	E
Between East 157th Off-Ramp Diverge and Major Deegan Service Road On-Ramp Merge	19.1	53.9	F	17.1	56.9	F
North of Major Deegan Service Road On-Ramp Merge	18.0	74.4	F	30.9	40.6	E
Approach	**Existing Weekend Pre-game Peak Hour**			**Existing Weekend Post-game Peak Hour**		
	Speed (mph)	**Density (pc/mi/ln)**	**LOS**	**Speed (mph)**	**Density (pc/mi/ln)**	**LOS**
South of East 138th Street On-Ramp Merge	25.1	51.9	F	6.4	152.4	F
Between East 138th On-Ramp Merge and 149th Off-Ramp Diverge	14.8	94.7	F	9.0	117.0	F
Between East 149th Off-Ramp Diverge and East 157th Off-Ramp Diverge	26.3	43.5	E	6.9	143.8	F
Between East 157th Off-Ramp Diverge and Major Deegan Service Road On-Ramp Merge	20.2	53.7	F	7.7	128.6	F
North of and Major Deegan Service Road On-Ramp Merge	18.9	59.1	F	14.6	78.2	F

NO BUILD CONDITIONS

Traffic volumes on the analyzed sections of the Major Deegan Expressway mainline are expected to increase at a rate of approximately 2.5 percent between 2004 and 2009, plus there would be traffic generated by other background development projects such as the proposed Gateway Center at Bronx Terminal Market retail development. In the 2009 No Build condition, traffic volumes would increase by about 55 to 365 vph on the mainline segments between the East 138th Street on-ramp and Major Deegan service road on-ramp, 5 to 290 vph on the East 149th Street off-ramp, 0 to 25 vph on the East 157th Street off-ramp, and 45 to 375 vph on the service road on-ramp.

Table 15-23 shows 2009 No Build levels of service, speeds, and densities for the northbound Major Deegan Expressway.

Table 15-23
2009 No Build Conditions on the Northbound Major Deegan Expressway

Approach	No Build Weeknight Pre-game Peak Hour			No Build Weeknight Post-game Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
South of East 138th Street On-Ramp Merge	16.2	93.8	F	39.0	27.9	C
Between East 138th On-Ramp Merge and 149th Off-Ramp Diverge	18.6	84.7	F	33.8	35.1	E
Between East 149th Off-Ramp Diverge and East 157th Off-Ramp Diverge	14.2	101.2	F	31.0	37.8	E
Between East 157th Off-Ramp Diverge and Major Deegan Service Road On-Ramp Merge	8.7	127.8	F	11.4	86.1	F
North of and Major Deegan Service Road On-Ramp Merge	11.9	113.0	F	24.1	55.1	F
Approach	**No Build Weekend Pre-game Peak Hour**			**No Build Weekend Post-game Peak Hour**		
	Speed (mph)	**Density (pc/mi/ln)**	**LOS**	**Speed (mph)**	**Density (pc/mi/ln)**	**LOS**
South of East 138th Street On-Ramp Merge	32.8	43.3	E	6.5	151.3	F
Between East 138th On-Ramp Merge and 149th Off-Ramp Diverge	32.3	44.1	E	9.1	115.2	F
Between East 149th Off-Ramp Diverge and East 157th Off-Ramp Diverge	27.5	44.6	E	6.8	144.1	F
Between East 157th Off-Ramp Diverge and Major Deegan Service Road On-Ramp Merge	19.2	57.8	F	7.4	133.2	F
North of and Major Deegan Service Road On-Ramp Merge	18.2	69.3	F	13.3	82.0	F

The 2009 No Build and 2009 Build analyses include ramp mitigation measures specified in the *Gateway Center at Bronx Terminal Market FEIS*. These include widening of the East 149th Street off-ramp to two lanes, and signal modifications at the intersection of East 149th Street and Exterior Street and at the intersection of the northbound Major Deegan Expressway off-ramp at East 157th Street.

The 2009 No Build conditions just before the East 138th Street on-ramp would operate at acceptable LOS C conditions in the weeknight post-game departure peak hour; all other peak periods would operate at unacceptable LOS E or F conditions. Compared to existing conditions, the levels of service just before the East 149th Street off-ramp would remain at unacceptable LOS E or F, however during the pre-game periods, there would be some noticeable improvement in flow conditions due to the widening of the off-ramp.

BUILD CONDITIONS

Compared to 2009 No Build conditions, the proposed stadium would produce a shift of traffic volumes from the East 149th Street off-ramp to the East 157th Street off-ramp during the pre-game periods. There would be a decrease of approximately 195 to 335 vph on the East 149th Street off-ramp, and an increase of approximately 425 vph on the East 157th Street off-ramp. During the post-game peak periods, volumes would not change on the East 149th Street off-ramp from the 2009 No Build to 2009 Build conditions, and the East 157th Street ramp would remain closed.

There would be an increase in traffic volumes on the Major Deegan service road on-ramp during the post-game periods of approximately 575 to 610 vph as the volume of traffic exiting from proposed Garages A and C would significantly use this on-ramp.

Table 15-24 shows projected 2009 Build levels of service, speeds, and densities for the northbound Major Deegan Expressway.

Table 15-24
2009 Build Conditions on the Northbound Major Deegan Expressway

Approach	Build Weeknight Pre-game Peak Hour			Build Weeknight Post-game Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
South of East 138th Street On-Ramp Merge	12.9	117.7	F	38.9	27.7	C
Between East 138th On-Ramp Merge and 149th Off-Ramp Diverge	15.8	99.9	F	33.7	33.3	E
Between East 149th Off-Ramp Diverge and East 157th Off-Ramp Diverge	13.3	115.8	F	30.9	38.1	E
Between East 157th Off-Ramp Diverge and Major Deegan Service Road On-Ramp Merge	8.5	130.9	F	10.6	108.4	F
North of and Major Deegan Service Road On-Ramp Merge	11.7	114.1	F	17.0	84.1	F
Approach	**Build Weekend Pre-game Peak Hour**			**Build Weekend Post-game Peak Hour**		
	Speed (mph)	**Density (pc/mi/ln)**	**LOS**	**Speed (mph)**	**Density (pc/mi/ln)**	**LOS**
South of East 138th Street On-Ramp Merge	33.3	43.5	E	6.2	153.2	F
Between East 138th On-Ramp Merge and 149th Off-Ramp Diverge	33.0	43.1	E	8.8	112.6	F
Between East 149th Off-Ramp Diverge and East 157th Off-Ramp Diverge	26.7	50.4	F	6.9	143.3	F
Between East 157th Off-Ramp Diverge and Major Deegan Service Road On-Ramp Merge	18.5	59.4	F	7.4	133.4	F
North of and Major Deegan Service Road On-Ramp Merge	18.1	68.3	F	11.4	84.8	F

During the pre-game periods, expressway densities would increase from the East 138th Street on-ramp to the East 157th Street off-ramp. Specifically, the segment between the East 149th Street off-ramp and East 157th Street off-ramp would deteriorate from unacceptable LOS E to LOS F during the weekend pre-game arrival peak hour. Other pre-game levels of service would remain the same from 2009 No Build to 2009 Build conditions; however, some of the 2009 Build densities indicate significant impacts. The overall density increases are due to the shift of traffic from the East 149th Street off-ramp to the East 157th Street off-ramp, adding traffic to the expressway mainline for less than a half-mile, exiting at an off-ramp further north.

During the post-game peak periods, the increase in traffic volumes on the Major Deegan service road on-ramp would slow vehicles and increase density conditions on the mainline at the merger. The segment of the Major Deegan Expressway immediately north of the on-ramp would remain at unacceptable LOS F, and the densities would indicate a significant impact.

SOUTHBOUND MAJOR DEEGAN EXPRESSWAY

EXISTING CONDITIONS

Traffic volumes on the southbound Major Deegan mainline between the Exit 6/Bronx Terminal Market off-ramp and the Exit 5/Macomb's Dam Bridge off-ramp range from 2,270 to 3,420 vph on game days. Existing traffic volumes exiting the Major Deegan Expressway at the Bronx Terminal Market off-ramp range from approximately 145 to 1,250 vph. Exiting traffic volumes at the Macomb's Dam Bridge off-ramp range from approximately 730 to 1,030 vph on game days.

Table 15-25 shows existing levels of service, speeds, and densities for the southbound Major Deegan Expressway.

Table 15-25
Existing Conditions on the Southbound Major Deegan Expressway

Approach	Existing Weeknight Pre-game Peak Hour			Existing Weeknight Post-game Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Exit 6/Bronx Terminal Market Off-Ramp Diverge	26.7	58.2	F	42.3	15.0	B
Between Exit 6/Bronx Terminal Market Off-Ramp Diverge and Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	40.1	28.4	D	40.6	20.4	C
South of Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	56.1	14.4	B	42.5	12.7	B
Approach	**Existing Weekend Pre-game Peak Hour**			**Existing Weekend Post-game Peak Hour**		
	Speed (mph)	**Density (pc/mi/ln)**	**LOS**	**Speed (mph)**	**Density (pc/mi/ln)**	**LOS**
North of Exit 6/Bronx Terminal Market Off-Ramp Diverge	32.1	37.3	E	14.3	87.9	F
Between Exit 6/Bronx Terminal Market Off-Ramp Diverge and Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	39.9	18.1	B	10.9	102.5	F
South of Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	44.3	11.4	B	24.0	36.5	E

As shown in Table 15-25, the southbound Major Deegan Expressway operates at LOS E or F conditions just before the Bronx Terminal Market off-ramp during the weeknight and weekend pre-game peak arrival hours and the weekend post-game peak departure hour. Immediately upstream of the Macomb's Dam Bridge off-ramp, LOS F conditions occur in the weekend post-game peak hour (LOS D conditions or better occur in the other peak hours). Before and after Yankees games, large volumes of vehicles exit and enter the Major Deegan Expressway in this area to access parking areas or cross the Macombs Dam Bridge, which are the cause of poor levels of service on game days.

NO BUILD CONDITIONS

Traffic volumes on the Major Deegan Expressway mainline between the Bronx Terminal Market and Macomb's Dam Bridge off-ramps are projected to increase at a rate of approximately 2.5 percent between 2004 and 2009, plus traffic generated by other background development projects such as the proposed Gateway Center at Bronx Terminal Market retail development would also be added. Overall traffic volumes would increase by about 10 to 90 vph on the mainline, 5 to 20 vph on the Bronx Terminal Market off-ramp, and 15 to 30 vph on the Macomb's Dam Bridge off-ramp. However, during the weeknight pre-game arrival peak hour, the Macomb's Dam Bridge off-ramp volume would decrease by about 50 vph.

Table 15-26 shows 2009 No Build levels of service, speeds, and densities for the southbound Major Deegan.

Table 15-26
2009 No Build Conditions on the Southbound Major Deegan Expressway

Approach	No Build Weeknight Pre-game Peak Hour			No Build Weeknight Post-game Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Exit 6/Bronx Terminal Market Off-Ramp Diverge	30.0	52.0	F	42.2	15.4	B
Between Exit 6/Bronx Terminal Market Off-Ramp Diverge and Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	47.2	24.1	C	40.5	20.8	C
South of Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	56.2	14.6	B	42.4	13.7	B
Approach	**No Build Weekend Pre-game Peak Hour**			**No Build Weekend Post-game Peak Hour**		
	Speed (mph)	**Density (pc/mi/ln)**	**LOS**	**Speed (mph)**	**Density (pc/mi/ln)**	**LOS**
North of Exit 6/Bronx Terminal Market Off-Ramp Diverge	30.8	39.6	E	15.7	82.3	F
Between Exit 6/Bronx Terminal Market Off-Ramp Diverge and Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	24.0	34.9	D	11.6	98.6	F
South of Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	44.3	12.1	B	23.8	37.6	E

During Yankees game days, the southbound Major Deegan Expressway before the Bronx Terminal Market off-ramp would operate at LOS B for the weeknight post-game departure peak hour, and operate at LOS E or F for the other game day peak hours. Immediately upstream of the Macomb's Dam Bridge off-ramp, LOS F conditions would occur in the weekend post-game departure peak hour, and the weekend pre-game arrival peak hour level of service would deteriorate from LOS B to D. Increases in traffic due to background growth would cause increased density and lower speeds; however, the weeknight pre-game arrival peak hour would experience some improvement due to the traffic volume reduction on the Macomb's Dam Bridge off-ramp.

BUILD CONDITIONS

With the proposed stadium, traffic volumes on the Major Deegan Expressway mainline between the Bronx Terminal Market and Macomb's Dam Bridge off-ramps would range from 2,510 to 3,880 vph. Pre-game peak period volumes on the Macomb's Dam Bridge off-ramp would increase by approximately 390 to 455 vph in the 2009 Build condition as compared to the 2009 No Build condition. During the same periods, the Bronx Terminal Market off-ramp volumes would decrease by about 25 to 75 vph. Mainline and off-ramp post-game volumes would not change from the 2009 No Build to the 2009 Build condition.

Table 15-27 shows 2009 Build levels of service, speeds, and densities for the southbound Major Deegan Expressway.

Table 15-27
2009 Build Conditions on the Southbound Major Deegan Expressway

Approach	Build Weeknight Pre-game Peak Hour			Build Weeknight Post-game Peak Hour		
	Speed (mph)	Density (pc/mi/ln)	LOS	Speed (mph)	Density (pc/mi/ln)	LOS
North of Exit 6/Bronx Terminal Market Off-Ramp Diverge	9.5	94.4	F	42.2	15.4	B
Between Exit 6/Bronx Terminal Market Off-Ramp Diverge and Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	10.7	83.9	F	40.3	19.7	C
South of Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	51.4	12.4	B	42.6	13.5	B
Approach	**Build Weekend Pre-game Peak hour**			**Build Weekend Post-game Peak Hour**		
	Speed (mph)	**Density (pc/mi/ln)**	**LOS**	**Speed (mph)**	**Density (pc/mi/ln)**	**LOS**
North of Exit 6/Bronx Terminal Market Off-Ramp Diverge	6.2	148.9	F	15.6	82.7	F
Between Exit 6/Bronx Terminal Market Off-Ramp Diverge and Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	7.1	100.1	F	11.6	98.2	F
South of Exit 5/Macomb's Dam Bridge Off-Ramp Diverge	41.6	14.9	B	23.8	37.3	E

During the weekend pre-game arrival peak hour, conditions upstream of the Macomb's Dam Bridge and Bronx Terminal Market off-ramps would deteriorate from LOS D and LOS E,

respectively, to LOS F (conditions immediately upstream of the Macomb's Dam Bridge off-ramp would deteriorate from LOS C to LOS F during the weeknight pre-game arrival peak hour). Reductions in speed and higher densities during the pre-game periods would be due to recurring spillback events onto the expressway from the additional volumes on the Macomb's Dam Bridge off-ramp. For the post-game periods, overall levels of service would remain the same from the 2009 No Build to the 2009 Build condition. ✷

A. INTRODUCTION

This chapter provides a description of the transit and pedestrian facilities serving the project area and evaluates the operating conditions of critical elements that would be most affected by the proposed project. As with vehicular traffic, the proposed project would not result in a net increase in transit and pedestrian trips over existing conditions. Rather, these trips would be redistributed within the transportation network, largely due to the future location of the proposed stadium, the addition of nearby parking, and the provision of a dedicated pedestrian walkway along Ruppert Plaza. Hence, the detailed analyses focus on those locations that are expected to realize notable changes in volumes and operating levels. Potential impacts resulting from these changes in the vicinity of the project area were evaluated. As part of the evaluation of future proposed conditions, several physical elements and game-day measures were incorporated into the detailed operational analysis. These components, discussed in further detail in the Section E of this chapter, "Probable Impacts of the Proposed Project," include a new signalized crossing at Ruppert Plaza, reconfigured intersections and new and widened crosswalks along Macomb's Dam Bridge Approach, a game-day pedestrian connection on the south end of Ruppert Plaza at East 157th Street to existing Garage 8, and a game-day crosswalk extension at Babe Ruth Plaza, just west of the River Avenue and East 161st Street intersection.

Analysis results show that significant adverse transit and pedestrian impacts are anticipated for eight (8) stairways at the 161st Street-Yankee Stadium station and four (4) crosswalks along East 161st Street. These crosswalk locations include the new crosswalk at Ruppert Plaza and existing crosswalks at the River Avenue intersection, where congested levels are anticipated during critical game-day travel periods. Proposed mitigation measures for these adverse impacts are described in Chapter 21, "Mitigation."

B. METHODOLOGY

As described in Chapter 15, "Traffic and Parking," assessments of affected transportation facilities were conducted for the pre-game and post-game conditions during a weekday evening and a weekend early afternoon home game. The following sections provide a discussion of the various aspects of the "Transit and Pedestrians" assessment, such as defining study areas, detailing analysis methodologies, and summarizing future trip projections, and establishing the framework for the existing and future analyses.

TRANSIT AND PEDESTRIAN STUDY AREAS

SUBWAY SERVICE

Subway service to the existing stadium is provided at the 161st Street-Yankee Stadium subway station. This station serves the New York City Transit (NYCT) IND B & D and IRT No. 4 lines, which are commonly known as the Concourse and Jerome Avenue lines, respectively. While

free connections between these subway lines are available, the station complex is configured with separate access locations and control areas, contains both above and below-grade elements, and operates more as two subway stations rather than one. The IND Concourse line station is underground, beneath East 161st Street, while the IRT Jerome Avenue line station is elevated above River Avenue. In The Bronx, the Concourse line operates between the Norwood-205th Street station and the Yankee Stadium station. Across the Harlem River in Manhattan, it stops at the 155th Street station and merges with the Central Park West line at the 145th Street station. The Jerome Avenue line operates between the Woodlawn station and the 138th Street-Grand Concourse station in The Bronx. It continues in a north-south alignment across the Harlem River, and merges with the Eastchester and Pelham lines to form the Lexington Avenue line.

Although the overall subway station usage with the proposed stadium is expected to remain similar to current levels, there would be specific changes to pedestrian circulation and the use of individual station access locations. To determine whether these anticipated changes would result in significant adverse subway impacts, a quantified analysis of twenty-two (22) station stairways was conducted. An analysis of the station control area was undertaken for the IRT Jerome Avenue line to address the anticipated shift in pedestrian flow between two control areas. For the IND Concourse line, since all pedestrians would traverse the same control area as under existing conditions, operating levels would remain the same in the future with the proposed project; thus a detailed analysis was not conducted for station elements at this location. Platform and line-haul analyses were also not conducted because ridership levels would not increase with the proposed project.

BUS SERVICE

There are two local bus routes in the vicinity of Yankee Stadium. The Bx13 provides service between the George Washington Bridge Bus Terminal in Washington Heights and Yankee Stadium, and the Bx6 provides service between West 158th Street in Washington Heights and the Fulton Fish Market in Hunts Point. During the typical pre-game and post-game time periods on weekdays and weekends, these bus routes operate, on average, 20 to 32 buses an hour through stops adjacent to the existing stadium. Since ridership on these bus routes represents a small percentage of the overall game-related trips and no changes in bus travel are anticipated with the proposed stadium, a quantified bus analysis to address line-haul capacities was not performed. However, due to the anticipated changes in traffic patterns and operating levels at specific locations with the proposed stadium, an analysis was performed to assess the potential changes to bus travel times under projected game-day conditions.

Figure 16-1 presents the subway and local bus routes serving the study area.

OTHER TRANSIT SERVICE

Metro-North Railroad

The Metro-North Railroad operates five lines, three of which are east of the Hudson River. In The Bronx, the Hudson line has its southernmost stop in Morris Heights, approximately 2 miles north of Yankee Stadium. Connection via public transit from this location requires multiple transfers to local buses and/or the Jerome Avenue subway. The New Haven and Harlem lines have their nearest stop at the Melrose station, which is about 0.65 mile to the east of the existing stadium. Transit connection here is available via the Bx6 and Bx13 local bus routes. Located one stop south of these two stations for all three of the Metro-North Railroad lines, the 125th Street station serves as the first and next to last stop in Manhattan. Although this station is further away

from the existing stadium than the aforementioned stops, its more convenient transfer to the Jerome Avenue line (No. 4 train) at the 125th Street subway station makes it the most popular stop for patrons traveling via the railroad.

During the weekday pre-game peak hour, approximately 35 Metro-North Railroad northbound and southbound trains currently traverse the Harlem River. Service frequency during the other three peak game-day travel periods is substantially lower, between 14 and 18 trains an hour. Overall, travel via the railroad represents a small percentage of the overall trips destined for Yankees home games. It is anticipated that the proposed stadium would have little, if any, effect on future railroad travel. Hence, a quantified analysis of Metro-North Railroad operations is not warranted, and the proposed project would not result in any significant adverse impacts on railroad travel.

Ferries

Regular ferry service to and from Yankees home games is currently provided by New York Waterway and Seastreak. The typical capacity of the Yankee Clipper Ferry is approximately 300 passengers. It originates at Port Imperial in Weehawken, New Jersey, and makes stops at Pier 11, East 34th Street, and East 90th Street in Manhattan. For weekend games, the Yankee Clipper makes an additional stop in Hoboken, New Jersey. It is scheduled to arrive at the Ferry Landing (7-minute walk to Yankee Stadium) half an hour prior to game time and depart half an hour after the last pitch. Typically, one to two ferries operate before and after each game between Weehawken and Yankee Stadium. At times, an additional ferry may operate to meet demand, and to serve patrons from Belford in Monmouth County, New Jersey. In addition to New York Waterway, Seastreak provides ferry service from Highland/Atlantic Highland in New Jersey. Occasionally, large groups may also charter recreational vessels from the Circle Line for travel between west midtown, Manhattan and Yankee Stadium. Since ferry ridership is a small percentage of the overall trip generation for Yankees home games, the proposed stadium would not result in any significant adverse impacts on ferry travel and no detailed analysis on ferry operations is warranted.

BICYCLE TRAVEL

Recent transportation funding has resulted in the expansion of available bicycle facilities in New York City, including delineated paths in parks and along greenways and bridges, on-street bike lanes, and designated bike routes. Since 1994, the number of on-street bicycle lanes has almost doubled to approximately 110 miles, and the available greenway has increased from 67 to 75 miles. In 1997, the City produced the New York City Bicycle Master Plan, which identifies a 500-mile network of bicycle routes throughout the five boroughs. Adjacent to the project site and within the surrounding street network, East 161st Street, Macomb's Dam Bridge Approach, Jerome Avenue, Gerard Avenue, Walton Avenue, Sedgwick Avenue, and the Grand Concourse have either been designated as bike routes or recommended for designation.

Although the proposed project is not anticipated to generate a demand for bicycle travel, secure bicycle parking would be provided at one of the new proposed garages. The proposed project would not preclude the provision of bicycle routes or lanes that are in existence or the City may consider in the future, and the infrastructure and operational measures that would be incorporated as part of the proposed project (to be discussed later in this chapter) would not alter the general roadway characteristics in the area. Therefore, it is expected that the proposed stadium would not result in any significant adverse impacts on bicycle travel in the area and no further analysis is warranted.

PEDESTRIAN ELEMENTS

Under current game-day conditions, numerous transportation management measures are imposed to facilitate safe and efficient pedestrian flow to and from the existing stadium. These measures include providing access at the stadium's northeast plaza to the elevated platforms of the Jerome Avenue line, closing a portion of River Avenue to vehicular traffic, and deploying traffic enforcement agents (TEAs) to help reduce vehicle-pedestrian conflicts and maintain crowd control. It is expected that a comparable level of game-day measures, while they may be different at specific locations, would be imposed with the proposed stadium through the continued commitment of TEAs and/or the New York City Police Department (NYPD). However, measures associated with roadway closures, such as currently occur along River Avenue in the vicinity of East 161st Street, were not assumed in the future conditions with the proposed project. The analysis findings, therefore, would be informative for City and State agency decision makers to fully evaluate existing and potential future transportation management strategies that would be most appropriate in facilitating pedestrian access for Yankee Stadium patrons. For the existing and future baseline conditions, detailed analyses were conducted for the crosswalks at the River Avenue and East 161st Street intersection. At the request of the New York City Department of Transportation (NYCDOT), the River Avenue intersections with East 153rd and East 157th Streets were added for analysis. Adjoining sidewalks to these intersections were also assessed. With the more northerly location of the proposed stadium and planned changes to the area's surrounding infrastructure and parking locations, additional pedestrian crossings along East 161st Street and at Macomb's Dam Bridge Approach were analyzed for the future Build conditions. At other locations where substantial pedestrian flow exists currently on game days, such as River Avenue and East 162nd Street, minimal changes are anticipated with the proposed stadium; therefore, the associated pedestrian elements were not analyzed quantitatively. Detailed design efforts with respect to pedestrian amenities, plaza space, and connections to the proposed Parking Garage B north of East 162nd Street are on-going. In order to assure that these efforts will result in pedestrian elements with adequate capacity for the circulation of Yankees patrons, spatial requirements were established for several key design elements, including the new Ruppert Plaza, the perimeters surrounding the proposed stadium, and the plaza fronting the stadium along East 161st Street.

OPERATIONAL ANALYSIS METHODOLOGY

SUBWAY STATION ELEMENTS

Subway station operations were assessed according to methods and evaluation criteria presented in the 2001 *City Environmental Quality Review (CEQR) Technical Manual*. The methodology for assessing subway stairway and control area (turnstiles and service gates) operations compares the user volume to the element's design capacity (typically analyzed for peak 15-minute surge conditions), resulting in a volume-to-capacity (v/c) ratio. For stairways, the design capacity considers the effective width of a tread, which accounts for railings (6 inches for side railings and 1 foot for center railings) or other obstructions, the friction between upward and downward patrons, and the average required area for circulation. For control area elements, capacity is measured by the number and width of an element and the NYCT optimum capacity per element. The estimated v/c ratio or converted flow rate in pedestrians per foot per minute (PFM) is then compared to NYCT criteria to determine a level-of-service (LOS). Table 16-1 summarizes the LOS, corresponding stairway flow rate, turnstile v/c ratio, and characterization of the various operating levels.

Table 16-1
Level of Service Criteria for Subway Station Elements

LOS	Stairway Flow Rate (PFM)	Turnstile V/C Ratio	Characterization
A	Less than 5	0.00 to 0.20	Unrestricted
B	5 to 7	0.20 to 0.40	Slightly restricted, no impact on speed
C	7 to 10	0.40 to 0.60	Speeds reduced, difficult to pass
D	10 to 13	0.60 to 0.80	Restricted, reverse flow conflicts
E	13 to 17	0.80 to 1.00	Severely restricted
F	More than 17	Greater than 1.00	Many stoppages, no discernible flow

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (December 2001).

For stairways, at LOS A and B, there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C, movement is fluid although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D, walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E and F, walking speed is restricted, there is insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

NYCT's minimum standard for pedestrian conditions at stairways has traditionally been established as the breakpoint between LOS C and LOS D (v/c ratio of 1.00 or 10 PFM). This threshold is typically used to determine the design or guideline capacity of station stairways during peak travel periods, beyond which occasional queuing is anticipated. The actual maximum or crush capacity, as measured by what a stairway can process, is approximately 1.7 times higher, or 17 PFM, corresponding to the LOS E/F threshold, beyond which extensive queuing that may not be dissipated upon the arrival of subsequent surges (train arrivals) is possible. For control area elements, the minimum standard is equivalent to their practical capacities. Hence, the v/c ratio of 1.00 represents the breakpoint between LOS E and LOS F.

The determination of significant adverse impacts for station elements varies based on their type and use. For two-way turnstiles and high entry/exit turnstiles (HEETs), an increase in volume that results in a v/c ratio of greater than 1.00 may be considered significant since a value of 1.00 represents the design capacity of the element. The impact determination for stairways considers the minimum amount of additional capacity required to mitigate adverse operating conditions to the no action or acceptable levels. For a location with a Build LOS D, a required widening of 6 inches or more is considered significant; for a Build LOS E condition, a required widening of 3 inches or more is considered significant; and for a Build LOS F condition, a required widening of 1 inch or more is considered significant.

PEDESTRIAN OPERATIONS

The analysis of the study area's sidewalks and crosswalks was conducted using the methodologies presented in the *Highway Capacity Manual (HCM) Special Report 209* (Transportation Research Board, 1994). Similar to the assessment of subway station conditions, on-street pedestrian elements were analyzed with the peak 15-minute volumes.

Sidewalks were assessed in terms of pedestrian flow. The calculation of the average pedestrians per foot per minute (PFM) of effective walkway width is the basis for LOS analysis. However, due to the tendency of pedestrians to move in congregated groups, a "platoon" factor (+4 PFM) is applied in the calculation of pedestrian flow to more accurately estimate the dynamics of walking. This procedure generally results in a LOS one level poorer than the average flow.

Crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Their LOS is also a function of time and space, such that crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet per minute. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the average crossing time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk. Additionally, in the first seconds of the "walk" cycle, the initial movements of pedestrians queued to cross the street create a surge effect. To account for this effect, the LOS analysis incorporates a "surge" factor to estimate worst-case conditions.

Table 16-2 shows the LOS standards[1] for sidewalks and crosswalks. The description of LOS is similar to the above for subway station elements. The *CEQR Technical Manual* specifies that a mid-LOS D condition or better is considered reasonable for sidewalks and crosswalks outside of the Manhattan Central Business District (CBD). For crosswalks, a mid-LOS D condition requires a minimum of 20 square feet per pedestrian (SFP), while for sidewalks, a mid-LOS D condition requires a maximum of 13 PFM.

Table 16-2
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks	Crosswalks
A	5 PFM or less	60 SFP or More
B	5 to 7 PFM	40 to 60 SFP
C	7 to 10 PFM	24 to 40 SFP
D	10 to 15 PFM	15 to 24 SFP
E	15 to 23 PFM	8 to 15 SFP
F	More than 23 PFM	Less than 8 SFP

Notes: PFM = pedestrians per foot per minute; SFP = square feet per pedestrian
Source: New York City Mayor's Office of Environmental Coordination, *City Environmental Quality Review Technical Manual* (December 2001).

Project-related sidewalk impacts are considered significant and require examination of mitigation if there is an increase of 2 PFM over a no action condition that is characterized by flow rates greater than 13 PFM (mid-LOS D). For corners and crosswalks, a decrease of 1 SFP under the action condition when the no action condition has an average occupancy of less than 20 SFP (mid-LOS D) is considered significant.

[1] The 1985 HCM provides different thresholds for LOS determination than the 2001 *CEQR Technical Manual*. The reported LOS results in this chapter are based on the latest CEQR LOS criteria, as defined in Table 16-2, which may differ from those determined in the Highway Capacity Software (HCS) analysis outputs.

C. EXISTING CONDITIONS

Existing subway and pedestrian data were collected during two game days in September 2004 for weeknight and weekend game-day conditions. Both of these games had high-attendance crowds at the stadium with 49,560 and 55,142 attendances, respectively. Volumes during the same time periods on non-game days were also collected to gain a better understanding of background activity levels. Subway ridership data were obtained from NYCT. Additional pedestrian data were collected in September 2005 for the analysis of the River Avenue intersections with East 153rd and East 157th Streets.

SUBWAY RIDERSHIP

The last five years of subway ridership data from NYCT's annual *Subway and Bus Ridership Reports* are summarized in Table 16-3. For the Concourse line, the 2004 average weekday ridership was 67,202, an increase of 8.0 percent over 2003. The average Saturday ridership on this line increased over 2003 by 5.3 percent, to 45,904 patrons, while the average Sunday ridership increased by 4.4 percent, to 34,935 patrons. For the Jerome Avenue line, the 2004 average weekday ridership was 70,949, a decrease of 8.7 percent from 2003. The average Saturday ridership on this line also decreased from 2003, by 4.1 percent to 42,110 patrons, and the average Sunday ridership decreased by 6.9 percent to 30,617 patrons.

Table 16-3
Historical Subway Ridership

Year	Concourse Line			Jerome Avenue Line			161st Street-Yankee Stadium Station	
	Average Weekday	Average Saturday	Average Sunday	Average Weekday	Average Saturday	Average Sunday	Annual	Average Weekday
2000	60,393	39,341	29,530	70,125	42,355	32,109	6,403,511	19,930
2001	61,935	41,538	31,729	72,777	44,378	32,101	6,660,715	20,829
2002	62,467	41,671	31,445	77,556	48,996	36,348	6,848,108	21,266
2003	62,238	43,575	33,463	77,722	43,902	32,872	7,060,571	21,828
2004	67,202	45,904	34,935	70,949	42,110	30,617	7,455,364	23,174

Sources: NYCT Subway and Bus Ridership Report (2002-2004).

Collectively, the Concourse and Jerome Avenue lines serve the 161 Street-Yankee Stadium subway station complex, which has been one of the more heavily utilized stations in the NYCT subway system. In 2004, the station earned an overall ranking of 38th out of over 420 stations in New York City, with an annual station registration of nearly 7.5 million people. In terms of average weekday ridership, the 161 Street-Yankee Stadium station ranked 45th overall with an average weekday registration of over 23,000 people.

SUBWAY STATION OPERATIONS

Stairway and corridor volumes at the 161st Street-Yankee Stadium station were compared for game-day and non-game-day conditions. This comparison was conducted to determine peak period volumes attributable to Yankees home games versus those associated with patrons not destined for the stadium.

The weeknight surveys were conducted between 5 PM and midnight on Wednesday, September 22, 2004 to capture station activities for a 7:05 PM game-start, and during the same hours on Monday, September 27, 2004 to depict non-game-day conditions. The data revealed that over 9,100 pedestrians traversed the station stairways during the arrival peak hour on the game day,

while fewer than 300 pedestrians were observed during the same hour on the non-game day. The weekend surveys were conducted in a similar manner between 11 AM and 5 PM for a 1:05 PM game start on Sunday, September 19, 2004 and for the non-game-day conditions on Sunday, September 26, 2004. The data showed that over 11,000 pedestrians used the station stairways during the arrival peak hour on the game day, compared to less than 200 pedestrians on the non-game day. Based on the collected data, the representative pre-game and post-game peak periods were determined, as follows.

- Weeknight Pre-Game: 6:30 PM to 7:30 PM;
- Weeknight Post-Game: 9:45 PM to 10:45 PM;
- Weekend Pre-Game: 12:15 PM to 1:15 PM; and,
- Weekend Post-Game: 3:45 PM to 4:45 PM;

As described earlier, the 161st Street-Yankee Stadium station functions as a station complex that provides separate access routes to the Concourse and Jerome Avenue subway lines while maintaining an internal free transfer connection. As depicted in Figure 16-2 showing the station's street-level stairways, the Jerome Avenue line can be accessed from the street via one of two mezzanines. The primary mezzanine connects to stairways A, B, C, and D, all of which are encased in columns along the medians of East 161st Street, while the secondary mezzanine, used only during Yankees home games, connects to stair sets G and H. These stair sets are closest to the northeast plaza of the existing Yankee Stadium and facilitate direct pedestrian access from the elevated platforms of the Jerome Avenue line without having to cross vehicular traffic flows.

The lower-level River Avenue mezzanine of the Concourse line can be accessed from one of four stairways at the intersection of River Avenue and East 161st Street. Stairways F1, F2, and F3 are closest to Yankee Stadium and are most heavily used on game days, while stairway E on the northeast corner of the intersection attracts the least number of game-related pedestrian traffic. A secondary mezzanine serving the Concourse line is also available under the intersection of Walton Avenue and East 161st Street two blocks east of River Avenue. This mezzanine, which serves primarily neighborhood subway trips, connects to a stairway on the northwest corner of that intersection and another in the median of East 161st Street.

Using the methodology summarized previously, the street-level station stairways described above and illustrated in Figure 16-2 were analyzed for the peak 15-minute volumes developed from the collected data. In general, arrival or pre-game conditions tend to be spread out over longer time periods, whereas departure or post-game conditions tend to be concentrated within a shorter timeframe. The analysis results showed that stairway operating levels are typically worse during post-game than pre-game periods. Thus, arrivals are likely to be more evenly distributed, partially due to unfamiliar patrons taking the first available stairway off of a platform and departures are usually concentrated on the stairways nearest to the stadium entrances.

For the weeknight game, field data showed totals of 9,143 patrons arriving during the pre-game peak hour and 11,710 departing during the post-game peak hour. For the weekend afternoon game, totals of 11,087 patrons arriving and 13,621 patrons departing were recorded during the pre-game and post-game peak hours, respectively. Within these analysis peak hours, peak 15-minute volumes totaled 2,200 to 2,600 pre-game and approximately 2,900 post-game at the Jerome line stairways (A, B, C, D, G1, G2, H1, and H2) and 1,500 to 2,000 pre-game and 2,400 to 2,600 post-game at the Concourse line stairways (E, F1, F2, and F3). These volumes represent approximately 55 to 75 and 80 to 95 percent of the combined guideline (LOS C/D) capacities of the street-level stairways during the pre-game and post-game peak periods, respectively. Individual stairway operations vary,

however, with some congested and others underutilized. As shown in Table 16-4, stairways A and C currently operate at over their guideline capacities (LOS C/D) during the weeknight pre-game peak hour, and stairways F1, F2, G1, H1, and H2 operate at over guideline capacities in the post-game peak hour with stairway G1 approaching its crush capacity (LOS E/F). For the weekend peak periods, stairways A, F1, F2, and G1 operate at over their guideline capacities in the pre-game peak hour, and stairways F1, F2, G1, G2, and H1 operate at over guideline capacities in the post-game peak hour with stairway G1 approaching its crush capacity.

Table 16-4
2004 Existing Conditions: Subway Street-Level Stairway Analysis

Stair	Effective Width (feet)	Pre-Game Conditions					Post-Game Conditions				
		15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS	15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS
Weekday Night Game											
A	3.30	395	405	***1.02***	***10.25***	***D***	395	77	0.19	1.94	A
B	2.96	355	138	0.39	3.88	A	355	247	0.69	6.95	B
C	3.29	395	441	***1.12***	***11.16***	***D***	445	86	0.19	1.93	A
D	3.29	395	295	0.75	7.46	C	445	72	0.16	1.62	A
E	5.29	634	267	0.42	4.21	A	714	341	0.48	4.78	A
F1	5.58	669	488	0.73	7.30	C	669	908	***1.36***	***13.57***	***E***
F2	5.80	696	488	0.70	7.02	C	696	908	***1.30***	***13.05***	***E***
F3	5.85	702	255	0.36	3.63	A	702	461	0.66	6.56	B
G1	4.17	500	392	0.78	7.85	C	500	770	***1.54***	***15.40***	***E***
G2	4.17	500	129	0.26	2.58	A	500	409	0.82	8.18	C
H1	4.17	500	186	0.37	3.72	A	500	644	***1.29***	***12.88***	***D***
H2	4.17	500	198	0.40	3.95	A	500	622	***1.24***	***12.45***	***D***
Weekend Early Afternoon Game											
A	3.30	395	498	***1.26***	***12.61***	***D***	395	92	0.23	2.33	A
B	2.96	355	99	0.28	2.78	A	355	257	0.72	7.23	C
C	3.29	395	371	0.94	9.39	C	445	91	0.20	2.04	A
D	3.29	395	278	0.70	7.05	C	445	88	0.20	1.98	A
E	5.29	634	127	0.20	2.00	A	714	255	0.40	4.02	A
F1	5.58	669	764	***1.14***	***11.43***	***D***	669	850	***1.27***	***12.71***	***D***
F2	5.80	696	764	***1.10***	***10.99***	***D***	696	850	***1.22***	***12.22***	***D***
F3	5.85	702	399	0.57	5.69	B	702	432	0.62	6.16	B
G1	4.17	500	570	***1.14***	***11.41***	***D***	500	841	***1.68***	***16.82***	***E***
G2	4.17	500	258	0.52	5.17	B	500	658	***1.32***	***13.15***	***E***
H1	4.17	500	316	0.63	6.31	B	500	551	***1.10***	***11.03***	***D***
H2	4.17	500	235	0.47	4.69	A	500	374	0.75	7.48	C

Notes: Capacity for the same stairway may vary during different analysis time periods due to variations in entry and exit volumes.
Stairways determined to be over guideline capacity (LOS C/D) are bolded & italicized.

Within the station complex, access to the station platforms and the Jerome Avenue and Concourse lines is provided via control areas and platform stairs. As discussed, pedestrian flow with the proposed project within the fare zone of the Concourse line would be similar to existing conditions. Hence, a detailed analysis was not conducted to quantify its operating conditions. For the Jerome Avenue line, two separate control areas are available on game days. On the station's primary mezzanine, Control Booth (CB) 262 connects to street-level stairways A, B, C, and D and provides 6 two-way turnstiles and 2 HEETs. At this location, connections to the

northbound and southbound platforms are provided by two stairways on each side, all of which are approximately 5 feet in width. On the station's secondary mezzanine, which is opened only on game days, CB 262A and CB 262B connect to street-level stair sets G and H and provide 12 two-way turnstiles. Several sets of stairways facilitate connection to the northbound and southbound platforms. The narrowest points of constraint, represented by two northbound platform stairways and four southbound platform stairways, ranging from just under 5 feet to over 9 feet in width, were included for analysis. Tables 16-5 and 16-6 present the analysis results for the above control areas and platform stairways. All control areas were found to operate at favorable levels with substantial reserved capacity. However, the two northbound platform stairways connecting to the primary mezzanine operate at congested LOS D during pre-game peak periods while the four southbound platform stairways connecting to the secondary mezzanine operate at congested LOS E during post-game peak periods.

Table 16-5

2004 Existing Conditions: Subway Station Control Area Analysis

Station Elements	Quantity	Peak 15-Min Vol	15-Minute Capacity	V/C Ratio	LOS
Weekday Night Game					
Pre-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1279	3360	0.38	B
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	905	5760	0.16	A
Post-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	482	3360	0.14	A
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	2445	5760	0.42	C
Weekend Early Afternoon Game					
Pre-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1247	3360	0.37	B
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	1379	5760	0.24	B
Post-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	528	3360	0.16	A
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	2424	5760	0.42	C

Notes: Control area volumes were derived from street-level stairway volumes.

Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

Table 16-6
2004 Existing Conditions: Subway Platform Stairway Analysis

Stair	Effective Width (feet)	Pre-Game Conditions					Post-Game Conditions				
		15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS	15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS
Weekday Night Game											
CB 262 Control Area											
NB P12	4.2	504	614	***1.23***	***12.3***	***D***	504	12	0.02	0.2	A
NB P16	4.1	492	601	***1.23***	***12.3***	***D***	492	12	0.02	0.2	A
SB P11	3.8	456	31	0.07	0.7	A	456	224	0.50	5.0	B
SB P15	3.9	468	33	0.07	0.7	A	468	234	0.50	5.0	B
CB 262A/CB 262B Control Areas											
NB P2AB	7.1	852	473	0.55	5.5	B	852	67	0.08	0.8	A
NB P6AB	5.8	696	387	0.55	5.5	B	696	55	0.08	0.8	A
SB P1	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
SB P3	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
SB P7	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
SB P8	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
Weekend Early Afternoon Game											
CB 262 Control Area											
NB P12	4.2	504	598	***1.20***	***12.0***	***D***	504	13	0.03	0.3	A
NB P16	4.1	492	586	***1.20***	***12.0***	***D***	492	13	0.03	0.3	A
SB P11	3.8	456	30	0.07	0.7	A	456	245	0.54	5.4	B
SB P15	3.9	468	32	0.07	0.7	A	468	256	0.54	5.4	B
CB 262A/CB 262B Control Areas											
NB P2AB	7.1	852	720	0.84	8.4	C	852	67	0.08	0.8	A
NB P6AB	5.8	696	590	0.84	8.4	C	696	55	0.08	0.8	A
SB P1	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***
SB P3	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***
SB P7	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***
SB P8	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***

Notes: Platform stairway volumes were estimated based on control area volumes and directional data (95 percent in peak travel direction) derived from the 2001 Vollmer travel survey.
Stairways determined to be over guideline capacity (LOS C/D) are bolded & italicized.

PEDESTRIAN CIRCULATION

As discussed in Chapter 15, "Traffic and Parking," 90 to 95 percent of Yankee Stadium patrons travel via auto or subway, with the remaining patrons distributed among taxi, charter service, bus, ferry, and walk only. Hence, game-day pedestrian flow hinges largely on the locations of nearby parking facilities and entrances to the 161st Street-Yankee Stadium subway station. Currently, nearly 80 percent of the total designated Yankee Stadium parking spaces are located within off-street facilities south of East 161st Street, of which approximately 30 percent are provided by Garage 8, immediately south of and connected to the stadium via a pedestrian plaza. Numerous other parking facilities are scattered adjacent to and south of Garage 8, providing just over 25 percent of the total Yankee Stadium designated parking. Fans parking at these facilities

walk on-street and approach the stadium from its right-field side. Across the Major Deegan Expressway and adjacent to the Metro-North Railroad tracks, another 20 plus percent of the total Yankee Stadium designated parking spaces are available on surface lots. Pedestrian access is provided via an enclosed bridge structure to the home plate side of the stadium adjacent to existing Ruppert Place. The remaining designated parking spaces, totaling approximately 20 percent, are located along River Avenue north of East 161st Street. Fans who currently park at these facilities travel along River Avenue, cross East 161st Street, and arrive at the stadium's northeast plaza beyond left field and Monument Park. Those not accommodated within one of the designated facilities predominantly travel to and from other available on- and off-street parking south and east of Yankee Stadium, with the remainder scattered throughout the adjacent street network. As described above for subway access to and from the 161st Street-Yankee Stadium station, fans could connect to the ground level via numerous entrances, some of which are located directly within the stadium's northeast plaza. Those entering or exiting the station via other entrances would need to make one or more street crossings.

Pedestrian conditions were analyzed for all crosswalk locations at the intersections of River Avenue with East 153rd, East 157th, and East 161st Streets. Those elements incorporated as part of the proposed plan are addressed in the analysis of future conditions with the proposed project. Currently, pre-game crosswalk volumes are highest at the River Avenue and East 161st Street southwest crosswalk connecting to the stadium's northeast plaza, where nearly 4,000 people were recorded during the peak hour for both the weekday and weekend game-day conditions. Post-game volumes are highest on that intersection's east and northeast crosswalks, where over 5,500 people were accounted for on the weekday and approximately 4,500 people on the weekend. Pedestrian levels at the East 153rd and East 157th Street intersections with River Avenue are markedly lower, with the highest pre-game and post-game peak hour volumes reaching just over 1,000 and 1,700, respectively, at the west crosswalk of River Avenue and East 153rd Street. Table 16-7 presents the operating levels of these crosswalks during the peak 15-minute period under each of the analysis conditions.

The analysis results show that the average flow across most of the crosswalks at the River Avenue intersection with East 161st Street is currently at acceptable levels (mid-LOS D, 20 SFP or better) during the pre-game and post-game periods. However, the maximum surge, which is considered the measure of congestion at crosswalks and takes place in the beginning of a walk phase, is constrained at most of the analysis locations. This condition often results in the spreading of the pedestrian queue onto the roadway and crossing outside of the crosswalks. As shown in Table 16-7, seven of the eight analysis crosswalks at River Avenue and East 161st Street operate at congested levels (worse than mid-LOS D) during the weekday pre-game peak hour, while four of the eight analysis crosswalks operate at congested levels during the weekday post-game peak hour. For weekend games, congested conditions were identified at five and six of the eight analysis crosswalks during the pre-game and post-game peak hours, respectively. As discussed earlier, TEAs are typically present during the critical stretches of pre-game and post-game periods to direct vehicular and pedestrian traffic. Hence, actual pedestrian flow tends to be more favorable than the analysis depicts. However, a more conservative assessment of crossing conditions assuming no signal override by TEAs and no crossing outside of crosswalk stripings is provided to illustrate the potential extent of congestion at the analysis crosswalks. At the East 153rd and East 157th Street intersections with River Avenue, pedestrian flow generally operates at more favorable levels. Only nominal congestion during post-game peak periods is identified for the west crosswalk at the East 153rd Street intersection and for the north crosswalk at the East 157th Street intersection.

Table 16-7
2004 Existing Conditions: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
Weekday Pre-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	84	A	78	A	27	C
	East	15.5	41	B	40	B	***12***	***E***
	West	13.0	36	C	35	C	***11***	***E***
River Avenue at E.161st Street Mainline	East	13.0	35	C	34	C	***14***	***E***
	West	18.0	27	C	27	C	***9***	***E***
River Avenue at E.161st Street Eastbound Service Road	East	16.0	45	B	43	B	***14***	***E***
	South	13.0	29	C	23	D	***9***	***E***
	West	16.0	22	D	22	D	***7***	***F***
River Avenue at E.157th Street	North	12.0	82	A	81	A	30	C
	East	12.0	282	A	270	A	75	A
	South	12.0	180	A	176	A	67	A
River Avenue at E. 153rd Street	North	10.5	273	A	253	A	104	A
	East	15.0	235	A	231	A	81	A
	South	16.5	1013	A	944	A	417	A
	West	11.5	94	A	68	A	27	C
Weekday Post-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	80	B	75	B	36	C
	East	15.5	23	D	22	D	***10***	***E***
	West	13.0	61	A	52	B	28	C
River Avenue at E.161st Street Mainline	East	13.0	7	F	7	F	***4***	***F***
	West	18.0	63	B	58	B	32	C
River Avenue at E.161st Street Eastbound Service Road	East	16.0	27	D	24	D	***12***	***E***
	South	13.0	51	B	49	B	23	D
	West	16.0	17	D	16	D	***8***	***E***
River Avenue at E. 157th Street	North	12.0	28	C	26	C	***10***	***E***
	East	12.0	172	A	167	A	46	B
	South	12.0	72	A	70	A	27	C
River Avenue at E. 153rd Street	North	10.5	165	A	153	A	63	A
	East	15.0	105	A	100	A	36	C
	South	16.5	323	A	297	A	133	A
	West	11.5	33	C	31	C	***9***	***E***
Weekend Pre-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	141	A	119	B	64	B
	East	15.5	46	B	43	B	20	D
	West	13.0	55	B	54	B	25	C
River Avenue at E.161st Street Mainline	East	13.0	19	D	18	D	***11***	***E***
	West	18.0	32	C	30	C	***16***	***D***
River Avenue at E.161st Street Eastbound Service Road	East	16.0	27	C	26	C	***12***	***E***
	South	13.0	24	C	20	D	***11***	***E***
	West	16.0	34	C	32	C	***15***	***D***
River Avenue at E. 157th Street	North	12.0	89	A	89	A	50	B
	East	12.0	333	A	319	A	126	A
	South	12.0	160	A	154	A	89	A
River Avenue at E. 153rd Street	North	10.5	375	A	346	A	216	A
	East	15.0	208	A	205	A	100	A
	South	16.5	1002	A	900	A	619	A
	West	11.5	79	A	58	B	32	C
Weekend Post-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	87	B	73	B	39	C
	East	15.5	13	E	12	E	***6***	***F***
	West	13.0	28	C	27	C	***13***	***E***
River Avenue at E.161st Street Mainline	East	13.0	28	C	28	C	***16***	***D***
	West	18.0	16	D	15	D	***8***	***E***
River Avenue at E.161st Street Eastbound Service Road	East	16.0	13	E	12	E	***6***	***F***
	South	13.0	30	C	25	C	***13***	***E***
	West	16.0	69	A	66	A	31	C
River Avenue at E. 157th Street	North	12.0	27	C	27	C	***15***	***D***
	East	12.0	100	A	97	A	38	C
	South	12.0	56	B	54	B	31	C
River Avenue at E. 153rd Street	North	10.5	49	B	45	B	28	C
	East	15.0	81	A	79	A	39	C
	South	16.5	334	A	302	A	206	A
	West	11.5	29	C	27	C	***11***	***E***

Note: SFP = square feet per pedestrian
Crosswalks determined to operate at mid-LOS D or worse are bolded & italicized.

An analysis of adjoining sidewalks to the River Avenue intersections with East 153rd and East 157th Streets was also conducted. As shown in Table 16-8, all sidewalks analyzed currently operate at acceptable levels during game-day peak periods. While the total game-day peak hour pedestrian activities at these locations are expected to be comparable or even somewhat lower with the proposed plan due to the shifting of available parking further north, the analysis was conducted at NYCDOT's request to address anticipated changes to pedestrian flow at these locations.

Table 16-8
2004 Existing Conditions: Pedestrian Sidewalk LOS Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Weekday Pre-Game							
River Avenue north of E.157th Street	East	16	201	1	A	5-	A
River Avenue between E.153rd & E.157th Streets	East	10	139	1	A	5-	A
	West	13	349	2	A	6	B
River Avenue south of E.153rd Street	East	11	172	1	A	5+	B
	West	12	241	1	A	5+	B
E.153rd Street west of River Avenue	North	3.5	42	1	A	5-	A
	South	4.5	9	0	A	4	A
Weekday Post-Game							
River Avenue north of E.157th Street	East	16	615	3	A	7-	B
River Avenue between E.153rd & E.157th Streets	East	10	306	2	A	6	B
	West	13	1323	7-	B	11	D
River Avenue south of E.153rd Street	East	11	410	2	A	6	B
	West	12	710	4	A	8	C
E.153rd Street west of River Avenue	North	3.5	286	5+	B	9	C
	South	4.5	212	3	A	7+	C
Weekend Pre-Game							
River Avenue north of E.157th Street	East	16	143	1	A	5-	A
River Avenue between E.153rd & E.157th Streets	East	10	158	1	A	5+	B
	West	13	466	2	A	6	B
River Avenue south of E.153rd Street	East	11	141	1	A	5-	A
	West	12	268	1	A	5+	B
E.153rd Street west of River Avenue	North	3.5	42	1	A	5-	A
	South	4.5	18	0	A	4	A
Weekend Post-Game							
River Avenue north of E.157th Street	East	16	400	2	A	6	B
River Avenue between E.153rd & E.157th Streets	East	10	292	2	A	6	B
	West	13	980	5+	B	9	C
River Avenue south of E.153rd Street	East	11	352	2	A	6	B
	West	12	609	3	A	7+	C
E.153rd Street west of River Avenue	North	3.5	273	5+	B	9	C
	South	4.5	200	3	A	7-	B

Note: PFM = pedestrians per foot per minute
September 2005 data were used for 2004 existing conditions analysis.
Sidewalks determined to operate at mid-LOS D or worse are bolded & italicized.

D. THE FUTURE WITHOUT THE PROPOSED PROJECT

SUBWAY STATION OPERATIONS

In the future year without the proposed project, transit demand will increase due to background growth and trips attributable to other projects in the study area. In accordance with the *CEQR*

Technical Manual, a background growth rate of 0.5 percent per year was incorporated into the future No Build analysis. Trips associated with other area projects, such as the Gateway Center at Bronx Terminal Market, were also included. Table 16-9 provides a summary of the No Build street-level stairway analysis results, which exhibit similar operating levels as under existing conditions, with two to five analysis stairways operating at congested levels.

Table 16-9
2009 No Build Conditions: Subway Street-Level Stairway Analysis

Stair	Effective Width (feet)	Pre-Game Conditions					Post-Game Conditions				
		15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS	15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS
Weekday Night Game											
A	3.30	395	416	***1.05***	***10.53***	***D***	395	77	0.19	1.95	A
B	2.96	355	149	0.42	4.20	A	355	248	0.70	6.97	B
C	3.29	395	441	***1.12***	***11.17***	***D***	445	87	0.20	1.95	A
D	3.29	395	295	0.75	7.47	C	445	73	0.16	1.63	A
E	5.29	634	268	0.42	4.22	A	714	343	0.48	4.81	A
F1	5.58	669	520	0.78	7.78	C	669	908	***1.36***	***13.57***	***E***
F2	5.80	696	520	0.75	7.48	C	696	908	***1.31***	***13.05***	***E***
F3	5.85	702	255	0.36	3.63	A	702	461	0.66	6.57	B
G1	4.17	500	392	0.78	7.85	C	500	770	***1.54***	***15.40***	***E***
G2	4.17	500	129	0.26	2.58	A	500	409	0.82	8.18	C
H1	4.17	500	186	0.37	3.72	A	500	644	***1.29***	***12.88***	***D***
H2	4.17	500	198	0.40	3.95	A	500	622	***1.24***	***12.45***	***D***
Weekend Early Afternoon Game											
A	3.30	395	507	***1.28***	***12.81***	***D***	395	102	0.26	2.59	A
B	2.96	355	107	0.30	3.01	A	355	301	0.85	8.48	C
C	3.29	395	371	0.94	9.40	C	445	91	0.21	2.06	A
D	3.29	395	279	0.71	7.06	C	445	89	0.20	1.99	A
E	5.29	634	127	0.20	2.01	A	714	256	0.40	4.04	A
F1	5.58	669	773	***1.16***	***11.55***	***D***	669	866	***1.29***	***12.94***	***D***
F2	5.80	696	803	***1.15***	***11.54***	***D***	696	861	***1.24***	***12.37***	***D***
F3	5.85	702	400	0.57	5.69	B	702	443	0.63	6.31	B
G1	4.17	500	570	***1.14***	***11.41***	***D***	500	841	***1.68***	***16.82***	***E***
G2	4.17	500	259	0.52	5.17	B	500	658	***1.32***	***13.15***	***E***
H1	4.17	500	316	0.63	6.32	B	500	552	***1.10***	***11.03***	***D***
H2	4.17	500	235	0.47	4.69	A	500	374	0.75	7.49	C

Notes: Capacity for the same stairway may vary during different analysis time periods due to variations in entry and exit volumes.
Stairways determined to be over guideline capacity (LOS C/D) are bolded & italicized.

Similarly, the 2008 No Build operating conditions at control areas and platform stairways for the Jerome Avenue line would be similar to those presented for existing conditions with two stairways during the pre-game peak hours and four stairways during the post-game peak hours for both weekday and weekend games operating at congested levels, as shown in Tables 16-10 and 16-11, respectively.

Table 16-10

2009 No Build Conditions: Subway Station Control Area Analysis

Station Elements	Quantity	Peak 15-Min Vol	15-Minute Capacity	V/C Ratio	LOS
Weekday Night Game					
Pre-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1302	3360	0.39	B
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	905	5760	0.16	A
Post-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	482	3360	0.14	A
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	2445	5760	0.42	C
Weekend Early Afternoon Game					
Pre-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1264	3360	0.38	B
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	1379	5760	0.24	B
Post-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	584	3360	0.17	A
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	2425	5760	0.42	C

Notes: Control area volumes were derived from street-level stairway volumes.

Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

Table 16-11
2009 No Build Conditions: Subway Platform Stairway Analysis

Stair	Effective Width (feet)	Pre-Game Conditions					Post-Game Conditions				
		15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS	15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS
Weekday Night Game											
CB 262 Control Area											
NB P12	4.2	504	625	***1.25***	***12.5***	***D***	504	12	0.02	0.2	A
NB P16	4.1	492	612	***1.25***	***12.5***	***D***	492	12	0.02	0.2	A
SB P11	3.8	456	32	0.07	0.7	A	456	225	0.50	5.0	B
SB P15	3.9	468	33	0.07	0.7	A	468	235	0.50	5.0	B
CB 262A/CB 262B Control Areas											
NB P2AB	7.1	852	473	0.55	5.5	B	852	67	0.08	0.8	A
NB P6AB	5.8	696	387	0.55	5.5	B	696	55	0.08	0.8	A
SB P1	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
SB P3	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
SB P7	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
SB P8	3.7	444	11	0.03	0.3	A	444	581	***1.32***	***13.2***	***E***
Weekend Early Afternoon Game											
CB 262 Control Area											
NB P12	4.2	504	606	***1.21***	***12.1***	***D***	504	15	0.03	0.3	A
NB P16	4.1	492	594	***1.21***	***12.1***	***D***	492	14	0.03	0.3	A
SB P11	3.8	456	31	0.07	0.7	A	456	271	0.54	6.0	B
SB P15	3.9	468	32	0.07	0.7	A	468	283	0.54	6.0	B
CB 262A/CB 262B Control Areas											
NB P2AB	7.1	852	720	0.84	8.4	C	852	67	0.08	0.8	A
NB P6AB	5.8	696	590	0.84	8.4	C	696	55	0.08	0.8	A
SB P1	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***
SB P3	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***
SB P7	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***
SB P8	3.7	444	17	0.04	0.4	A	444	576	***1.31***	***13.1***	***E***

Notes: Platform stairway volumes were estimated based on control area volumes and directional data (95 percent in peak travel direction) derived from the 2001 Vollmer travel survey.
Stairways determined to be over guideline capacity (LOS C/D) are bolded & italicized.

PEDESTRIAN CIRCULATION

As with the vehicular and transit analyses, future pedestrian conditions without the proposed project would incorporate an annual background growth of 0.5 percent and trips generated by other projects in the study area. For the pedestrian elements assessed, minimal increases are anticipated. As shown in Table 16-12, peak period operating levels would remain very similar to those under existing conditions, with five to eight analysis crosswalks operating at congested levels during game-day peak hours. Conditions at sidewalks adjoining the River Avenue intersections with East 153rd and East 157th Streets, as presented in Table 16-13, would remain at acceptable operating levels.

Table 16-12
2009 No Build Conditions: Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
Weekday Pre-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	84	B	78	B	27	C
	East	15.5	41	B	40	B	***12***	***E***
	West	13.0	36	C	34	C	***11***	***E***
River Avenue at E.161st Street Mainline	East	13.0	35	C	34	C	***14***	***E***
	West	18.0	27	C	27	C	***9***	***E***
River Avenue at E.161st Street Eastbound Service Road	East	16.0	44	B	42	B	***13***	***E***
	South	13.0	29	C	23	D	***9***	***E***
	West	16.0	22	D	22	D	***7***	***F***
River Avenue at E. 157th Street	North	12.0	82	A	81	A	30	C
	East	12.0	252	A	240	A	67	A
	South	12.0	180	A	176	A	67	A
River Avenue at E. 153rd Street	North	10.5	273	A	252	A	104	A
	East	15.0	217	A	214	A	75	A
	South	16.5	1013	A	944	A	417	A
	West	11.5	73	A	50	B	21	D
Weekday Post-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	80	B	73	B	36	C
	East	15.5	23	D	22	D	***10***	***E***
	West	13.0	61	A	52	B	28	C
River Avenue at E.161st Street Mainline	East	13.0	7	F	7	F	***4***	***F***
	West	18.0	62	A	57	B	32	C
River Avenue at E.161st Street Eastbound Service Road	East	16.0	26	D	24	D	***12***	***E***
	South	13.0	51	B	49	B	23	D
	West	16.0	17	D	16	D	***8***	***E***
River Avenue at E. 157th Street	North	12.0	28	C	26	C	***10***	***E***
	East	12.0	172	A	167	A	46	B
	South	12.0	72	A	69	A	27	C
River Avenue at E. 153rd Street	North	10.5	165	A	152	A	63	A
	East	15.0	105	A	100	A	36	C
	South	16.5	323	A	296	A	133	A
	West	11.5	33	C	31	C	***9***	***E***
Weekend Pre-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	141	A	119	A	64	A
	East	15.5	46	B	43	B	20	D
	West	13.0	55	B	52	B	25	C
River Avenue at E.161st Street Mainline	East	13.0	18	D	18	D	***11***	***E***
	West	18.0	32	C	30	C	***16***	***D***
River Avenue at E.161st Street Eastbound Service Road	East	16.0	27	C	26	C	***12***	***E***
	South	13.0	24	C	20	D	***11***	***E***
	West	16.0	34	C	32	C	***15***	***D***
River Avenue at E. 157th Street	North	12.0	89	A	89	A	50	B
	East	12.0	300	A	287	A	114	A
	South	12.0	160	A	153	A	89	A
River Avenue at E. 153rd Street	North	10.5	375	A	346	A	216	A
	East	15.0	197	A	194	A	94	A
	South	16.5	1002	A	895	A	619	A
	West	11.5	67	A	46	B	27	C
Weekend Post-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	87	B	73	B	39	C
	East	15.5	13	E	12	E	***6***	***F***
	West	13.0	28	C	23	D	***13***	***E***
River Avenue at E.161st Street Mainline	East	13.0	28	C	28	C	***16***	***D***
	West	18.0	16	D	15	D	***8***	***E***
River Avenue at E.161st Street Eastbound Service Road	East	16.0	13	E	12	E	***6***	***F***
	South	13.0	30	C	25	C	***13***	***E***
	West	16.0	69	A	65	A	31	C
River Avenue at E. 157th Street	North	12.0	27	C	27	C	***15***	***D***
	East	12.0	82	A	79	A	31	C
	South	12.0	56	B	54	B	31	C
River Avenue at E. 153rd Street	North	10.5	49	B	45	B	28	C
	East	15.0	71	A	69	A	34	C
	South	16.5	334	A	297	A	206	A
	West	11.5	27	C	24	C	***11***	***E***

Note: SFP = square feet per pedestrian
Crosswalks determined to operate at mid-LOS D or worse are bolded & italicized.

Table 16-13
2009 No Build Conditions: Pedestrian Sidewalk LOS Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Weekday Pre-Game							
River Avenue north of E.157th Street	East	16	212	1	A	5-	A
River Avenue between E.153rd & E.157th Streets	East	10	150	1	A	5-	A
	West	13	424	2	A	6	B
River Avenue south of E.153rd Street	East	11	183	1	A	5+	B
	West	12	316	2	A	6	B
E.153rd Street west of River Avenue	North	3.5	42	1	A	5-	A
	South	4.5	9	0	A	4	A
Weekday Post-Game							
River Avenue north of E.157th Street	East	16	615	3	A	7-	B
River Avenue between E.153rd & E.157th Streets	East	10	306	2	A	6	B
	West	13	1323	7-	B	11	D
River Avenue south of E.153rd Street	East	11	410	2	A	6	B
	West	12	710	4	A	8	C
E.153rd Street west of River Avenue	North	3.5	286	5+	B	9	C
	South	4.5	212	3	A	7+	C
Weekend Pre-Game							
River Avenue north of E.157th Street	East	16	151	1	A	5-	A
River Avenue between E.153rd & E.157th Streets	East	10	166	1	A	5+	B
	West	13	519	3	A	7-	B
River Avenue south of E.153rd Street	East	11	149	1	A	5-	A
	West	12	321	2	A	6	B
E.153rd Street west of River Avenue	North	3.5	42	1	A	5-	A
	South	4.5	18	0	A	4	A
Weekend Post-Game							
River Avenue north of E.157th Street	East	16	454	2	A	6	B
River Avenue between E.153rd & E.157th Streets	East	10	346	2	A	6	B
	West	13	1013	5+	B	9	C
River Avenue south of E.153rd Street	East	11	406	2	A	6	B
	West	12	642	4	A	8	C
E.153rd Street west of River Avenue	North	3.5	273	5+	B	9	C
	South	4.5	200	3	A	7+	C

Note: PFM = pedestrians per foot per minute
September 2005 data were used for 2004 existing conditions analysis.
Sidewalks determined to operate at mid-LOS D or worse are bolded & italicized.

E. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The evaluation of potential impacts associated with the proposed project (Build conditions) accounts for various components, including the construction of the proposed stadium on the north side of East 161st Street, the replacement parkland and recreational facilities, ancillary commercial uses, the new parking garage structures, and several pedestrian-related project elements to be detailed below. The analysis also incorporates a projection of future trips and the peaking characteristics of pre-game and post-game travel patterns. As detailed in Chapter 15, "Traffic and Parking," the Build analysis assumes a capacity game at the proposed stadium, during which over 26,000 fans are projected to arrive during the pre-game peak hour and over 37,000 fans would depart during the post-game peak hour on a weekday. On a weekend day, approximately 29,000 and 37,000 fans are projected to arrive and depart during the pre-game and post-game peak hours, respectively.

While the total person-trips during the peak pre-game and post-game periods would be similar to existing conditions, the routes by which these trips would be made to and from the proposed stadium are expected to vary. In particular, many patrons traveling by auto would park at one of the four new garage structures instead of their current parking locations and walk different routes to and from the proposed stadium, and those traveling by subway would circulate differently within the 161st Street-Yankee Stadium station and may choose to use different stairways.

TRANSIT CONDITIONS

Transit service to the study area is expected to remain the same as present. However, with the demapping of East 162nd Street between Jerome and River Avenues to accommodate proposed Parking Garage B, a portion of the Bx13 bus route would need to be rerouted northward to East 164th Street.

BUS OPERATIONS

In connection with the Bx13 rerouting, several bus stops would need to be relocated as well. As part of the comprehensive traffic management plan detailed in Chapter 21, "Mitigation," River Avenue between East 161st and East 162nd Streets would be closed post-game to accommodate peak surges of departing patrons. While the traffic analysis conservatively assumed that all traffic would be diverted elsewhere, it is expected that maintaining the Bx13 route through this area could be achieved with the assistance of TEAs who would already be present to facilitate crowd control across River Avenue. NYCT would determine the appropriate locations for relocating the current Bx13 bus stop and layover area within this segment. It is expected that these minor changes to the Bx13 bus route would not significantly impact bus operations during game-day or non-game-day conditions. In addition, with no more than 10 buses scheduled along the Bx13 route in an hour, its operation would have minimal conflict with the new black-car pick-up and drop-off area to be located along East 164th Street between Jerome and River Avenues. Currently, there are no plans to locate the black-car pick-up and drop-off activities off-street. However, because most patrons transported by black cars would be destined for the Stadium Club, the entrance to which is located on Jerome Avenue near East 162nd Street, it is expected that these activities would occur near the western end of East 164th Street. In addition, based on the projection of black car volumes, the amount of curb space required for these activities would be limited to a nominal distance (approximately 100 feet) towards the western end of East 164th Street between Jerome and River Avenues, which is 600 to 650 feet in length. It is expected that a relocated bus stop for the Bx13 route could be constructed near the River Avenue end of the block to avoid conflicts with other vehicles and that NYPD or TEAs would monitor and manage traffic conditions along this street to ensure that bus movements would not be impeded.

As detailed in Chapter 15, "Traffic and Parking," significant traffic impacts were projected for several locations along the Bx6 and Bx13 travel routes (i.e., River Avenue at East 161st Street, Jerome Avenue at East 161st Street, and Macomb's Dam Bridge Approach at the East 161st Street service roads). An estimate of increased delays to bus travel revealed that during the approximately 80 to 90 Yankees home games each year, the one-way travel time for the Bx6 and Bx13 bus routes could increase by up to 27 and 6 percent, respectively, during peak game-day conditions. As detailed in Chapter 21, "Mitigation," numerous standard mitigation measures and game-day traffic management strategies were explored to alleviate traffic congestion and reduce vehicle delays in the study area. These measures would also result in improved travel for the

study area buses. The mitigated traffic conditions were estimated to result in a reduction of travel time increase from those stated above to a nominal average increase of approximately 5 percent. While 1 or 2 additional buses may still be needed during pre-game and post-game peak periods to maintain the current headways and service schedules, the intermittent service disruptions described above do not constitute a significant adverse impact to bus operations. NYCT would evaluate the actual future conditions and determine whether to adjust its bus schedules.

SUBWAY STATION OPERATIONS

No physical changes to the 161st Street-Yankee Stadium station are anticipated with the proposed project. While all station access locations would remain available, the secondary Jerome Avenue line mezzanine that connects to stair sets G and H would no longer serve as a direct connection between the station's elevated platforms and Yankee Stadium. The most direct route would instead be traversing the primary mezzanine and stairways A and C. Likewise for the Concourse line, instead of using the underground passageway between its control area and stairways F1, F2, and F3, the most direct route to the proposed stadium would be connecting to stairway E and crossing River Avenue on the north side of East 161st Street.

In evaluating the future operating levels of the street-level station stairways, consideration was given to their physical capacities and the typical behavior of subway patrons who would normally tolerate a certain degree of queuing to achieve the most direct route, but would ultimately opt for alternative access locations should the waiting times become unacceptable. As stated previously, the actual maximum or crush capacity of a stairway is approximately 1.7 times its design or guideline capacity. Attempting to process pedestrian levels exceeding this threshold would result in residual queuing. At certain subway stations in New York City, this condition is common during peak hours when queue dissipation overlaps with passenger surges from subsequent train alighting. However, when multiple access and egress options are available, subway riders tend to settle for more circuitous routes to avoid the long wait and excessive crowding. The multiple access locations available at the 161st Street-Yankee Stadium station complex make such distribution or relief of peak surges possible. Therefore, while an effort was made to assign future subway riders to the most direct stairway connections to and from the proposed stadium, a ceiling of 10 percent over their crush capacities was imposed. The rationale behind this upper limit is that the 10 percent margin represents a wait time of approximately 1.5 minutes, or 10 percent of a peak 15-minute period, beyond which pedestrians are likely to seek alternative access points. This wait time is also reasonable since it is approximately half of the typical train headway during peak periods. Table 16-14 presents a summary of the operating levels projected for the street-level stairways analyzed under the Build conditions.

Table 16-14
2009 Build Conditions: Subway Street-Level Stairway Analysis

Stair	Effective Width (feet)	Pre-Game Conditions					Post-Game Conditions				
		15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS	15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS
Weekday Night Game											
A	3.30	395	442	***1.12***	***11.17***	***D***	395	548	***1.39***	***13.86***	***E***
B	2.96	355	147	0.41	4.15	A	355	211	0.59	5.94	B
C	3.29	395	585	***1.48***	***14.79***	***E***	395	717	***1.81***	***18.14***	***F***
D	3.29	395	461	***1.17***	***11.67***	***D***	395	592	***1.50***	***14.98***	***E***
E	5.29	634	807	***1.27***	***12.73***	***D***	634	1,171	***1.85***	***18.46***	***F***
F1	5.58	669	245	0.37	3.66	A	669	568	0.85	8.49	C
F2	5.80	696	245	0.35	3.52	A	696	568	0.82	8.16	C
F3	5.85	702	115	0.16	1.64	A	702	302	0.43	4.31	A
G1	4.17	500	254	0.51	5.07	B	500	339	0.68	6.77	B
G2	4.17	500	257	0.51	5.14	B	500	332	0.66	6.64	B
H1	4.17	500	267	0.53	5.34	B	500	339	0.68	6.77	B
H2	4.17	500	253	0.51	5.06	B	500	322	0.64	6.45	B
Weekend Early Afternoon Game											
A	3.30	395	471	***1.19***	***11.90***	***D***	395	464	***1.17***	***11.74***	***D***
B	2.96	355	162	0.46	4.56	A	355	180	0.51	5.08	B
C	3.29	395	584	***1.48***	***14.79***	***E***	395	708	***1.79***	***17.90***	***F***
D	3.29	395	485	***1.23***	***12.28***	***D***	395	500	***1.27***	***12.66***	***D***
E	5.29	634	924	***1.46***	***14.58***	***E***	634	1,162	***1.83***	***18.32***	***F***
F1	5.58	669	341	0.51	5.10	B	669	459	0.69	6.87	B
F2	5.80	696	371	0.53	5.34	B	696	454	0.65	6.53	B
F3	5.85	702	215	0.31	3.07	A	702	239	0.34	3.41	A
G1	4.17	500	269	0.54	5.38	B	500	289	0.58	5.79	B
G2	4.17	500	283	0.57	5.66	B	500	278	0.56	5.57	B
H1	4.17	500	276	0.55	5.52	B	500	296	0.59	5.93	B
H2	4.17	500	271	0.54	5.42	B	500	298	0.60	5.96	B

Notes: Capacity for the same stairway may vary during different analysis time periods due to variations in entry and exit volumes.
Stairways determined to be over guideline capacity (LOS C/D) are bolded & italicized.

In evaluating the station's control areas and platform stairways, a similar approach was used to distribute the projected demand. However, an exception to the capacity limit (10 percent above crush capacity) for assigning subway patrons, as described above, was made for post-game flow at the platform stairways. This exception was made because the decision-making would have already been made at street level, and there would be available queuing space within the control areas to process subway riders ascending to the platforms. As shown in Tables 16-15 and 16-16,

Table 16-15

2009 Build Conditions: Subway Station Control Area Analysis

Station Elements	Quantity	Peak 15-Min Vol	15-Minute Capacity	15-Minute V/C Ratio	LOS
Weekday Night Game					
Pre-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1635	3360	0.49	C
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	1031	5760	0.18	A
Post-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	2068	3360	0.62	D
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	1332	5760	0.23	B
Weekend Early Afternoon Game					
Pre-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1703	3360	0.51	C
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	1098	5760	0.19	A
Post-Game Conditions					
CB 262 Control Area					
Two-Way Turnstiles & HEETs	6 & 2	1852	3360	0.55	C
CB 262A/CB 262B Control Areas					
Two-Way Turnstiles	12	1162	5760	0.20	B

Notes: Control area volumes were derived from street-level stairway volumes.

Capacities were calculated based on rates presented in the New York City Transit, *Station Planning and Design Guidelines* (January 2001), in accordance with the *CEQR Technical Manual*.

Table 16-16
2009 Build Conditions: Subway Platform Stairway Analysis

Stair	Effective Width (feet)	Pre-Game Conditions					Post-Game Conditions				
		15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS	15-Min Cap	Peak 15-Min Vol	V/C Ratio	Flow Rate (PFM)	LOS
Weekday Night Game											
CB 262 Control Area											
NB P12	4.2	504	784	***1.57***	***15.7***	***E***	504	52	0.10	1.0	A
NB P16	4.1	492	769	***1.57***	***15.7***	***E***	492	51	0.10	1.0	A
SB P11	3.8	456	40	0.09	0.9	A	456	961	***2.14***	***21.4***	***F***
SB P15	3.9	468	42	0.09	0.9	A	468	1004	***2.14***	***21.4***	***F***
CB 262A/CB 262B Control Areas											
NB P2AB	7.1	852	538	0.63	6.3	B	852	37	0.04	0.4	A
NB P6AB	5.8	696	441	0.63	6.3	B	696	30	0.04	0.4	A
SB P1	3.7	444	13	0.03	0.3	A	444	316	0.72	7.2	C
SB P3	3.7	444	13	0.03	0.3	A	444	316	0.72	7.2	C
SB P7	3.7	444	13	0.03	0.3	A	444	316	0.72	7.2	C
SB P8	3.7	444	13	0.03	0.3	A	444	316	0.72	7.2	C
Weekend Early Afternoon Game											
CB 262 Control Area											
NB P12	4.2	504	817	***1.63***	***16.3***	***E***	504	47	0.09	0.9	A
NB P16	4.1	492	801	***1.63***	***16.3***	***E***	492	46	0.09	0.9	A
SB P11	3.8	456	42	0.09	0.9	A	456	861	***1.91***	***19.1***	***F***
SB P15	3.9	468	43	0.09	0.9	A	468	899	***1.91***	***19.1***	***F***
CB 262A/CB 262B Control Areas											
NB P2AB	7.1	852	574	0.67	6.7	B	852	32	0.04	0.4	A
NB P6AB	5.8	696	470	0.67	6.7	B	696	26	0.04	0.4	A
SB P1	3.7	444	14	0.03	0.3	A	444	276	0.63	6.3	B
SB P3	3.7	444	14	0.03	0.3	A	444	276	0.63	6.3	B
SB P7	3.7	444	14	0.03	0.3	A	444	276	0.63	6.3	B
SB P8	3.7	444	14	0.03	0.3	A	444	276	0.63	6.3	B

Notes: Platform stairway volumes were estimated based on control area volumes and directional data (95 percent in peak travel direction) derived from the 2001 Vollmer travel survey. Stairways determined to be over guideline capacity (LOS C/D) are bolded & italicized.

each of the analysis control areas would continue to operate at acceptable levels. Due to the anticipated shift in pedestrian routes used by subway riders, the platform stairways connecting to CB 262 would experience a noticeable increase in congestion, while those connecting to CB 262A and CB 262B would be notably underutilized as compared to conditions without the proposed stadium. Where the projected flow rate of a stairway exceeds its crush capacity, residual queuing would occur.

As with existing and No Build conditions, the overall guideline capacity of the station stairways would be adequate in accommodating the projected demand. However, due to the concentration of pedestrian volumes at entrances most directly accessible to the proposed stadium, several street-level and platform stairways are expected to experience noticeable deteriorations in level of service. At the same time, numerous other stairways would realize substantial improvements. The *CEQR Technical Manual* defines significant adverse stairway impacts in terms of the width increment threshold (WIT). This measure is defined as the required increase in stairway width to

restore no action or LOS C/D operating conditions. As shown in Table 16-17, a required widening of 6 or more inches of effective stairway width to restore operating levels to No Build conditions or LOS C/D when the Build condition is at LOS D would be considered a significant adverse impact. Likewise, a required WIT for LOS E and LOS F of 3 inches and 1 inch, respectively, results in a significant adverse impact.

Table 16-17
Width Increment Thresholds (WIT) for Stairway Impact Determination

Build LOS	Required WIT (inches)
D	6
E	3
F	1

Source: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual* (December 2001).

For both weekday and weekend game days, significant adverse impacts were identified for the same sets of stairways. During the pre-game peak period, the proposed project is expected to result in significant adverse impacts at street-level stairways C, D, and E, and northbound platform stairways P12 and P16, while during the post-game peak period, significant adverse impacts would occur at street-level stairways A, C, D, and E, and southbound platform stairways P11 and P15. The results of the impact determination are presented in Table 16-18.

Table 16-18
Significantly Impacted Stairways

Stair	Effective Width (inches)	Pre-Game Conditions					Post-Game Conditions				
		No Build Vol	Build Vol	WIT (in)	No Build LOS	Build LOS	No Build Vol	Build Vol	WIT (in)	No Build LOS	Build LOS
Weekday Night Game											
A	40						77	548	15.49	A	E
C	40	441	585	12.82	D	E	87	717	32.61	A	F
D	40	295	461	6.68	C	D	73	592	19.95	A	E
E	63	268	807	17.19	A	D	343	1,171	53.36	A	F
P12	50	625	784	12.75	D	E					
P16	49	612	769	12.50	D	E					
P11	45						225	961	51.11	A	F
P15	47						235	1004	53.38	A	F
Weekend Early Afternoon Game											
A	40						102	464	6.99	A	D
C	40	371	584	19.14	C	E	91	708	31.70	A	F
D	40	279	485	9.11	C	D	89	500	10.63	A	D
E	63	127	924	28.82	A	E	256	1,162	52.47	A	F
P12	50	606	817	17.35	D	E					
P16	49	594	801	17.01	D	E					
P11	45						271	861	41.08	A	F
P15	47						283	899	42.9	A	F

In total, significant adverse impacts attributable to the proposed project were determined to result at eight (8) stairways at the 161st Street-Yankee Stadium subway station. A discussion of potential mitigation measures is provided in Chapter 21, "Mitigation." At street level, enhanced

street crossing amenities and TEA management of on-street pedestrian flow incorporated as part of the basic game-day traffic management plan, as detailed in the following section, are expected to prevent street-level bottlenecks and minimize queuing on the subway stairways, such that the full processing capacity of the stairways could be realized.

PEDESTRIAN CONDITIONS

With the proposed stadium relocated across East 161st Street from its current location and several new parking structures incorporated as part of the proposed project, considerable changes in pedestrian circulation to and from the stadium are anticipated. South of the existing stadium and Parking Garage 8, pedestrian levels would remain similar to existing conditions, as the parking spaces gained by proposed Parking Garage D would be negated by the loss of several existing facilities and a general shift of parkers northward to proposed Parking Garages A, B, and C. Travel from the west across the Major Deegan Expressway and adjacent to the Metro-North Railroad tracks would also not result in an increase in pedestrian flow. Moreover, it is expected that patrons who currently park within the area's street network and afar would be accommodated at one of the proposed garages. Unlike the motorists parking at Parking Garage B and the existing facilities along River Avenue north of East 161st Street, Yankee Stadium patrons from Parking Garages A and C and those parking south and west of the existing stadium would be required to cross East 161st Street. While less parking demand is anticipated on neighborhood streets throughout the study area, the concentration of parking facilities in proximity to the stadium, the new location of the proposed stadium, and the lack of direct access between the 161st Street-Yankee Stadium subway station and the future stadium would contribute to notable increases in pedestrian traffic across East 161st Street between Macomb's Dam Bridge Approach and River Avenue. Along the proposed stadium's perimeters, increased pedestrian flow to and from proposed Parking Garage B and the stadium would also occur along Jerome and River Avenues. In connection with the proposed project, a number of physical and operational measures, as detailed below and illustrated in Figure 16-3, were incorporated into the analysis of the future Build conditions.

- Ruppert Place, which is currently closed off to vehicular traffic during game-days, would be demapped as part of the proposed project and transformed into Ruppert Plaza, a primary game-day venue for fan attractions and gathering, and an artery for pedestrian travel. Although its design is still being refined, the final configuration is expected to accommodate a projected peak hour volume of over 8,000 pedestrians or a 15-minute peak volume of nearly 3,300 pedestrians. Hence, excluding street furniture, novelty and food stands, and pedestrian queuing space, the future Ruppert Plaza would require a clear walk path of at least 25 feet to achieve LOS C/D operation.

- The pedestrian plaza currently connecting Parking Garage 8 with the existing stadium is part of a mapped street (East 157th Street) that is closed to vehicular traffic. As part of the proposed project, this plaza would be eliminated and revert back to being part of the street network. Under non-game-day conditions, East 157th Street would reconnect to the street network to the east and west. On its eastern end, the existing traffic signal would facilitate control for the reconfigured intersection. To the west, the reopened roadway would merge with East 153rd Street. With Ruppert Place closed to vehicular traffic but a major entrance to proposed Parking Garage A opened immediately west of it, a new intersection consisting of East 157th Street, East 153rd Street, and the Parking Garage A driveway would be created. As discussed in Chapter 15, "Traffic and Parking," this intersection would accommodate game-day traffic to and from the northbound Major Deegan Expressway

service road and the southbound Major Deegan Expressway "flyover" ramp. East of this new intersection and along the reopened stretch of East 157th Street, another driveway to proposed Parking Garage A is also proposed. In the DEIS, the location of this east driveway was envisioned to be located at approximately the midpoint between River Avenue and the Parking Garage A west driveway, making it possible to incorporate, as part of the proposed basic game-day operational plan, the closure of the western end of this block (between the two Garage A entrances on East 157th Street) to vehicular traffic to create a continuous pedestrian path between Parking Garage 8 and the future Ruppert Plaza. This path would facilitate uninterrupted flow of Yankees patrons from Parking Garage 8, as well as provide an alternate route to River Avenue between East 153rd and East 161st Streets.

In advancing the design efforts for proposed Parking Garage A, it was determined that moving the east driveway further to the west, adjacent to the west driveway, would be advantageous for space management and constructability. While Parking Garage A access patterns and traffic circulation would remain the same as described for the previous plan by maintaining a separation between the two driveways, the game-day pedestrian-only path connecting the northwestern portion of Garage 8 and Ruppert Plaza would be eliminated. To facilitate game-day pedestrian flow, the proposed project has been revised to extend the existing waterfront pedestrian bridge to connect with the second level of Garage 8 and span over East 157th Street onto Ruppert Plaza. This existing bridge, which spans over the Metro North railroad tracks and provides connection to the waterfront parking lots and ferry landing, would have been improved as part of the plan presented in the DEIS. Under the current plan, it would also be extended across East 157th Street to Ruppert Plaza. This plan envisions a series of ramp connections including a new 25-foot wide bridge over the Metro North railroad tracks. The connection corridor to Garage 8 would be 15 feet wide and the span over East 157th Street along with the continuous ramp to Ruppert Plaza would be 25 feet wide. This structure would accommodate all patrons traveling to and from the waterfront and a substantial number of patrons parked on the second to roof levels of Garage 8. The maximum combined peak hour volume projected to traverse this new overhead structure is nearly 4,500 pedestrians, with a peak 15-minute surge of over 1,700 pedestrians. These projected volumes could be comfortably accommodated by the corridor and ramp dimensions discussed above. At grade level, there would remain a maximum demand of over 2,700 peak hour pedestrians, with a peak 15-minute surge of nearly 1,000 pedestrians, who would need to cross East 157th Street. Since game-day vehicular traffic on this segment of East 157th Street would feed exclusively to and from the Parking Garage A east driveway and River Avenue, and accounting for metering effects created by the traffic signal at River Avenue and East 157th Street and at the Garage A fare collection booths, it is expected that a game-day crosswalk width of approximately 35 feet in combination with TEA management of vehicular and pedestrian traffic at this location would be adequate to accommodate projected pedestrian volumes.

- To extend the pedestrian experience through Ruppert Plaza across East 161st Street onto the proposed stadium plaza, a new crossing would be provided. The maximum peak hour volume projected at this location is approximately 14,200 pedestrians, with a peak 15-minute surge of nearly 5,500 pedestrians. It is expected that a 60-foot-wide at-grade crosswalk would be provided and a new traffic signal would be required to regulate vehicular and pedestrian flow. This signal would be coordinated with adjacent intersections at River Avenue and Macomb's Dam Bridge Approach to ensure proper progression and would be operational both on game days and non-game days. Currently, this location is

approximately 140 feet wide from curb to curb and accommodates traffic along, and weaving between, the East 161st Street mainline and service roads. The current design for the reconfiguration of East 161st Street between Ruppert Plaza and River Avenue shows that an optimum cross-section of 112 feet can be achieved while maintaining all existing weaving maneuvers. The remaining roadway pavement would be striped to provide additional pedestrian queuing space on both ends of the new crosswalk. The crossing time required for a distance of 112 feet is approximately 28 seconds at an average walk speed of 4 feet per second. Incorporating clearance and lost time, the minimum time required for the pedestrian phase of the new signal would be between 35 and 40 seconds. It was determined that 60 seconds of a 90-second cycle could be allocated for pedestrian crossing while still maintaining adequate traffic flow and intersection progression on game days. Therefore, sufficient time can be provided at this intersection to provide the necessary crossing time to accommodate pedestrians during the peak hours. On non-game days, NYCDOT may shorten the crossing time at this signal to provide more capacity for vehicular traffic.

- With the proposed stadium situated on the north side of East 161st Street, stair sets G and H, which connect directly to the northeast plaza of the existing stadium would no longer serve as the primary connection to the Jerome Avenue line during game days. Likewise, most subway riders from the Concourse line would be expected to shift their preferred station access from stairways F1, F2, and F3 to stairway E, located on the northeast corner of the River Avenue and East 161st Street intersection. The redistribution of subway riders to different station access locations is expected to increase the pedestrian crossing volumes at this intersection. Adding to this increase would be a portion of the total patrons traveling via auto parking south of East 161st Street. At the same time, however, those who currently park north of East 161st Street in Parking Garages 3 and 15 would no longer need to cross southwards. To accommodate the anticipated increase in crossing volumes, a game-day design element has been incorporated into the proposed project. This element involves reconfiguring Babe Ruth Plaza, which is the area along the medians separating the mainline and the service roads of East 161st Street immediately west of the subway entrance pillars. This reconfiguration would remove the existing medians and construct a different roadway pavement for 100 feet to create an approximately 115-foot wide crossing (new crossing plus existing west crosswalks). The reconfigured area would be available only during game days, and when in use, vehicular flow and pedestrian crowd control would be facilitated by the signal at the River Avenue and East 161st Street intersection and TEAs stationed along its perimeters to ensure safety and separation of vehicular and pedestrian traffic. The future crossing volumes at this location were projected to peak at nearly 9,000 pedestrians an hour or approximately 3,800 pedestrians during the peak 15 minutes.
- At the Macomb's Dam Bridge Approach intersections with the East 161st Street service roads, crossing is currently permitted along the east side of the intersections and along the north crosswalk of the westbound service road intersection where there is an existing traffic signal. The eastbound service road intersection is uncontrolled and crossing Macomb's Dam Bridge Approach at this location is prohibited (west sidewalk separated from roadway via concrete median). The existing sidewalks and connecting crosswalks at and near these intersections are all somewhat narrow, but are adequate for the currently low pedestrian levels during both game-day and non-game-day peak periods. With the proposed stadium and proposed Parking Garages A and C in place, substantially more pedestrians would be attracted to the northeast corner of the westbound service road intersection, where one of the new main stadium entrances would be located. Detailed projections indicate that up to

approximately 2,500 pedestrians during a game-day peak hour or over 900 pedestrians during the peak 15 minutes would be crossing Macomb's Dam Bridge Approach, whereas nearly 3,000 and over 1,000 pedestrians would be crossing East 161st Street during the game-day peak hour and peak 15 minutes, respectively. To facilitate safe and efficient crossing at these two service road intersections, a new signal at the eastbound service road intersection, a new south crosswalk (20.0 feet in width), a widened north crosswalk (from existing 12.5 feet to 20.0 feet), and a widened continuous east crosswalk (10 feet) would be incorporated. The latter requires a physical widening of approximately 5 feet on the east side of the bridge structure.

- Bordering the proposed stadium along Jerome and River Avenues, current sidewalk widths are approximately 20 feet wide. Projected post-game peak hour pedestrian volumes at these locations are up to approximately 2,000 along Jerome Avenue and 5,500 along River Avenue. The equivalent peak-15 minute flows would be approximately 700 and 2,000 pedestrians, respectively. These pedestrian volumes would require clear effective widths of 5.5 feet along Jerome Avenue and 14.5 feet along River Avenue to achieve mid-LOS C/D operations. While the exact dimensions of these sidewalks have not yet been determined, it is expected that they would be wider than what is available currently, and more than the required effective widths.

- Along East 161st Street, a prominent plaza connecting to the two main stadium entrances would be provided for fan circulation in front of the proposed stadium. This plaza would be higher in elevation than East 161st Street for most of its length between River Avenue and Macomb's Dam Bridge Approach. As shown in Figure 16-4, it is separated from the East 161st Street westbound service road by a 12 to 17-foot-wide sidewalk. At its midpoint, this sidewalk is at the same elevation as the service road. It then transitions to the same level as the stadium plaza at its two main stadium entrances, located at the eastern and western ends of the block. Pedestrians crossing along the new Ruppert Plaza crosswalk would connect to the north side of East 161st Street at the midpoint of the sidewalk. Across the sidewalk from the Ruppert Plaza crosswalk would be two stairways connecting to the plaza level. The current design contemplates the two stairways to be 25 (23 feet 10 inches at narrowest point) and 18 feet. These stairways and the sidewalk that join the stadium plaza with the East 161st Street roadway combine to form the circulation route for fans crossing at the new Ruppert Plaza crosswalk.

  As discussed previously, up to 5,500 pedestrians during the peak 15-minutes were projected to traverse the new Ruppert Plaza crosswalk. It was estimated that 80 percent of these pedestrians would access the stadium plaza via the two stairways and the remaining 20 percent would walk along the sidewalk, accessing the plaza at either end of the block where the sidewalk rises to the plaza elevation. Since the stadium entrance at Macomb's Dam Bridge Approach would provide closer access to a larger part of the proposed stadium, it is expected that fans choosing to walk on the sidewalk would gravitate substantially more to the western half of the sidewalk between River Avenue and Macomb's Dam Bridge Approach. At the stairways, since the landing locations at the stadium plaza would be approximately equidistant from the two stadium entrances, a lesser directional flow is anticipated. During peak pre-game periods, the required effective widths of the sidewalk and stairways to achieve acceptable operating levels (mid-LOS D for the sidewalk and LOS C/D for the stairway) were determined to be up to 9 and 13 feet, respectively, while during peak post-game periods, the required effective widths are up to 11 and 20 feet, respectively. These

projected width requirements would be satisfied by the sidewalk/stairway combination incorporated into the current proposed design.

- Due to the demapping of a portion of East 162nd Street, an existing pedestrian route between Jerome and River Avenues would be displaced. This corridor is currently traveled by a low number of pedestrians and connections between the two avenues would still be available at nearby East 164th Street. Hence, the effect of the East 162nd Street demapping on the area's pedestrian flow is expected to be minimal. Also, the proposed project would result in new parkland uses along the waterfront just south of the Major Deegan Expressway southbound Exit 6 off-ramp. Access to this area is available via the pedestrian bridge over the Metro-North railroad tracks that is proposed to be improved and made ADA compliant by the project, and which also functions as the stadium connection to the waterfront parking lots and the Yankee Clipper Ferry Landing.

PEDESTRIAN CIRCULATION

Based on the anticipated changes in pedestrian circulation and the physical and operational elements to be incorporated as part of the proposed project, the East 161st Street pedestrian crossings at Ruppert Plaza and at Macomb's Dam Bridge Approach were also included in the future Build analysis. This analysis accounts for operational assumptions for both vehicular and pedestrian traffic flows. At the River Avenue and East 161st Street intersection, a new set of signal timings that incorporates a pedestrian-only phase for all four analysis time periods was incorporated. Since the Ruppert Plaza intersection is near the western limit of River Avenue's west crosswalk (Babe Ruth Plaza) extension, the signal timing also took into consideration progression requirements between the two intersections. For Macomb's Dam Bridge Approach, signal timing similar to what is being used currently was determined to be appropriate. Tables 16-19 and 16-20 present the crosswalk analysis results for the three River Avenue intersections and the two other East 161st Street intersections (at Ruppert Plaza and at Macomb's Dam Bridge Approach) assessed as part of the Build conditions, respectively. Sidewalk operations at the River Avenue intersections with East 153rd and East 157th Streets, including those along the reopened portion of East 157th Street west of River Avenue, are presented in Table 16-21.

Based on the CEQR criteria outlined earlier, significant adverse crosswalk impacts at the River Avenue and East 161st Street intersection would result for the following crosswalks.

- The north crosswalk during all four analysis time periods;
- The south crosswalk during the weekday post-game time period; and
- The westbound service road east crosswalk during the weekend pre-game time period.

The game-day crosswalk extension incorporated at Babe Ruth Plaza on the west side of the River Avenue and East 161st Street intersection is expected to operate at acceptable levels. While several significant adverse crosswalk impacts have been identified, some of the intersection's crosswalks, most noticeably the east crosswalks at the mainline and at the eastbound service road, would experience noticeable improvements in level of service.

Table 16-19
2009 Build Conditions: River Avenue Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
Weekday Pre-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	24	C	22	D	***8***	***F***
	East	15.5	53	B	53	B	***15***	***D***
	West	115.0	113	A	109	A	33	C
River Avenue at E.161st Street Mainline	East	13.0	172	A	166	A	65	A
	West	115.0	142	A	141	A	47	B
River Avenue at E.161st Street Eastbound Service Road	East	16.0	173	A	162	A	51	B
	South	13.0	108	A	93	A	34	C
	West	115.0	192	A	192	A	57	B
River Avenue at E. 157th Street	North	12.0	165	A	164	A	61	A
	East	12.0	148	A	142	A	40	B
	South	12.0	345	A	337	A	128	A
	West	15.0	120	A	105	A	32	C
River Avenue at E. 153rd Street	North	10.5	225	A	177	A	86	A
	East	15.0	192	A	187	A	66	A
	South	16.5	354	A	331	A	146	A
	West	11.5	175	A	137	A	50	B
Weekday Post-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	16	D	16	D	***5***	***F***
	East	15.5	34	C	34	C	***10***	***E***
	West	115.0	69	A	61	A	20	D
River Avenue at E.161st Street Mainline	East	13.0	107	A	106	A	41	B
	West	115.0	80	A	76	A	26	C
River Avenue at E.161st Street Eastbound Service Road	East	16.0	74	A	70	A	22	D
	South	13.0	54	B	54	B	***18***	***D***
	West	115.0	99	A	99	A	29	C
River Avenue at E. 157th Street	North	12.0	91	A	88	A	34	C
	East	12.0	77	A	73	A	21	D
	South	12.0	238	A	214	A	88	A
	West	15.0	82	A	82	A	22	D
River Avenue at E. 153rd Street	North	10.5	122	A	113	A	47	B
	East	15.0	99	A	95	A	34	C
	South	16.5	194	A	176	A	80	A
	West	11.5	105	A	88	A	30	C
Weekend Pre-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	20	D	19	D	***7***	***F***
	East	15.5	53	B	53	B	***15***	***D***
	West	115.0	99	A	97	A	29	C
River Avenue at E.161st Street Mainline	East	13.0	130	A	126	A	49	B
	West	115.0	124	A	123	A	41	B
River Avenue at E.161st Street Eastbound Service Road	East	16.0	297	A	288	A	87	A
	South	13.0	88	A	83	A	28	C
	West	115.0	159	A	159	A	47	B
River Avenue at E. 157th Street	North	12.0	130	A	129	A	73	A
	East	12.0	119	A	115	A	45	B
	South	12.0	280	A	267	A	156	A
	West	15.0	98	A	83	A	38	C
River Avenue at E. 153rd Street	North	10.5	172	A	126	A	99	A
	East	15.0	150	A	147	A	72	A
	South	16.5	271	A	232	A	167	A
	West	11.5	147	A	106	A	59	B
Weekend Post-Game								
River Avenue at E.161st Street Westbound Service Road	North	16.0	17	D	16	D	***5***	***F***
	East	15.5	55	B	55	B	***16***	***D***
	West	115.0	82	A	76	A	24	C
River Avenue at E.161st Street Mainline	East	13.0	151	A	150	A	57	B
	West	115.0	101	A	100	A	33	C
River Avenue at E.161st Street Eastbound Service Road	East	16.0	256	A	254	A	76	A
	South	13.0	64	A	63	A	20	D
	West	115.0	123	A	123	A	36	C
River Avenue at E. 157th Street	North	12.0	78	A	78	A	44	B
	East	12.0	69	A	63	A	26	C
	South	15.0	72	A	72	A	27	C
	West	12.0	174	A	174	A	67	A
River Avenue at E. 153rd Street	North	10.5	95	A	88	A	55	B
	East	15.0	80	A	77	A	38	C
	South	16.5	150	A	130	A	92	A
	West	11.5	91	A	74	A	36	C

Note: SFP = square feet per pedestrian. Crosswalks determined to operate at mid-LOS D or worse are bolded & italicized.

Table 16-20

2009 Build Conditions: East 161st Street Pedestrian Crosswalk LOS Analysis

Location	Crosswalk	Width (feet)	Without Vehicles		With Vehicles		Maximum Surge	
			SFP	LOS	SFP	LOS	SFP	LOS
Weekday Pre-Game								
Ruppert Plaza at E.161st Street	East	60.0	51	B	51	B	34	C
Macomb's Dam Bridge Approach at E.161st Street	North	20.0	117	A	107	A	46	B
	East	10.0	51	B	45	B	33	C
	South	20.0	117	A	117	A	46	B
Weekday Post-Game								
Ruppert Plaza at E.161st Street	East	60.0	26	C	26	C	***18***	***D***
Macomb's Dam Bridge Approach at E.161st Street	North	20.0	60	A	55	B	24	C
	East	10.0	28	C	26	C	***18***	***D***
	South	20.0	60	A	60	A	24	C
Weekend Pre-Game								
Ruppert Plaza at E.161st Street	East	60.0	44	B	44	B	30	C
Macomb's Dam Bridge Approach at E.161st Street	North	20.0	100	A	89	A	39	C
	East	10.0	42	B	39	C	28	C
	South	20.0	100	A	100	A	39	C
Weekend Post-Game								
Ruppert Plaza at E.161st Street	East	60.0	29	C	29	C	***19***	***D***
Macomb's Dam Bridge Approach at E.161st Street	North	20.0	59	B	55	B	23	D
	East	10.0	27	C	25	C	***18***	***D***
	South	20.0	59	B	59	B	23	D

Note: SFP = square feet per pedestrian
Crosswalks determined to operate at mid-LOS D or worse are bolded & italicized.

Table 16-21
2009 Build Conditions: Pedestrian Sidewalk LOS Analysis

Location	Sidewalk	Effective Width (feet)	15-Minute Two-Way Volume	Average		Platoon	
				PFM	LOS	PFM	LOS
Weekday Pre-Game							
River Avenue north of E.157th Street	East	16	107	0	A	4	A
	West	13	139	1	A	5-	A
E.157th Street west of River Avenue	North	4	230	4	A	8	C
	South	14	714	3	A	7+	C
River Avenue between E.153rd & E.157th Streets	East	10	126	1	A	5-	A
	West	13	106	1	A	5-	A
River Avenue south of E.153rd Street	East	11	212	1	A	5+	B
	West	12	138	1	A	5-	A
E.153rd Street west of River Avenue	North	3.5	99	2	A	6	B
	South	4.5	105	2	A	6	B
Weekday Post-Game							
River Avenue north of E.157th Street	East	16	187	1	A	5-	A
	West	13	251	1	A	5+	B
E.157th Street west of River Avenue	North	4	323	5+	B	9	C
	South	14	1032	5-	A	9	C
River Avenue between E.153rd & E.157th Streets	East	10	231	2	A	6	B
	West	13	178	1	A	5-	A
River Avenue south of E.153rd Street	East	11	422	3	A	7-	B
	West	12	223	1	A	5+	B
E.153rd Street west of River Avenue	North	3.5	175	3	A	7+	C
	South	4.5	185	3	A	7-	B
Weekend Pre-Game							
River Avenue north of E.157th Street	East	16	122	1	A	5-	A
	West	13	159	1	A	5-	A
E.157th Street west of River Avenue	North	4	263	4	A	8	C
	South	14	825	4	A	8	C
River Avenue between E.153rd & E.157th Streets	East	10	148	1	A	5-	A
	West	13	119	1	A	5-	A
River Avenue south of E.153rd Street	East	11	256	2	A	6	B
	West	12	153	1	A	5-	A
E.153rd Street west of River Avenue	North	3.5	113	2	A	6	B
	South	4.5	119	2	A	6	B
Weekend Post-Game							
River Avenue north of E.157th Street	East	16	197	1	A	5-	A
	West	13	268	1	A	5+	B
E.157th Street west of River Avenue	North	4	343	6	B	10-	C
	South	14	1097	5+	B	9	C
River Avenue between E.153rd & E.157th Streets	East	10	268	2	A	6	B
	West	13	196	1	A	5+	B
River Avenue south of E.153rd Street	East	11	496	3	A	7+	C
	West	12	242	1	A	5+	B
E.153rd Street west of River Avenue	North	3.5	195	4	A	8	C
	South	4.5	203	3	A	7+	C

Note: PFM = pedestrians per foot per minute
September 2005 data were used for 2004 existing conditions analysis.
Sidewalks determined to operate at mid-LOS D or worse are bolded & italicized.

At the new 60-foot-wide Ruppert Plaza crossing under both weekday and weekend conditions, pre-game levels were projected at LOS C, while post-game levels would be congested at marginally unacceptable LOS D, constituting a significant adverse pedestrian impact. Similarly, at Macomb's Dam Bridge Approach, pre-game levels for the widened east crosswalk were projected at LOS C,

while post-game operations were determined to be congested at marginally unacceptable LOS D. After the DEIS was published, further evaluations by the design team were conducted to determine the feasibility of widening the west walkway on Macomb's Dam Bridge Approach, thereby accommodating additional pedestrian flow to and from Garage C and lessening crossing volumes on the east side of the intersection. It was concluded that widening this west walkway would have dramatic impacts on the architectural fabric of the landmarked bridge, necessitating the demolition and reconstruction of the monumental stone staircases located on either side of the bridge spanning East 161st Street; the work would also require the demolition of stone masonry piers that mark the abutments on either side of East 161st Street. Furthermore, relocating the northwest stairs would require encroachment into the adjacent triangular park, resulting in a loss of park space. For these reasons, the widening of the west walkway was not pursued. Hence, as stated above, during post-game peak periods, the newly expanded east crosswalk at Macomb's Dam Bridge Approach and East 161st Street would not adequately meet the projected demand. However, as part of the game-day traffic management plan described in Chapter 21, "Mitigation," measures such as turn prohibitions, traffic diversions, and signal timing changes would affect both vehicular and pedestrian operations at the Macomb's Dam Bridge Approach intersections with the East 161st Street service roads. The combined effects of these measures are expected to result in acceptable operating levels for the intersection's east crosswalk. Therefore, a significant adverse pedestrian impact would not result at this location and additional pedestrian mitigation involving further widening would not be required.

The sidewalk analysis results for the River Avenue intersections with East 153rd and East 157th Streets show general improvements in operating levels over existing conditions due to the reduction of available parking south of East 153rd Street, even though nearly 1,000 spaces would be incorporated into proposed new Garage D, located on the east side of River Avenue south of East 151st Street. While the analysis concluded that there would not be any potential significant adverse sidewalk impacts, the redistribution of pedestrian flow, reflecting the availability of a new major pedestrian route through Ruppert Plaza, is expected to result in an increase in pedestrian volumes along East 153rd Street. In total, significant adverse impacts attributable to the proposed project were determined at four (4) pedestrian crosswalks. A discussion of the potential mitigation measures to address these impacts is provided in Chapter 21, "Mitigation."

PEDESTRIAN SAFETY

Accident history for the three-year period from 1999 through 2001 is detailed in Chapter 15, "Traffic and Parking." The data show that none of the locations near the existing and proposed stadiums are classified as high vehicular-pedestrian accident locations (five or more in any year) per *CEQR Technical Manual* guidelines. While increased pedestrian traffic is anticipated along the East 161st Street corridor between River Avenue and Macomb's Dam Bridge Approach, it is expected that design elements and game-day operational measures would continue to facilitate safe pedestrian flow. Further away, a high vehicular-pedestrian accident location was identified for the intersection of Grand Concourse and East 149th Street, where five occurrences were reported in 2001. With the proposed stadium and nearby parking in place, game-day patrons walking between their vehicles and the proposed stadium would be less likely to traverse more remote locations. Hence, the safety conditions at the Grand Concourse and East 149th Street intersection would not be exacerbated by the proposed project and no significant adverse pedestrian safety impacts are anticipated. ✷

A. INTRODUCTION

This chapter examines the potential for air quality impacts from the proposed project. Air quality impacts can be either direct or indirect. Direct impacts stem from air contaminant emissions generated by stationary sources, such as emissions from fuel burned on site for heating, ventilation, and air conditioning (HVAC) systems. Indirect impacts are caused by potential emissions from nearby existing stationary sources and the potential for emissions due to mobile sources/vehicles generated by the project.

The proposed project would include four new public parking garages (Parking Garages A through D) located throughout the project area. Ventilation of air from these garages could potentially result in air quality impacts in the immediate vicinity of the ventilation outlets. In addition, potential effects of stationary source emissions of air toxics from existing nearby industrial facilities on the proposed new parklands and other sensitive uses were assessed.

The analysis concludes that the proposed project would not result in significant adverse air quality impacts. The proposed project would increase traffic volumes at a number of intersection locations but would not result in any exceedances of the City's *de minimis* criteria or the national ambient air quality standards for carbon monoxide (CO). The CO impacts from the proposed project's parking facilities at nearby receptor sites were found to be substantially below the applicable 8-hour CO standard of 9 ppm. Impacts from HVAC systems were projected to be insignificant based on their development size, use of natural gas as the fuel type, and distance to sensitive receptors. Impacts from occasional testing of emergency generators were also determined to be insignificant. The industrial source analysis results determined that the concentrations of air toxic compounds would be lower than the applicable guideline concentration at project sites.

B. POLLUTANTS FOR ANALYSIS

Ambient air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Typically, ambient concentrations of CO and lead are predominantly influenced by mobile source emissions. Emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO and NO_2, collectively referred to as NO_x) come from both mobile and stationary sources. Emissions of sulfur dioxide (SO_2) are associated mainly with stationary sources, and sources utilizing non-road diesel such as diesel trains, marine engines and non-road vehicles such as construction engines, but diesel-powered vehicles, primarily heavy duty trucks and buses, also currently contribute somewhat to these emissions; diesel fuel regulations which will begin to take effect in 2006 will reduce SO_2 emissions from mobile sources to extremely low levels. Particulate matter (PM) is emitted from both stationary and mobile sources. Fine particulate matter is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases

react or condense in the atmosphere. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and volatile organic compounds (VOCs), emitted mainly from industrial processes and mobile sources.

CARBON MONOXIDE

CO, a colorless and odorless gas, is produced in the urban environment primarily by the incomplete combustion of gasoline and other fossil fuels. In urban areas, most CO emissions are from motor vehicles. Since CO is a reactive gas which does not persist in the atmosphere, CO concentrations can vary greatly over relatively short distances; elevated concentrations are usually limited to locations near crowded intersections, heavily traveled and congested roadways, parking lots, and garages. Consequently, CO concentrations must be predicted on a local, or microscale, basis.

The proposed project would result in significant changes in traffic patterns and an increase in traffic volume at some locations in the study area and could potentially result in local increases in CO concentrations. Therefore, a mobile source analysis was conducted at critical intersections in the study area to evaluate future CO concentrations with and without the proposed project. A parking garage analysis was also conducted to evaluate future CO concentrations with the operation of the proposed parking facilities.

NITROGEN OXIDES, VOCS, AND OZONE

NO_x are of principal concern because of their role, together with VOCs, as precursors in the formation of ozone. Ozone is formed through a series of reactions that take place in the atmosphere in the presence of sunlight. Because the reactions are slow, and occur as the pollutants are carried downwind, elevated ozone levels are often found many miles from sources of the precursor pollutants. The effects of NO_x and VOC emissions from all sources are therefore generally examined on a regional basis. The direct contribution of the proposed project to regional emissions of these pollutants would include any added stationary source emissions. The potential change in regional mobile source emissions of these pollutants due to the proposed project is related to the total vehicle miles traveled added or subtracted on various roadway types throughout the New York and New Jersey metropolitan area, which is designated as a severe non-attainment area for ozone by USEPA.

The proposed project would not have a significant effect on the overall volume of vehicular travel in the metropolitan area; therefore, no measurable impact on regional NO_x emissions or on ozone levels is predicted. An analysis of project related emissions of these pollutants from mobile sources was not warranted. However, potential impacts from the fuel to be burned for the proposed project's HVAC systems were evaluated.

LEAD

Lead emissions in air are principally associated with industrial sources and motor vehicles that use gasoline containing lead additives. Most U.S. vehicles produced since 1975, and all produced after 1980, are designed to use unleaded fuel. As these newer vehicles have replaced the older ones, motor vehicle related lead emissions have decreased. As a result, ambient concentrations of lead have declined significantly. Nationally, the average measured atmospheric lead level in 1985 was only about one-quarter the level in 1975.

In 1985, U.S. Environmental Protection Agency (USEPA) announced new rules drastically reducing the amount of lead permitted in leaded gasoline. The maximum allowable lead level in leaded gasoline was reduced from the previous limit of 1.1 to 0.5 grams per gallon effective July 1, 1985, and to 0.1 grams per gallon effective January 1, 1986. Monitoring results indicate that this action has been effective in significantly reducing atmospheric lead concentrations. Even at locations in the New York City area where traffic volumes are very high, atmospheric lead concentrations are far below the national standard of 1.5 micrograms per cubic meter (3-month average).

No significant sources of lead are associated with the proposed project, and, therefore, analysis was not warranted.

RESPIRABLE PARTICULATE MATTER—PM_{10} AND $PM_{2.5}$

PM is a broad class of air pollutants that includes discrete particles of a wide range of sizes and chemical compositions, as either liquid droplets (aerosols) or solids suspended in the atmosphere. The constituents of PM are both numerous and varied, and they are emitted from a wide variety of sources (both natural and anthropogenic). Major anthropogenic sources include the combustion of fossil fuels (e.g., vehicular exhaust, power generation, boilers, engines and home heating), chemical and manufacturing processes, all types of construction, agricultural activities, as well as wood-burning stoves and fireplaces. Particulate matter also acts as a substrate for the adsorption of other pollutants, often toxic and some likely carcinogenic compounds.

As described below, PM is regulated in two size categories: particles with an aerodynamic diameter of less than or equal to 2.5 micrometers, or $PM_{2.5}$, and particles with an aerodynamic diameter of less than or equal to 10 micrometers, or PM_{10}, which includes $PM_{2.5}$. $PM_{2.5}$ has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorbed to the surfaces of the particles, and is also extremely persistent in the atmosphere. $PM_{2.5}$ is mainly derived from combustion material that has volatilized and then condensed to form primary particulate matter (often soon after the release from an exhaust pipe or stack) or from precursor gases reacting in the atmosphere to form secondary PM.

Diesel-powered vehicles, especially heavy duty trucks and buses, are a significant source of respirable PM, most of which is $PM_{2.5}$; PM concentrations may, consequently, be locally elevated near roadways with high volumes of heavy diesel-powered vehicles. The proposed project would not result in any significant increases in heavy-duty diesel vehicle traffic near the project area or in the region, and therefore, an analysis of potential impacts from respirable particulates was not warranted. PM emissions were evaluated for the proposed project's emergency generators since they would utilize diesel fuel.

SULFUR DIOXIDE

SO_2 emissions are primarily associated with the combustion of sulfur-containing fuels: oil and coal.

Due to the federal restrictions on the sulfur content in diesel fuel for on-road vehicles, no significant quantities are emitted from vehicular sources. Monitored SO_2 concentrations in New York City are below the national standards. Vehicular sources of SO_2 are not significant and therefore, an analysis of this pollutant from mobile sources was not warranted. SO_2 emissions

were evaluated for the proposed project's emergency generators since they would utilize diesel fuel.

As part of the proposed project, only natural gas (not No. 2 fuel oil), which contains negligible levels of sulfur, would be burned by the HVAC system boilers. Therefore, potential future levels of SO_2 from the HVAC systems were not examined.

AIR TOXICS

In addition to the criteria pollutants discussed above, air toxics from industrial sources are of concern. Emissions of air toxics from industrial facilities are regulated by the USEPA and the New York State Department of Environmental Conservation (NYSDEC). Federal ambient air quality standards do not exist for non criteria air toxics; however, NYSDEC has issued standards for certain non-criteria compounds, including beryllium, gaseous fluorides, and hydrogen sulfide. NYSDEC has also developed guideline concentrations for numerous air toxic compounds. The NYSDEC guidance document DAR-1 (December 2003) contains a compilation of annual and short-term (1-hour) guideline concentrations for these compounds. The NYSDEC guidance thresholds represent ambient levels that are considered safe for public exposure.

The proposed project is in an area near existing industrial/manufacturing uses. Therefore, an analysis to examine the potential for impacts on the proposed new parklands and other sensitive uses from industrial emissions was performed.

C. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the Clean Air Act, primary and secondary NAAQS have been established for six major air pollutants: CO, NO_2, ozone, respirable PM (both $PM_{2.5}$ and PM_{10}), SO_2, and lead. Primary standards set limits to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. For NO_2, ozone, lead and PM, the primary and secondary standards are the same; there is no secondary standard for CO. USEPA promulgated additional NAAQS which became effective September 16, 1997: a new 8-hour standard for ozone, which will replace the existing 1-hour standard; in addition to retaining the PM_{10} standards, USEPA adopted 24-hour and annual standards for $PM_{2.5}$. These standards have also been adopted as the ambient air quality standards for New York State (see Table 17-1).

STATE IMPLEMENTATION PLAN

The Clean Air Act, as amended in 1990 (CAA) defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by USEPA, the state is required to develop and implement a State Implementation Plan (SIP), which is a state's plan for addressing how it will meet the NAAQS under the deadlines established by the CAA.

Table 17-1
Ambient Air Quality Standards

Pollutant	Primary		Secondary	
	ppm	µg/m^3	ppm	µg/m^3
Carbon Monoxide (CO)				
Maximum 8-Hour Concentration[1]	9	10,000	None	
Maximum 1-Hour Concentration[1]	35	40,000		
Lead				
Maximum Arithmetic Mean Averaged Over 3 Consecutive Months	NA	1.5	NA	1.5
Nitrogen Dioxide (NO_2)				
Annual Arithmetic Average	0.053	100	0.053	100
Ozone (O_3)				
8-Hour Average[2]	0.08	157	0.08	157
Total Suspended Particles (TSP)				
Annual Mean Rural Open Space Rural Residential Urban Residential Urban Industrial	NA	 45 55 65 75	None	
Maximum 24-Hour Concentration	NA	250		
Respirable Particulate Matter (PM_{10})				
Average of 3 Annual Arithmetic Means	NA	50	NA	50
24-Hour Concentration[1]	NA	150	NA	150
Fine Respirable Particulate Matter ($PM_{2.5}$)				
Average of 3 Annual Arithmetic Means	NA	15	NA	15
24-Hour Concentration[3]	NA	65	NA	65
Sulfur Dioxide (SO_2)				
Annual Arithmetic Mean	0.03	80	NA	NA
Maximum 24-Hour Concentration[1]	0.14	365	NA	NA
Maximum 3-Hour Concentration[1]	NA	NA	0.50	1,300

Notes: ppm - parts per million
µg/m^3 - micrograms per cubic meter
NA - not applicable

Particulate matter concentrations are in µg/m^3. Concentrations of all gaseous pollutants are defined in ppm -- approximately equivalent concentrations in µg/m^3 are presented.

TSP levels are regulated by a New York State Standard only. All other standards are National Ambient Air Quality Standards (NAAQS).

[1] Not to be exceeded more than once a year.

[2] Three-year average of the annual fourth highest daily maximum 8-hr average concentration.

[3] Not to be exceeded by the 98th percentile averaged over 3 years.

Sources: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards;
6 NYCRR Part 257: Air Quality Standards.

USEPA has recently re-designated New York City as in attainment for CO. The CAA requires that a maintenance plan ensure continued compliance with the CO NAAQS for former non-attainment areas. New York City is also committed to implementing site-specific control measures throughout the City to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period.

Manhattan has been designated as a moderate NAA for PM_{10}. On December 17, 2004, USEPA took final action designating the five boroughs of New York City as well as Nassau, Rockland, Suffolk, Westchester, and Orange counties as non-attainment under the NAAQS for $PM_{2.5}$. State and local governments are required to develop implementation plans designed to meet the standards by early 2008.

Nassau, Rockland, Suffolk, Westchester, and the five counties of New York City have been designated as severe non-attainment for the ozone 1-hour standard. In November 1998, New York State submitted its *Phase II Alternative Attainment Demonstration for Ozone*, which was finalized and approved by USEPA effective March 6, 2002, addressing attainment of the 1-hour ozone NAAQS by 2007. New York State has recently submitted revisions to the SIP; these SIP revisions included additional emission reductions that USEPA requested to demonstrate attainment of the standard, and an update of the SIP estimates using the most current versions of two USEPA models—the mobile source emissions model MOBILE6.2, and the non-road emissions model NONROAD—which have been updated to reflect current knowledge of engine emissions, and the latest mobile and non-road engine emissions regulations. On April 15, 2004, USEPA designated these same counties as moderate non-attainment for the new 8-hour ozone standard which became effective as of June 15, 2004. USEPA revoked the 1-hour standard in June, 2005; however, the specific control measures for the 1-hour standard included in the SIP will be required to stay in place until the 8-hour standard is attained. The discretionary emissions reductions in the SIP would also remain but could be revised or dropped based on modeling. A new SIP for ozone will be adopted by the state no later than June 15, 2007, with a target attainment deadline of June 15, 2010.

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

Any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see Table 17-1) would be deemed to have a potential significant adverse impact. In addition, in order to maintain concentrations lower than the NAAQS in attainment areas, or to ensure that concentrations will not be significantly increased in non-attainment areas, threshold levels have been defined for certain pollutants; any action predicted to increase the concentrations of these pollutants above the thresholds would be deemed to have a potential significant adverse impact, even in cases where violations of the NAAQS are not predicted.

DE MINIMIS CRITERIA REGARDING CO IMPACTS

New York City has developed *de minimis* criteria to assess the significance of the incremental increase in CO concentrations that would result from the proposed project, as set forth in the *City Environmental Quality Review (CEQR) Technical Manual*. These criteria set the minimum change in CO concentration that defines a significant environmental impact. Significant increases of CO concentrations in New York City are defined as: (1) an increase of 0.5 ppm or more in the maximum 8-hour average CO concentration at a location where the predicted No Action 8-hour concentration is equal to or between 8 and 9 ppm; or (2) an increase of more than

half the difference between baseline (i.e., No Action) concentrations and the 8-hour standard, when No Action concentrations are below 8.0 ppm.

DE MINIMIS CRITERIA REGARDING $PM_{2.5}$ IMPACTS

The New York City Department of Environmental Protection (NYCDEP) is currently employing interim guidance criteria for evaluating the potential $PM_{2.5}$ impacts from NYCDEP projects subject to CEQR. The interim guidance for determination of potential significant adverse impacts from $PM_{2.5}$ are as follows:

- Predicted 24–hour (daily) average increase in $PM_{2.5}$ concentrations greater than 5 $\mu g/m^3$ at a discrete location of public access, either at ground-level or elevated locations (microscale analysis).
- Predicted annual average increase in ground-level $PM_{2.5}$ concentrations greater than 0.1 $\mu g/m^3$ on a neighborhood scale (i.e., the computed annual concentration averaged over receptors placed over a 1-kilometer-square grid, centered on the location where the maximum impact is predicted).
- NYSDEC considers incremental annual impacts of $PM_{2.5}$ greater than 0.3 $\mu g/m^3$ from stationary sources, at any discrete ground-level or elevated location as having a potential for significant impact.

Actions that would result in predicted incremental $PM_{2.5}$ impacts greater than the interim guidance criteria above are considered to result in potential significant adverse impacts. Actions subject to CEQR, which fail such criteria require the preparation of an Environmental Impact Statement (EIS) and an examination of potential measures to reduce or eliminate such potential significant adverse impacts.

D. METHODOLOGY FOR PREDICTING POLLUTANT CONCENTRATIONS

MOBILE SOURCES

The prediction of vehicle-generated CO concentrations in an urban environment incorporates meteorological phenomena, traffic conditions, and physical configurations. Air pollutant dispersion models mathematically simulate how traffic, meteorology, and geometry combine to affect pollutant concentrations. The mathematical expressions and formulations contained in the various models attempt to describe an extremely complex physical phenomenon as closely as possible. However, because all models contain simplifications and approximations of actual conditions and interactions and it is necessary to predict the reasonable worst case condition, most of these dispersion models predict conservatively high concentrations of pollutants, particularly under adverse meteorological conditions.

The mobile source analysis for the proposed project employs a model approved by USEPA that has been widely used for evaluating air quality impacts of projects in New York City, other parts of New York State, and throughout the country. The modeling approach includes a series of conservative assumptions relating to meteorology, traffic, and background concentration levels resulting in a conservatively high estimate of expected pollutant concentrations that could ensue from the proposed project.

DISPERSION MODEL FOR MICROSCALE ANALYSES

Maximum CO concentrations adjacent to streets near the project area, resulting from vehicle emissions, were predicted using the CAL3QHC model Version 2.0.[1] The CAL3QHC model employs a Gaussian (normal distribution) dispersion assumption and includes an algorithm for estimating vehicular queue lengths at signalized intersections. CAL3QHC predicts emissions and dispersion of CO from idling and moving vehicles. The queuing algorithm includes site-specific traffic parameters, such as signal timing and delay calculations (from the 2000 *Highway Capacity Manual* traffic forecasting model), saturation flow rate, vehicle arrival type, and signal actuation (i.e., pre-timed or actuated signal) characteristics to accurately predict the number of idling vehicles. The CAL3QHC model has been updated with an extended module, CAL3QHCR, which allows for the incorporation of hourly meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters. This refined version of the model, CAL3QHCR, is employed if maximum predicted future CO concentrations are greater than the applicable ambient air quality standards or when *de minimis* thresholds are exceeded using the first-level CAL3QHC modeling.

METEOROLOGY

In general, the transport and concentration of pollutants from vehicular sources are influenced by three principal meteorological factors: wind direction, wind speed, and atmospheric stability. Wind direction influences the accumulation of pollutants at a particular prediction location (receptor), and atmospheric stability accounts for the effects of vertical mixing in the atmosphere.

CO calculations were performed using the CAL3QHC model. In applying the CAL3QHC model, the wind angle was varied to determine the wind direction resulting in the maximum concentrations at each receptor.

Following the USEPA guidelines[2], CO computations were performed using a wind speed of 1 meter per second, and the neutral stability class D. The 8-hour average CO concentrations were estimated by multiplying the predicted 1-hour average CO concentrations by a factor of 0.70 to account for persistence of meteorological conditions and fluctuations in traffic volumes. A surface roughness of 3.21 meters was chosen. At each receptor location, the wind angle that maximized the pollutant concentrations was used in the analysis regardless of frequency of occurrence. These assumptions ensured that worst-case meteorology was used to estimate impacts.

ANALYSIS YEAR

The CO microscale analyses were performed for existing conditions (2004) and 2009, the year by which the proposed stadium would begin operation. The Build year analysis was performed both without the proposed project (the No Build condition) and with the proposed project (the Build condition).

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[1] *User's Guide to CAL3QHC, A Modeling Methodology for Predicted Pollutant Concentrations Near Roadway Intersections*, Office of Air Quality, Planning Standards, USEPA, Research Triangle Park, North Carolina, Publication USEPA-454/R-92-006.

[2] *Guidelines for Modeling Carbon Monoxide from Roadway Intersections*, USEPA Office of Air Quality Planning and Standards, Publication USEPA-454/R-92-005.

VEHICLE EMISSIONS DATA

Vehicular CO emission factors were computed using the USEPA mobile source emissions model, MOBILE6.2.[1] This emissions model is capable of calculating engine emission factors for various vehicle types, based on the fuel (gasoline, diesel, or natural gas), meteorological conditions, vehicle speeds, vehicle age, roadway types, number of starts per day, and engine soak time, and various other factors that influence emissions, such as inspection maintenance programs. The inputs and use of MOBILE6.2 incorporates the most current guidance available from NYSDEC and NYCDEP.

Vehicle classification data were based on field studies. The general categories of vehicle types for specific roadways were divided into subcategories based on their relative fleet-wide breakdown.[2] Appropriate credits were used to accurately reflect the inspection and maintenance program. The inspection and maintenance programs require inspections of automobiles and light trucks to determine if pollutant emissions from the vehicles' exhaust systems are below emission standards. Vehicles failing the emissions test must undergo maintenance and pass a repeat test to be registered in New York State.

An ambient temperature of 43^{o} Fahrenheit was assumed for the emission computations, based on current NYCDEP guidance and the *CEQR Technical Manual*.

TRAFFIC DATA

Traffic data for the air quality analysis were derived from existing traffic counts, projected future growth in traffic, and other information developed as part of the traffic analysis for the proposed project (see Chapter 15, "Traffic and Parking"). Traffic data for the No Build condition and the Build condition were utilized in the respective air quality modeling scenarios. The weekday PM (5:15-6:15 PM) pre-game and weekend PM (4-5 PM) post-game peak periods were subjected to micro-scale analysis. These time periods were selected for the mobile source analysis because they produce the maximum anticipated project-generated traffic and have poor levels of service, and therefore have the greatest potential for significant air quality impacts.

BACKGROUND CONCENTRATIONS

Background concentrations are those pollutant concentrations not directly accounted for in the modeling results, which directly account for vehicle-generated emissions on the streets within 1,000 feet and line-of-sight of the receptor location. Background concentrations must be added to modeling results to obtain total pollutant concentrations at a study site.

The 8-hour average background concentration used in this analysis was 2.0 ppm for the 2009 predictions. This value, obtained from NYCDEP, is based on CO concentrations measured at NYSDEC monitoring stations.

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[1] USEPA, User's Guide to MOBILE6.1 and MOBILE6.2: Mobile Source Emission Factor Model, USEPA420-R-02-028, October 2002.

[2] The MOBILE6.2 emissions model utilizes 28 vehicle categories by size and fuel. Traffic counts and predictions are based on broader size categories, and then broken down according to the fleet-wide distribution of subcategories and fuel types (diesel, gasoline, or alternative).

MOBILE SOURCE ANALYSIS SITES

A total of three analysis sites were selected for microscale analysis (see Table 17-2 and Figure 17-1). The intersections were selected because they are the locations in the study area where the largest shift in traffic patterns is expected and, therefore, where the greatest air quality impacts and maximum changes in the pollutant concentrations would be expected. Each of these intersections was analyzed for CO.

Table 17-2
Mobile Source Analysis Intersection Locations

Analysis Site	Location
1	East 157th Street & River Avenue
2	East 161st Street & Jerome Avenue
3	Macombs Dam Bridge & I-87 Southbound Off-Ramp

RECEPTOR LOCATIONS

Multiple receptors (i.e., precise locations at which concentrations are predicted) were modeled at each of the selected sites; receptors were placed along the approach and departure links at spaced intervals. The receptors were placed at sidewalk or roadside locations near intersections with continuous public access.

PARKING FACILITIES

The proposed project would result in the operation of four new parking garages, all of which would provide service for the proposed stadium. Emissions from vehicles using the parking facilities could potentially affect ambient levels of CO in their immediate vicinity. An analysis was performed using the methodology set forth in the *CEQR Technical Manual* Appendices 1 and 3. Each of the garages was analyzed individually. In addition, an analysis was performed for Parking Garage A, which has the largest capacity (approximately 1,700 spaces) and Parking Garage C (1,120 spaces) to determine maximum potential cumulative impacts, since they are located across the street from each other.

Emissions from vehicles entering, parking, and exiting the garages were estimated using the USEPA MOBILE6.2 mobile source emission model and an ambient temperature of 43°F. This temperature is based on the latest guidance from NYCDEP. For all arriving and departing vehicles, an average speed of 5 miles per hour was conservatively assumed for travel within the parking garages. The concentration of CO within the mechanically vented garages was calculated assuming a minimum ventilation rate, based on New York City Building Code requirements, of 1 cubic foot per minute of fresh air per gross square foot of garage area. To determine compliance with the NAAQS, CO concentrations were determined for the maximum 8-hour average period. (The 1-hour standard would not be exceeded, and the 8-hour values are the most critical for impact assessment since no violations of the 1-hour standard have been measured in New York City within the last 10 years.)

The CO concentrations were determined for the time periods when overall garage usage would be the greatest, considering the hours when the greatest number of vehicles would exit the facility (i.e., weekend post-game). Departing vehicles were assumed to be operating in a “cold-start” mode, emitting higher levels of CO than arriving vehicles. Maximum emissions would result in the highest CO levels and the greatest potential impacts. Traffic data for the parking

garage analyses were derived from the parking accumulation tables (see Chapter 15, "Traffic and Parking").

STATIONARY SOURCES

A stationary source analysis was conducted to evaluate potential impacts from the proposed project's HVAC system for the proposed stadium. In addition, an assessment was conducted to determine the potential for impacts from industrial activities within the project area on the proposed new parklands and other sensitive uses.

COMBUSTION SOURCE ANALYSIS

HVAC Systems

To assess air quality impacts associated with emissions from the project's HVAC systems, a screening analysis was performed using the methodology described in the *CEQR Technical Manual*. This methodology determines the threshold of development size below which the action would not have a significant impact. The screening procedures utilize information regarding the type of fuel to be burned, the maximum development size of enclosed areas and the HVAC exhaust stack height, to evaluate whether or not a significant impact is possible. Based on the distance from the development to the nearest building of similar or greater height, if the maximum development size is greater than the threshold size in the *CEQR Technical Manual*, then there is the potential for significant air quality impacts and a refined dispersion modeling analysis would be required. Otherwise, the source passes the screening analysis and no further study is required.

Emergency Generators

The proposed project would include emergency generators which would be fueled by No. 2 diesel fuel. Generators are anticipated to be installed at the proposed stadium and Parking Garages A through D. The generators would be used in the event of the sudden loss of power from the electrical grid. Occasionally, the generators would be tested for a short period of time to ensure their availability and reliability in the event of an actual emergency. Emergency generators are exempt from NYSDEC air permitting requirements, but would likely require a registration issued by NYCDEP. The emergency generators would be installed and operated in accordance with NYCDEP requirements, as well as other applicable codes and standards. Although potential air quality impacts from the emergency generators are considered insignificant since they would be used only for testing purposes outside of an actual emergency, a screening analysis was conducted to estimate and evaluate maximum pollutant concentrations from these sources.

Based on the preliminary design information available, the largest capacity generator would be for use at the proposed stadium (2,000 kilowatts); therefore, this source was selected for analysis. Due to the short duration of generator testing (approximately 1 hour per month) and the locations of the proposed stadium generator and generators at other project sites, cumulative impacts are not a concern. This analysis was performed using the USEPA SCREEN3 Model (version 96043). The SCREEN3 model is a screening version of the USEPA Industrial Source Complex (ISC3) refined dispersion model, and is used for determining maximum concentrations from a single source using predefined meteorological conditions.

INDUSTRIAL SOURCES

Pollutants emitted from the exhaust vents of existing permitted industrial facilities were examined to identify potential adverse impacts on the open spaces associated with the proposed project.

Screening

Potential effects from existing industrial operations in the surrounding area on the proposed project were analyzed. All industrial air pollutant emission sources within 400 feet of the proposed project boundaries were considered for inclusion in the air quality impact analysis.

A request was made to NYCDEP's Bureau of Environmental Compliance (BEC) and NYSDEC to obtain the most current information regarding the release of air pollutants from all existing manufacturing or industrial sources within the entire study area. The data provided in the air permits was compiled in a database of source locations, air emission rates, and other data pertinent to determining source impacts. A comprehensive search was also performed to identify NYSDEC Title V permits and permits listed in the USEPA Envirofacts database.[1] Facilities that appeared in the Envirofacts database but did not also possess a NYCDEP certificate to operate were cross-referenced against NYSDEC's Air Guide-1 software emissions database, which presents a statewide compilation of permit data for toxic air pollutants, to obtain emissions data and stack parameters.

The potential ambient concentrations of each air toxic contaminant were determined using a screening database based on the ISC3 dispersion model. The distances selected for each source were the minimum distances between the property boundary of the project sites with sensitive uses and the source sites. Predicted worst-case impacts on the proposed project were compared with the short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) recommended in NYSDEC's DAR-1 AGC/SGC tables. These guideline concentrations present the airborne concentrations, which are applied as a screening threshold, to determine if the affected project sites could be subject to significant adverse impacts from nearby sources of air pollution.

Dispersion Modeling

Since impacts exceeding a NYSDEC guideline concentration were predicted using the screening procedure, a refined ISC3 modeling analysis was performed for determining ambient concentrations for trichloroethylene. The ISC3 model calculates pollutant concentrations from one or more sources based on hourly meteorological data. Computations with the ISC3 model to determine impacts from point sources were made assuming stack tip downwash, buoyancy-induced dispersion, gradual plume rise, urban dispersion coefficients and wind profile exponents, no collapsing of stable stability classes, and elimination of calms. This modeling was performed using five years (1999-2003) of meteorological data: surface data from LaGuardia Airport and concurrent upper air data from Brookhaven, New York.

[1] USEPA, Envirofacts Data Warehouse, http://oaspub.epa.gov/enviro/ef_home2.air.

E. EXISTING CONDITIONS

EXISTING MONITORED AIR QUALITY CONDITIONS (2004)

Monitored background concentrations of CO, SO_2, particulate matter, NO_2, lead, and ozone ambient air quality data were obtained from NYSDEC. As shown in Table 17-3, these values are the most recent data that have been made available by NYSDEC for nearby monitoring stations. There were no observed violations of the NAAQS for the pollutants at these sites in 2004.

Table 17-3
Representative Monitored Ambient Air Quality Data

Pollutants	Location	Units	Period	Concentrations			Number of Exceedances of Federal Standard	
				Mean	Highest	Second Highest	Primary	Secondary
CO	New York Botanical Gardens	ppm	8-hour	-	2.0	2.0	0	-
			1-hour	-	3.3	2.8	0	-
SO_2	I.S. 52	ppm	Annual	0.010	-	-	0	-
			24-hour	-	0.036	0.035	0	-
			3-hour	-	0.089	0.080	-	0
Respirable Particulates (PM_{10})	I.S. 52	$\mu g/m^3$	Annual	18	-	-	0	0
			24-hour	-	49	40	0	0
Respirable Particulates ($PM_{2.5}$)	I.S. 52	$\mu g/m^3$	Annual	13.8	-	-	-	-
			24-hour	-	52.8	47.4	-	-
NO_2	I.S. 52	ppm	Annual	0.03	-	-	0	0
Lead	Susan Wagner School	$\mu g/m^3$	3-month	-	0.01	0.01	0	-
O_3	I.S. 52	ppm	1-hour	-	0.094	0.091	0	0

Source: NYSDEC—2004 Annual New York State Air Quality Report.

PREDICTED EXISTING CO CONCENTRATIONS FOR MOBILE SOURCES

As noted previously, receptors were placed at multiple sidewalk locations next to the intersections under analysis. The receptor with the highest predicted CO concentrations was used to represent these intersection sites for the existing conditions. CO concentrations were calculated for each receptor location, at each intersection, for each peak period specified above.

Table 17-4 shows the maximum predicted existing (2004) 8-hour average CO concentrations at the analysis intersections (no 1-hour values are shown since predicted values are much lower than the standard). At all receptor sites, the maximum predicted 8-hour average CO concentrations are within the national standard of 9 ppm.

Table 17-4
(2004) Maximum Predicted 8-Hour Average
Existing Carbon Monoxide Concentrations
(parts per million)

Site	Location	Time Period	Existing 8-Hour CO Concentration (ppm)
1	East 157th Street & River Avenue	Weekday PM	2.9
		Weekend PM	2.9
2	East 161st Street & Jerome Avenue	Weekday PM	4.4
		Weekend PM	3.8
3	Macombs Dam Bridge & I-87 Southbound Off-Ramp	Weekday PM	8.3
		Weekend PM	8.1

Notes:
8-hour CO standard is 9 ppm.

F. THE FUTURE WITHOUT THE PROPOSED PROJECT

MOBILE SOURCES ANALYSIS

CO concentrations without the proposed project were determined for the 2009 Build year using the methodology previously described. Table 17-5 presents the future maximum predicted 8-hour average CO concentrations without the proposed project (i.e., 2009 No Build values) at the analysis intersections in the project study area. The values shown are the highest predicted concentrations at the receptor locations for each of the time periods analyzed.

Table 17-5
Future (2009) Maximum Predicted 8-Hour Average
No Build Carbon Monoxide Concentrations
(parts per million)

Site	Location	Time Period	8-Hour CO Concentration (ppm)
1	East 157th Street & River Avenue	Weekday PM	2.6
		Weekend PM	2.5
2	East 161st Street & Jerome Avenue	Weekday PM	3.5
		Weekend PM	3.1
3	Macombs Dam Bridge & I-87 Southbound Off-Ramp	Weekday PM	5.7
		Weekend PM	5.7

Notes:
8-hour CO standard is 9 ppm.
An adjusted ambient background concentration of 2.0 ppm is included in the No Build values presented above.

Compared to Table 17-4, predicted No Build values are lower than Existing Conditions. The decrease in CO concentrations primarily reflects the increasing proportion of newer vehicles with more effective pollution controls, as well as the continuing benefits of the New York State I&M Program.

G. PROBABLE IMPACTS OF THE PROPOSED PROJECT

INTRODUCTION

The proposed project would result in increased mobile source emissions in the immediate vicinity of the project area. The proposed project could also affect the surrounding community with emissions from stationary sources. The following sections present the results of the studies performed to analyze the potential impacts on the surrounding community from project-related sources. In addition, the impacts of existing industrial sources on the proposed project's sensitive uses are also evaluated.

MOBILE SOURCES ANALYSIS

CO concentrations with the proposed project were determined for the 2009 Build year using the methodology previously described. Table 17-6 presents the future maximum predicted 8-hour average CO concentrations with the proposed project (i.e., 2009 Build values) at the three analyzed intersections. Since no violations of the 1-hour CO standard have been measured in New York City within the last 10 years, 1-hour averages were not summarized in this report (although all 1-hour predicted CO concentrations would be well within the applicable standard).

Table 17-6
Future (2009) Maximum Predicted 8-Hour Average
Project Build Carbon Monoxide Concentrations (parts per million)

Site	Location	Time Period	8-Hour CO Concentration (ppm)	Not-To-Exceed *De minimis* Criteria (ppm)
1	East 157th Street & River Avenue	Weekday PM	2.6	5.8
		Weekend PM	2.8	5.7
2	East 161st Street & Jerome Avenue	Weekday PM	3.9	6.2
		Weekend PM	3.8	6.1
3	Macombs Dam Bridge & I-87 Southbound Off-Ramp	Weekday PM	6.7	7.4
		Weekend PM	6.0	7.4

Notes:
8-hour CO standard is 9 ppm.
An adjusted ambient background concentration of 2.0 ppm is included in the project Build values presented above.
Values marked with an asterisk represent concentrations estimated using the refined CAL3QHCR model.

The values shown are the highest predicted concentration for each of the time periods analyzed. Also shown in the table are the *de minimis* criteria used to determine the significance of the incremental increase in CO concentrations that would result from the proposed project. The *de minimis* criteria are derived, as previously explained, using procedures outlined in the *CEQR Technical Manual* (2001) that set a minimum allowable change in 8-hour average CO concentrations from the proposed project.

The results indicate that in the future with the proposed project *de minimis* criteria would not be exceeded. In addition, with or without the proposed project in 2009, the maximum predicted ambient CO concentrations at the intersections analyzed would be lower than the national ambient air quality standards. Therefore, there would be no significant adverse mobile source air quality impacts.

PARKING FACILITIES

Based on the methodology previously described, the maximum predicted CO concentrations from the proposed parking facilities were analyzed using two receptor points: a near side receptor on the same side of the street as the parking facility and a far side receptor on the opposite side of the street from the parking facility. The total CO impacts included both background CO levels and contributions from traffic on adjacent roadways. When more than one roadway was adjacent to the parking facility, the roadway with higher traffic (i.e., greater CO levels) was used in the analysis.

The maximum overall predicted future CO concentrations, with ambient background levels, at sidewalk receptor locations, were predicted to be 8.68 ppm and 3.22 ppm for the 1- and 8-hour periods, respectively. The maximum 1- and 8-hour contribution from the proposed project's parking facilities were predicted to be 2.68 ppm and 1.22 ppm, respectively. The values are the highest predicted concentrations for any time period analyzed.

The CO impacts from the parking facilities were substantially below the applicable standard of 9 ppm. Therefore, it can be concluded that the parking facilities would not result in any significant adverse air quality impacts.

STATIONARY SOURCES

COMBUSTION SOURCE ANALYSIS

HVAC Systems

The primary stationary source of air pollutants associated with the proposed project would be emissions from the combustion of natural gas by HVAC equipment from the proposed stadium. The primary pollutant of concern when burning natural gas is NO_2. The screening methodology in the *CEQR Technical Manual* was utilized for the analysis, with the size of the spaces that are to be heated in the proposed stadium in square feet (i.e., approximately 413,000 ft^2) and the use of natural gas as fuel. The closest building of similar or greater height found in the project study area was at an approximate distance of 115 feet from the HVAC stack on the roof of the proposed stadium. From this information, it was determined that the proposed project would not result in any significant stationary source air quality impacts because at this distance, the project would be well below the maximum permitted size derived from Figure 3Q-10 of the *CEQR Technical Manual*.

Emergency Generators

To assess the proposed project's impact on the existing study area from testing of emergency generator systems, the SCREEN3 model was used. The primary pollutants of concern associated with diesel fuel-fired emergency generators are PM, and SO_2. NO_2 impacts (due to NO_x emissions), which are compared to an annual ambient air quality standard, are considered negligible due to the short duration and frequency of generator equipment testing. The results of the analysis, presented in Table 17-7, demonstrated that maximum impacts from emergency generators, when added to background concentrations, are substantially below ambient air quality standards.

Table 17-7
Maximum Modeled Pollutant Concentrations from Emergency Generators (μg /m^3)

Pollutant	Concentration Due to Stack Emission	Maximum Background Concentration	Total Concentration	Standard
SO_2—3-Hour	18.8	232	250.8	1,300
SO_2—24-Hour	2.4	133	135.4	365
SO_2— Annual	0.08	29	29.1	80
PM_{10}—24-Hour	1.6	46	47.6	150
PM_{10}—Annual	0.05	21	21.1	50

Notes: Background concentrations based on NYSDEC monitoring data from IS52 site (2000-2004 for NO_2 and SO_2 and 2002-2004 for PM_{10}).

The air quality modeling analysis also determined the highest predicted increase in 24-hour and annual average $PM_{2.5}$ concentrations from the emergency generators. The emission rates for $PM_{2.5}$ were assumed to be equivalent to PM_{10} for screening purposes. Therefore, the maximum predicted $PM_{2.5}$ impacts are the same as reported in Table 17-7 for PM_{10}, i.e., a 24-hour average concentration of 1.6 μg/m^3 and an annual concentration of 0.05 μg/m^3. Therefore, the maximum 24-hour incremental impacts would be less than the applicable interim guidance criterion of 5 μg/m^3. On an annual basis, the projected $PM_{2.5}$ impacts would be less than the NYSDEC policy threshold of 0.3 μg/m^3, and the NYCDEP interim guidance criterion of 0.1 μg/m^3.

Therefore, there would be no significant air quality impacts from the testing of emergency generators.

INDUSTRIAL SOURCE IMPACTS

SCREENING

As discussed above, a study was conducted to identify manufacturing and industrial uses within 400 feet of the projected development sites. NYCDEP-BEC and USEPA permit databases were used to identify existing sources of industrial emissions. Only one facility was identified within 400 feet of the project area, an elevator parts manufacturer.

The screening procedure used to estimate the emissions from the business is based on information contained in the operational permits obtained from BEC and NYSDEC. The permits issued by BEC describe potential contaminants emitted by the permitted processes, hours per day and days per year in which there may be emissions (which is related to the hours of business operation), and the characteristics of the emission exhaust systems (temperature, exhaust velocity, height, and dimensions of exhaust.) The Air Guide-1 software program contains information on sources permitted by NYSDEC. It summarizes short-term and annual emissions by pollutant and facility.

Because the screening analysis identified a potential impact on the project's open space from a process using tricholorethylene, a more refined dispersion analysis was undertaken.

DISPERSION MODELING

As a result of the potential impacts predicted from the initial industrial source screening analysis, a detailed analysis of industrial source impacts was undertaken to analyze potential impacts on the proposed project's open spaces, following the methodology previously described. The results of the analysis determined that the concentrations of trichloroethylene would be lower than the NYSDEC AGC of 0.5 micrograms per cubic meter at project sites. Therefore, based on the data available on the surrounding industrial uses, the proposed project would not experience significant air quality impacts from industrial facilities.

CONSISTENCY WITH NEW YORK STATE AIR QUALITY IMPLEMENTATION PLAN

Maximum predicted pollutant concentrations with the proposed project would be less than the national ambient air quality standards. Therefore, the proposed project would be consistent with the New York State Implementation Plan (SIP). ✷

A. INTRODUCTION

Noise pollution in an urban area comes from many sources. Some sources are activities essential to the health, safety, and welfare of the City's inhabitants, such as noise from emergency vehicle sirens, garbage collection operations, and construction and maintenance equipment. Other sources, such as traffic, stem from the movement of people and goods, activities that are essential to the viability of the City as a place to live and do business. Although these and other noise-producing activities are necessary to a city, the noise they produce is undesirable. Urban noise detracts from the quality of the living environment and there is increasing evidence that excessive noise represents a threat to public health. This noise analysis focuses on the noise generated by changes in traffic and vendor/crowd noise that would occur with as a result of the proposed project.

The analysis concludes that changes in noise levels at the new parks proposed at River Avenue and East 157th Street and at the Harlem River waterfront would result in potentially significant noise impacts on users. There are no practical and feasible mitigation measures that can be implemented to reduce these noise levels below the guideline noise level. Noise levels at these new parks would, however, be comparable to noise levels at existing New York City parks, including portions of Central Park, Hudson River Park, Riverside Park, and Van Cortlandt Park and Pelham Bay Park, as well as the existing Macomb's Dam and John Mullaly Parks. No other significant adverse noise impacts would result from the proposed project.

B. NOISE FUNDAMENTALS

Quantitative information on the effects of airborne noise on people is well documented. If sufficiently loud, noise may adversely affect people in several ways. For example, noise may interfere with human activities, such as sleep, speech communication, and tasks requiring concentration or coordination. It may also cause annoyance, hearing damage, and other physiological problems. Several noise scales and rating methods are used to quantify the effects of noise on people. These scales and methods consider such factors as loudness, duration, time of occurrence, and changes in noise level with time. However, it must be remembered that all the stated effects of noise on people vary greatly with the individual.

"A"-WEIGHTED SOUND LEVEL (dBA)

Noise is typically measured in units called decibels (dB), which are 10 times the logarithm of the ratio of the sound pressure squared to a standard reference presence squared. Because loudness is important in the assessment of the effects of noise on people, the dependence of loudness on frequency must be taken into account in the noise scale used in environmental assessments. One of the simplified scales that accounts for the dependence of perceived loudness on frequency is the use of a weighting network, known as "A"-weighting, in the measurement system, to simulate the response of the human ear. For most noise assessments, the A-weighted sound

pressure level in units of dBA is used in view of its widespread recognition and its close correlation with perception. In the current study, all measured noise levels are reported in dBA or A-weighted decibels. Common noise levels in dBA are shown in Table 18-1.

Table 18-1
Common Noise Levels

Sound Source	(dBA)
Military jet, air raid siren	130
Amplified rock music	110
Jet takeoff at 500 meters	100
Freight train at 30 meters	95
Train horn at 30 meters	90
Heavy truck at 15 meters	
Busy city street, loud shout	80
Busy traffic intersection	
Highway traffic at 15 meters, train	70
Predominantly industrial area	60
Light car traffic at 15 meters, city or commercial areas or residential areas close to industry	
Background noise in an office	50
Suburban areas with medium density transportation	
Public library	40
Soft whisper at 5 meters	30
Threshold of hearing	0

Note: A 10 dBA increase in level appears to double the loudness, and a 10 dBA decrease halves the apparent loudness.

Sources: Cowan, Jampes P. *Handbook of Environmental Acoustics,* Van Nostrand Reinhold, New York, 1994.
Egan, M. David, Architectural Acoustics. McGraw-Hill Book Company, 1988.

COMMUNITY RESPONSE TO CHANGES IN NOISE LEVELS

The average ability of an individual to perceive changes in noise levels is well documented (see Table 18-2). Generally, changes in noise levels less than 3 dBA are barely perceptible to most listeners, whereas 10 dBA changes are normally perceived as doublings (or halvings) of noise loudness. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Table 18-2
Average Ability to Perceive Changes in Noise Levels

Change (dBA)	Human Perception of Sound
2-3	Barely perceptible
5	Readily noticeable
10	A doubling or halving of the loudness of sound
20	A "dramatic change"
40	Difference between a faintly audible sound and a very loud sound

Source: Bolt Beranek and Neuman, Inc., *Fundamentals and Abatement of Highway Traffic Noise*, Report No. PB-222-703. Prepared for Federal Highway Administration, June 1973.

It is also possible to characterize the effects of noise on people by studying the aggregate response of people in communities. The rating method used for this purpose is based on a statistical analysis of the fluctuations in noise levels in a community, and integrating the fluctuating sound energy over a known period of time, most typically during 1 hour or 24 hours.

Various government and research institutions have proposed criteria that attempt to relate changes in noise levels to community response. One commonly applied criterion for estimating response is incorporated into the community response scale proposed by the International Standards Organization (ISO) of the United Nations (see Table 18-3). This scale relates changes in noise level to the degree of community response and permits direct estimation of the probable response of a community to a predicted change in noise level.

Table 18-3
Community Response to Increases in Noise Levels

Change (dBA)	Category	Description
0	None	No observed reaction
5	Little	Sporadic complaints
10	Medium	Widespread complaints
15	Strong	Threats of community action
20	Very strong	Vigorous community action

Source: International Standards Organization, *Noise Assessment with Respect to Community Responses*, ISO/TC 43. (New York: United Nations, November 1969).

NOISE DESCRIPTORS USED IN IMPACT ASSESSMENT

Because the sound pressure level unit of dBA describes a noise level at just one moment and very few noises are constant, other ways of describing noise over more extended periods have been developed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific period as if it had been a steady, unchanging sound. For this condition, a descriptor called the "equivalent sound level," L_{eq}, can be computed. L_{eq} is the constant sound level that, in a given situation and period (e.g., 1 hour, denoted by $L_{eq(1)}$, or 24 hours, denoted as $L_{eq(24)}$), conveys the same sound energy as the actual time-varying sound. Statistical sound level descriptors, such as L_1, L_{10}, L_{50}, L_{90}, and L_x, are sometimes used to indicate noise levels that are

exceeded 1, 10, 50, 90, and x percent of the time, respectively. Discrete event peak levels are given as L_{01} levels.

The relationship between L_{eq} and levels of exceedance is worth noting. Because L_{eq} is defined in energy rather than straight numerical terms, it is not simply related to the levels of exceedance. If the noise fluctuates very little, L_{eq} will approximate L50 or the median level. If the noise fluctuates broadly, the L_{eq} will be approximately equal to the L_{10} value. If extreme fluctuations are present, the L_{eq} will exceed L_{90} or the background level by 10 or more decibels. Thus, the relationship between L_{eq} and the levels of exceedance will depend on the character of the noise. In community noise measurements, it has been observed that the L_{eq} is generally between L_{10} and L_{50}. The relationship between L_{eq} and exceedance levels has been used in this analysis to characterize the noise sources and to determine the nature and extent of their impact at all receptor locations.

For purposes of the proposed project, the maximum 1-hour equivalent sound level ($L_{eq(1)}$) has been selected as the noise descriptor to be used in the noise impact evaluation. $L_{eq(1)}$ is the noise descriptor recommended for use in the *City Environmental Quality Review (CEQR) Technical Manual* (October 2001) for vehicular traffic noise impact evaluation, and is used to provide an indication of highest expected sound levels. $L_{10(1)}$ is the noise descriptor used in the CEQR noise exposure guidelines for City environmental impact review classification.

C. NOISE STANDARDS AND CRITERIA

Noise levels associated with the construction and operation of the proposed project are subject to the emission source provisions of the New York City Noise Control Code and to Noise Standards set for the CEQR process. Other standards and guidelines promulgated by Federal agencies do not apply to project noise control, but are useful to review in that they establish measures of impacts. Construction equipment is regulated by the Noise Control Act of 1972.

NEW YORK CITY NOISE CODE

In December 2005 the New York City Noise Control Code was amended. The amended noise code contains: prohibitions regarding unreasonable noise; requirements for noise due to construction activities (including noise limits from specific pieces of construction equipment, noise limits on total construction noise, limits on hours of construction [weekdays between 7 AM and 6 PM], and requirements for adopting and implementing noise mitigation plans for each construction site prior to the start of construction); and specifies noise standards, including plainly audible criteria, for specific noise sources (i.e., refuse collection vehicles, air compressors, circulation devices, exhausts, paving breakers, commercial music, personal audio devices, sound reproduction devices, animals, motor vehicles including motorcycles and trucks, sound signal devices, burglar alarms, emergency signal devices, lawn care devices, snow blowers, etc.).

NEW YORK CEQR NOISE STANDARDS

The *CEQR Technical Manual* contains noise exposure guidelines for use in city environmental impact review, as well as required attenuation values to achieve acceptable interior noise levels. These values are shown in Tables 18-4 and 18-5. Noise exposure is classified into four categories—acceptable, marginally acceptable, marginally unacceptable, and clearly unacceptable. The standards are based on maintaining an interior noise level for the worst-case hour L_{10} of less than or equal to 45 A-weighted decibels (dBA).

Table 18-4
Noise Exposure Guidelines
For Use in City Environmental Impact Review[1]

Receptor Type	Time Period	Acceptable General External Exposure	Airport[3] Exposure	Marginally Acceptable General External Exposure	Airport[3] Exposure	Marginally Unacceptable General External Exposure	Airport[3] Exposure	Clearly Unacceptable General External Exposure	Airport[3] Exposure
1. Outdoor area requiring serenity and quiet[2]		$L_{10} \leq 55$ dBA	---------- Ldn ≤ 60 dBA ----------		---------- 60 < Ldn ≤ 65 dBA ----------		(1) 65 < Ldn ≤ 70 dBA, (II) 70 ≤ Ldn		---------- Ldn ≤ 75 dBA ----------
2. Hospital, Nursing Home		$L_{10} \leq 55$ dBA		55 < $L_{10} \leq$ 65 dBA		65 < $L_{10} \leq$ 80 dBA		L_{10} > 80 dBA	
3. Residence, residential hotel or motel	7 AM to 10 PM	$L_{10} \leq 65$ dBA		65 < $L_{10} \leq$ 70 dBA		70 < $L_{10} \leq$ 80 dBA		L_{10} > 80 dBA	
	10 PM to 7 AM	$L_{10} \leq 55$ dBA		55 < $L_{10} \leq$ 70 dBA		70 < $L_{10} \leq$ 80 dBA		L_{10} > 80 dBA	
4. School, museum, library, court, house of worship, transient hotel or motel, public meeting room, auditorium, out-patient public health facility		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)	
5. Commercial or office		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)		Same as Residential Day (7 AM-11 PM)	
6. Industrial, public areas only[4]	Note 4	Note 4		Note 4		Note 4		Note 4	

Notes:

(i) In addition, any new activity shall not increase the ambient noise level by 3 dBA or more; (ii) CEPO-CEQR Noise Standards for train noise are similar to the above aircraft noise standards: the noise category for train noise is found by taking the L_{dn} value for such train noise to be an L^{y}_{dn} (L_{dn} contour) value (see table on the following page).

[1] Measurements and projections of noise exposures are to be made at appropriate heights above site boundaries as given by American National Standards Institute (ANSI) Standards; all values are for the worst hour in the time period.

[2] Tracts of land where serenity and quiet are extraordinarily important and serve an important public need and where the preservation of these qualities is essential for the area to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks or open spaces dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet. Examples are grounds for ambulatory hospital patients and patients and residents of sanitariums and old-age homes.

[3] One may use the FAA-approved L_{dn} contours supplied by the Port Authority, or the noise contours may be computed from the federally approved INM Computer Model using flight data supplied by the Port Authority of New York and New Jersey.

[4] External Noise Exposure standards for industrial areas of sounds produced by industrial operations other than operating motor vehicles or other transportation facilities are spelled out in the New York City Zoning Resolution, Sections 42-20 and 42-21. The referenced standards apply to M1, M2, and M3 manufacturing districts and to adjoining residence districts (performance standards are octave band standards).

Source: New York City Department of Environmental Protection (adopted policy 1983).

Table 18-5
Required Attenuation Values to Achieve Acceptable Interior Noise Levels

	Marginally Acceptable	Marginally Unacceptable		Clearly Unacceptable		
Noise level with proposed action	65<L10<70	70<L10<75	75<L10<80	80<L10<85	85<L10<90	90<L10<95
Attenuation*	25 dB(A)	(I) 30dB(A)	(II) 35 dB(A)	(I) 40 dB(A)	(II) 45 dB(A)	(III) 50 dB(A)

Note: *The above composite window-wall attenuation values are for residential dwellings. Commercial office spaces and meeting rooms would be 5 dB(A) less in each category. All the above categories require a closed window situation and hence an alternate means of ventilation.

Source: New York City Department of Environmental Protection

D. IMPACT DEFINITION

As recommended in the *CEQR Technical Manual*, this study utilizes the following criteria to define a significant noise impact:

- An increase of 5 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors to those calculated for the No Build condition, if the No Build levels are less than 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 4 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors to those calculated for the No Build condition, if the No Build levels are 61 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors to those calculated for the No Build condition, if the No Build levels are greater than 62 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period.
- An increase of 3 dBA, or more, in Build $L_{eq(1)}$ noise levels at sensitive receptors to those calculated for the No Build condition, if the analysis period is a nighttime period (defined by the CEPO-CEQR standards as being between 10 PM and 7 AM.).

E. NOISE PREDICTION METHODOLOGY

GENERAL METHODOLOGY

Noise at most receptor sites in the project area is due to a number of sources. In general, the dominant noise sources are: traffic noise from adjacent and nearby streets, rail noise from the passing trains, and Yankee Stadium vendor and crowd noise. The noise analysis for the proposed project used several models to determine the contribution from each of the three dominant noise sources mentioned above. The TNM model (the Federal Highway Administration's [FHWA] *Traffic Noise Model* version 2.5) was used for traffic noise analysis, and the Federal Transit Administration (FTA) model contained in the FTA April 1995 guidance manual, *Transit Noise and Vibration Impact Assessment*, was used for the rail noise analysis.

The noise analysis examined four conditions: weekday night game pre-game hour, weekday night game post-game hour; weekend day game pre-game hour, and weekend day game post-game hour. These are the time periods when the proposed project has its maximum traffic generation and therefore the maximum potential for significant noise impacts.

The TNM model, and the FTA guidance manual procedures used for analysis are described below.

TNM MODEL

The FHWA Traffic Noise Model, TNM 2.5, calculates the noise contribution of each traffic roadway segment to a given noise receptor. The noise from each vehicle type is determined as a function of the reference energy-mean emission level, corrected for vehicle volume, speed, roadway grade, roadway segment length, and source-receptor distance. Further adjustments needed to model the propagation path include shielding provided by rows of buildings, the effects of different ground types, source and receptor elevations, and effect of any intervening noise barriers.

FTA GUIDANCE MANUAL

The FTA guidance manual, *Transit Noise and Vibration Impact Assessment*, provides methodologies for determining noise levels produced by transit operations. In general for rail noise, the noise level at a receptor location is a function of source noise level, the number of locomotives and cars per train, the train speed, average hourly volume of train traffic, track type (continuously welded or jointed) and profile (at-grade or elevated), source/receptor distance, shielding, and special operational characteristics (i.e., curve squeal).

ANALYSIS PROCEDURE

In general the following procedure was used in performing the noise analysis for the analysis time periods:

- Existing noise levels for a weekday night and for a weekend day when there was a Yankee home-game were obtained by field measurements;
- The traffic component of the existing noise level was calculated based on measured traffic on adjacent and nearby streets using the TNM model;
- The rail component of the existing noise level was calculated based upon train schedules during the measurement period using the FTA guidance manual procedures;
- The sum of the calculated traffic and rail components of the existing noise level was subtracted from the measured existing (total) noise level and the remainder was assumed to be vendor/crowd noise (at locations where vendor and crowd noise was a significant noise source) or a correction factor (to account for noise generated by people on the street, noise from parking lots, modeling inaccuracies, etc.); and
- Noise levels for existing, No Build, and Build conditions for the analysis time periods were determined as the sum of the calculated noise components due to traffic, rail, and vendor sources (and the calculated correction factor).

As described above, the measured values were used for developing and verifying the noise analysis methodology. TNM was used for traffic, the FTA model was used for rail, and the measured data was used to obtain vendor/crowd noise and correction factors to account for other factors. Impacts were determined based upon using the TNM/FTA model and calculated vendor/crowd noise and correction factors.

Summary tables showing the specific components of the analysis are provided in Appendix E.

F. EXISTING CONDITIONS

SITE DESCRIPTION

The project area encompasses several blocks in The Bronx and includes the existing Yankee Stadium located at East 161st Street and River Avenue; portions of Macomb's Dam and John Mullaly Parks, located between East 157th and East 164th Streets and River and Jerome Avenues; several surface parking lots located on the eastern side of River Avenue at East 151st and East 157th Streets and west of Exterior Street along the waterfront; and a portion of the Bronx Terminal Market complex, west of Exterior Street between East 150th and East 153rd Streets. Because of the existing Yankee Stadium the area is heavily trafficked on days when games or other events are taking place.

In terms of zoning, Macomb's Dam and John Mullaly Parks are mapped parklands and are not subject to zoning designations; the existing Yankee Stadium site, as well as the lots in the project area on the north and south sides of East 157th Street at River Avenue are mapped in a C8-3 zoning district; the project area lots on the north and south sides of East 151st Street east of River Avenue are located in an M1-2 manufacturing district; and the portion of the project area located along the waterfront is mapped in an M2-1 district.

SELECTION OF NOISE RECEPTOR LOCATIONS

Eight receptor sites in the project study area were selected for project impact assessment purposes (see Figure 18-1).

- Site 1 was located on East 157th Street between River and Gerard Avenues;
- Site 2 was located on East 158th Street between River and Gerard Avenues;
- Site 3 was located on East 162nd Street between River and Gerard Avenues;
- Site 4 was located on East 164th Street between Jerome and River Avenues[1];
- Site 5 was located on Jerome Avenue between East 161st and East 162nd Street;
- Site 6 was located on East 161st Street between Jerome and River Avenues;
- Site 7 was located on Ruppert Place between East 157th and East 161st Streets; and
- Site 8 was located on East 153rd Street between Ruppert Place and River Avenue.

NOISE MONITORING

Noise monitoring at the eight receptor locations was performed on September 19 and 22, 2004. Twenty-minute measurements were made at each site on a weekday between 8 and 11 PM and on a weekend between 2 and 5 PM on a day when a Yankees game was occurring. Weather condition was noted to ensure a true reading as follows: wind speed under 12 mph; relative humidity under 90 percent; and temperature above 14^{o}F and below 122^{o}F. In addition, traffic vehicle classification counts were made during the measurement period. (These counts were used as part of the development of the analysis methodology.)

EQUIPMENT USED DURING NOISE MONITORING

The instrumentation used for the measurements was a Brüel & Kjær Noise Level Meter Type 2260, a Brüel & Kjær Sound Level Calibrator Type 4231, and a Brüel & Kjær ½-inch microphone Type 4189. The instrument was mounted at a height of 5 feet above the ground on a tripod. The meter was calibrated before and after readings with a Brüel & Kjær Type 4231 sound level calibrator using the appropriate adaptor. The data were digitally recorded by the sound meter and displayed at the end of the measurement period in units of dBA. Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during all sound measurements except for calibration. All measurement procedures conformed with the requirements of ANSI Standard S1.13-1971 (R1976).

[1] For impact assessment purposes Site 4 was located on East 164th Street between Jerome and River Avenues; however, noise monitoring was performed at one block south at East 162nd Street between Jerome and River Avenue. The noise sources and street characteristics of both locations are very similar. For Build conditions the site located on East 162nd Street between Jerome and River Avenue would be within the proposed Yankee Stadium.

RESULTS OF BASELINE MEASUREMENTS

Table 18-6 summarizes the results of these baseline measurements. Values are shown for specific monitored weekday and weekend time periods. Specific comments on noise sources are included.

Table 18-6
Measured Existing Noise Levels (dBA)

Site	Time		L_{eq}	L_1	L_{10}	L_{50}	L_{90}	Comments
1	Weekday	7:05-7:25 PM	70.5	79.2	73.6	67.4	64.8	Train, including curve squeal, dominant noise source
	Weekend	1:04-1:24 PM	74.6	85.8	77.2	69.8	66.0	
2	Weekday	7:34-7:54 PM	71.7	85.2	73.6	64.8	60.8	Train dominant noise source
	Weekend	1:34-1:54 PM	69.1	79.8	72.0	64.8	59.8	
3	Weekday	8:09-8:29 PM	67.1	79.2	67.4	63.6	59.2	Train dominant noise source
	Weekend	2:06-2:26 PM	63.4	74.2	64.2	60.6	58.0	
4	Weekday	8:39-8:59 PM	66.7	78.2	68.6	58.8	56.0	
	Weekend	2:55-3:15 PM	63.3	74.2	65.8	60.2	56.0	
5	Weekday	9:08-9:28 PM	65.5	73.8	67.8	61.4	57.4	
	Weekend	3:48-4:08 PM	64.8	71.6	67.8	63.2	58.8	
6	Weekday	8:23-8:43 PM	67.0	74.4	70.0	65.0	61.4	
	Weekend	3:04-3:24 PM	69.0	76.0	72.2	66.8	62.8	
7	Weekday	7:49-8:09 PM	66.7	72.6	68.2	65.8	64.2	Vendor and crowd dominant noise source
	Weekend	2:15-2:35 PM	67.7	72.8	69.4	66.2	64.4	
8	Weekday	7:00-7:20 PM	69.5	76.8	71.8	68.0	65.4	Vendor and crowd dominant noise source
	Weekend	1:35-1:55 PM	71.5	77.0	72.6	70.8	68.8	

Note: Field measurements were performed by AKRF, Inc., on September 19th and 22nd, 2004.

In general, depending upon the specific location, the measured noise levels are a function of noise from the elevated number 4 subway trains, traffic, and vendor and crowd noise. At Sites 1, 2, and 3, noise from the elevated number 4 subway trains is the dominant noise source; at Sites 4, 5, and 6 the noise is a predominantly a combination of noise from the elevated number 4 subway trains and noise from street traffic; at Site 6, noise from street traffic is the dominant noise source; and at Sites 7 and 8, noise produced by stadium vendors and people attending the Yankees game overshadow the noise from the elevated number 4 subway trains and traffic. Noise from vehicles using surface parking lots, as well as noise from the elevated number 4 subway trains, stadium vendors, and people on the street contributes to ambient noise levels in the study area.

Noise levels at Macomb's Dam Park and John Mullaly Park are above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines.

In terms of CEQR noise exposure guidelines, existing noise levels at Sites 3, 4, 5, and 7 are in the "Marginally Acceptable" category, and existing noise levels at Sites 1, 2, 6 and 8 are in the "Marginally Unacceptable" category.

EXISTING CONDITIONS FOR ANALYSIS TIME PERIODS

Using the methodology previously described the measured noise data presented in Table 18-6 were used to determine vendor/crowd noise and/or correction factors. The results of these

computations are shown in Table E-1 in Appendix E. Using these quantities, weekday and weekend pre- and post-game noise levels were computed. Table 18-7 shows these calculated values. (Components from each of the specific noise sources [i.e., the elevated number 4 subway trains, traffic, and vendor/crowd] are shown in Table E-2 in Appendix E.)

Table 18-7
Calculated Existing Noise Levels (in dBA)

Site	Time		Existing $L_{eq(1)}$
1	Weekday	Pre-Game	71.1
	Weekday	Post-Game	68.4
	Weekend	Pre-Game	74.6
	Weekend	Post-Game	74.6
2	Weekday	Pre-Game	73.0
	Weekday	Post-Game	70.3
	Weekend	Pre-Game	69.2
	Weekend	Post-Game	69.1
3	Weekday	Pre-Game	68.8
	Weekday	Post-Game	66.4
	Weekend	Pre-Game	64.2
	Weekend	Post-Game	64.6
4	Weekday	Pre-Game	68.3
	Weekday	Post-Game	70.2
	Weekend	Pre-Game	67.0
	Weekend	Post-Game	69.7
5	Weekday	Pre-Game	66.9
	Weekday	Post-Game	65.7
	Weekend	Pre-Game	67.9
	Weekend	Post-Game	67.0
6	Weekday	Pre-Game	69.4
	Weekday	Post-Game	68.2
	Weekend	Pre-Game	69.4
	Weekend	Post-Game	69.6
7	Weekday	Pre-Game	67.7
	Weekday	Post-Game	66.9
	Weekend	Pre-Game	67.9
	Weekend	Post-Game	67.7
8	Weekday	Pre-Game	68.9
	Weekday	Post-Game	67.4
	Weekend	Pre-Game	71.4
	Weekend	Post-Game	70.5

G. THE FUTURE WITHOUT THE PROPOSED PROJECT

Using the modeling methodology previously described, future noise levels without the proposed project for the two weekday and two weekend analysis periods in the year 2009 were calculated for the eight receptor sites and resulting noise levels are shown in Table 18-8. (Components from each of the specific noise sources (i.e., train, traffic, and vendor/crowd) are shown in Table E-3 in Appendix E.)

Future No Build noise levels at all sites would be less than 1.0 dBA higher than the existing noise levels. Change of this magnitude would not be perceptible.

Table 18-8
Future No Build Noise Levels
(in dBA)

Site	Time		2009 No Build $L_{eq(1)}$	Existing $L_{eq(1)}$	Change
1	Weekday	Pre-Game	71.1	71.1	0.0
	Weekday	Post-Game	68.4	68.4	0.0
	Weekend	Pre-Game	74.7	74.6	0.1
	Weekend	Post-Game	74.6	74.6	0.0
2	Weekday	Pre-Game	73.0	73.0	0.0
	Weekday	Post-Game	70.3	70.3	0.0
	Weekend	Pre-Game	69.3	69.2	0.1
	Weekend	Post-Game	69.2	69.1	0.1
3	Weekday	Pre-Game	68.9	68.8	0.1
	Weekday	Post-Game	66.5	66.4	0.1
	Weekend	Pre-Game	64.2	64.2	0.0*
	Weekend	Post-Game	64.7	64.6	0.1
4	Weekday	Pre-Game	68.5	68.3	0.2
	Weekday	Post-Game	71.1	70.2	0.9
	Weekend	Pre-Game	67.4	67.0	0.4
	Weekend	Post-Game	70.3	69.7	0.6
5	Weekday	Pre-Game	67.3	66.9	0.4
	Weekday	Post-Game	65.8	65.7	0.1
	Weekend	Pre-Game	68.4	67.9	0.5
	Weekend	Post-Game	67.2	67.0	0.2
6	Weekday	Pre-Game	69.8	69.4	0.4
	Weekday	Post-Game	68.3	68.2	0.1
	Weekend	Pre-Game	69.6	69.4	0.2
	Weekend	Post-Game	70.1	69.6	0.5
7	Weekday	Pre-Game	67.8	67.7	0.1
	Weekday	Post-Game	66.9	66.9	0.0
	Weekend	Pre-Game	68.0	67.9	0.1
	Weekend	Post-Game	67.8	67.7	0.1
8	Weekday	Pre-Game	69.1	68.9	0.2
	Weekday	Post-Game	67.3	67.4	-0.1*
	Weekend	Pre-Game	71.8	71.4	0.4
	Weekend	Post-Game	70.6	70.5	0.1

Notes: * Decrease in noise level is due to predicted decrease in vehicle speed on adjacent street.

In terms of CEQR noise exposure guidelines, future noise levels without the proposed project at Sites 3, 4, 5, and 7 would remain in the "Marginally Acceptable" category, and future noise levels without the proposed project at Sites 1, 2, 6 and 8 would remain in the "Marginally Unacceptable" category.

H. PROBABLE IMPACTS OF THE PROPOSED PROJECT

Using the modeling methodology previously described, future noise levels with the proposed project for the two weekday and two weekend analysis periods in the year 2009 were calculated and the resulting noise levels are shown in Table 18-9 for the eight receptor sites. (Components from each of the specific noise sources (i.e., the elevated number 4 subway trains, traffic, and stadium vendor/crowd) are shown in Table E-4 in Appendix E.)

Table 18-9
Future Build Noise Levels (in dBA)

Site	Time		2009 Build $L_{eq(1)}$	2009 No-Build $L_{eq(1)}$	Change
1	Weekday	Pre-Game	71.1	71.1	0.0
	Weekday	Post-Game	68.7	68.4	0.3
	Weekend	Pre-Game	74.7	74.7	0.0
	Weekend	Post-Game	75.0	74.6	0.4
2	Weekday	Pre-Game	73.2	73.0	0.2
	Weekday	Post-Game	70.4	70.3	0.1
	Weekend	Pre-Game	69.4	69.3	0.1
	Weekend	Post-Game	69.3	69.2	0.1
3	Weekday	Pre-Game	68.9	68.9	0.0
	Weekday	Post-Game	66.6	66.5	0.1
	Weekend	Pre-Game	63.9	64.2	-0.3*
	Weekend	Post-Game	64.9	64.7	0.2
4	Weekday	Pre-Game	70.4	68.5	1.9
	Weekday	Post-Game	71.4	71.1	0.3
	Weekend	Pre-Game	69.3	67.4	1.9
	Weekend	Post-Game	70.3	70.3	0.0
5	Weekday	Pre-Game	68.0	67.3	0.7
	Weekday	Post-Game	67.4	65.8	1.6
	Weekend	Pre-Game	69.0	68.4	0.6
	Weekend	Post-Game	68.0	67.2	0.8
6	Weekday	Pre-Game	71.9	69.8	2.1
	Weekday	Post-Game	70.3	68.3	2.0
	Weekend	Pre-Game	72.3	69.6	2.7
	Weekend	Post-Game	71.8	70.1	1.7
7	Weekday	Pre-Game	60.8	67.8	-7.0**
	Weekday	Post-Game	58.2	66.9	-8.7**
	Weekend	Pre-Game	60.2	68.0	-7.8**
	Weekend	Post-Game	60.2	67.8	-7.6**
8	Weekday	Pre-Game	68.8	69.1	-0.3***
	Weekday	Post-Game	66.0	67.3	-1.3***
	Weekend	Pre-Game	71.8	71.8	0.0***
	Weekend	Post-Game	68.8	70.6	-1.8***

Notes:
* Decrease in noise level is due to predicted decrease in vehicle speed on adjacent street.
** Decrease in noise level is due to elimination of traffic on Ruppert Place and elimination of vendor/crowd noise.
*** Decease in noise level is due to elimination of vendor/crowd noise.

The analysis assumes that East 162nd Street between Jerome and River Avenues would be incorporated into the proposed Yankee Stadium, and Ruppert Place between East 157th and East 161st Streets would be incorporated into the new parkland. (Both streets would be closed and demapped.)

Future Build noise levels at all sites would be less than 3.0 dBA higher than the No-Build noise levels. Change of this magnitude would be barely perceptible, and, based upon CEQR impact criteria, the changes would not be significant. At some sites there would be a decrease in noise levels. In general, this would be due a decrease in vendor/crowd noise at the location, and/or changes in traffic.

In terms of CEQR noise exposure guidelines, future noise levels with the proposed project at Sites 1, 2, 6, and 8 would remain in the "Marginally Unacceptable" category, future noise levels with the proposed project at Sites 3, 5, and 7 would remain in the "Marginally Acceptable" category, future noise levels with the proposed project at Site 4 would go from the "Marginally Acceptable" to the "Marginally Unacceptable" category.

Noise levels within the new parks proposed at River Avenue and East 157th Street would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines (see Table 18-4). $L_{10(1)}$ noise levels at this location would be approximately 71.8 dBA. These high predicted noise levels result principally from the noise generated by the elevated number 4 subway trains, particularly due to train wheel squeal from trains going around the curve slightly south of the park sites. This noise source is independent of the proposed project. Based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks.

Similarly, noise levels within the new Harlem River waterfront park proposed west of Exterior Street and the Major Deegan Expressway would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. $L_{10(1)}$ noise levels at this location would be expected to be approximately 73-78 dBA. These high, predicted noise levels result principally due to noise generated by vehicles on the elevated Major Deegan Expressway. This noise source is independent of the proposed project. Based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks.

There are no practical and feasible mitigation measures that could be implemented to reduce noise levels within the River Avenue or waterfront parks to below the 55 dBA $L_{10(1)}$ guideline noise level. While noise levels in these new parks would be above the 55 dBA $L_{10(1)}$ guideline noise level, they would be comparable to noise levels in a number of existing parks in New York City that are also located adjacent to heavily trafficked roadways, including portions of Central Park, Hudson River Park, Riverside Park, and Van Cortland Park and Pelham Park in The Bronx. While 55 dBA $L_{10(1)}$ is a desirable goal for outdoor areas requiring serenity and quiet, due to the level of activity present at most New York City parks, except for park areas far away from traffic and other typical urban activities, this relatively low noise level is often not achieved. In park areas with active recreation (i.e., with basketball courts, baseball fields, soccer fields, etc.) typically noise generated by these activities is above the 55 dBA $L_{10(1)}$ guideline level. In addition, at most New York City parks traffic from nearby streets and roadways and noise from typical urban activities result in noise levels which are above the 55 dBA $L_{10(1)}$ guideline level. Existing noise levels in Macomb's Dam Park and John Mullaly Park are above the 55 dBA $L_{10(1)}$ guideline level and will remain above this level both with and without the proposed project. ✷

A. INTRODUCTION

This chapter summarizes the construction plan for the proposed project and identifies the potential for significant adverse impacts that could result from the construction of the new stadium, parks, and parking garages. Construction stages and activities are described first, followed by the types of impacts likely to occur during construction. The technical areas for which the potential for impact is analyzed include: open space, economic conditions, noise, transportation systems, air quality, hazardous materials, water quality and natural resources, and infrastructure. The assessment also describes methods that may be employed to minimize those impacts.

The proposed project would result in localized, temporary disruptions, most of which would not constitute significant adverse impacts. A scenario in which construction workers would be provided with parking at one of the Yankee Stadium garages was evaluated, as was a scenario in which construction workers would instead park in on-street parking spaces. The analysis concludes that there would be significant adverse traffic impacts under both scenarios, for which only partial mitigation has been identified at this time. In addition, the analysis concludes that there is a potential for significant adverse noise impacts at one or more locations in the study area. A more detailed analysis of this potential impact was conducted between the Draft and Final EIS. There would be a significant unmitigated adverse noise impact due to construction activities at East 164th Street between Jerome Avenue and River Avenue within John Mullaly Park. At other locations adjacent to construction sites, noise from construction activities would be intrusive and discernible; however, these increased noise levels would be for limited periods of time and would not constitute a significant adverse noise impact under CEQR criteria. These significant adverse impacts would be temporary during the peak construction period.

B. CONSTRUCTION ACTIVITIES

The construction of the proposed project is expected to begin in 2006. The proposed stadium and all four proposed garages and almost all of the replacement parkland and recreational facilities would be completed in 2009. Heritage Field, to be constructed at the site of the existing stadium, would be completed in 2010 and would be in active use in the first quarter of 2011. Construction activities would involve the construction of a new stadium, four parking garages, ballfields and active recreational areas, a waterfront park, and passive park areas. After the completion of the proposed stadium, much of the existing stadium would be demolished, leaving the playing field and seating for no more than 3,000 spectators. Different construction techniques would be employed for the different project elements. The upland elements, including the stadium, parks, parking garages, and recreation facilities, are expected to use conventional construction techniques with cranes, earth movers, and other heavy equipment. The equipment and storage areas would be land based.

The in-water elements associated with rehabilitation of the bulkhead may employ marine construction techniques. Barges would be used for the heavy construction equipment, such as the pile drivers. Materials would likely be transported and stored on waterborne barges. Because the Oak Point Link, a railroad track on a trestle, lies just offshore of the bulkhead, a spud barge may be used. A spud barge has 4 large diameter piles, one at each corner. The spuds or piles are lowered into the sea bed, and the barge is jacked up, supported on the piles. In this way, the barge would be above the Oak Point Link, and cranes could reach over the trestle to place construction materials on the bulkhead. However, certain areas may be inaccessible to barges due to inadequate water depth, and interference with the Oak Point Link and the equipment may have instead to be land based.

The proposed project elements and construction required for each element are described below.

It is anticipated that the bulk of construction activities would take place Monday through Friday, although the delivery or installation of certain critical or oversized equipment could occur on weekend days. The permitted hours of construction are regulated by the New York City Noise Code and the New York City Department of Buildings (NYCDOB). These restrictions apply in all boroughs of the City, and are also reflected in the collective bargaining agreements with major construction trade unions. In the event that overtime work is required, appropriate work permits from the NYCDOB would be obtained. In accordance with City regulations, work could begin at 7 AM on weekdays, with some workers arriving to prepare work areas between 6 AM and 7 AM. Normally, work would end at 3:30 PM, unless overtime is required and appropriately permitted. On occasion, overtime may be required to complete some time-sensitive tasks beyond normal work hours on weekdays and weekends.

Health and safety plans would be developed for each construction site. The purpose of the health and safety plans is to set into place procedures to protect the health and safety of the construction workers and nearby residents and workers. An on-site health and safety monitor would enforce the provisions of the health and safety plans during all phases of construction, for both Yankee Stadium, the garages, and the replacement recreation facilities. Depending on the number of construction sites that are active at any given time, several health and safety monitors may be employed. Health and safety monitors would have the power to stop work if they observe violations of the health and safety plan.

Air quality conditions would be monitored throughout the construction period, and a full-time health specialist would be employed by the New York Yankees to monitor conditions throughout the construction period. The New York Yankees would also hire a community liaison to serve as a point person for the community throughout the construction period.

SCHEDULE

The proposed stadium is expected to be completed for opening day of the New York Yankees' 2009 season. The New York Yankees would continue to play at the existing stadium while the proposed stadium is under construction. It is expected that all parkland development would occur by 2009 except for Heritage Field and the last phase of Babe Ruth Plaza, which would be

completed in 2010, although it would be in active use in the first quarter of 2011[1]. The first new parkland and recreational facilities would be completed in 2007. Parking Garage A is expected to be constructed by 2009, and the recreational facilities on top of the garage are expected to be completed in the same year. Construction of Heritage Field would begin as soon as the proposed Yankee Stadium is completed, and the New York Yankees baseball games are played at the proposed stadium. The schedule of the proposed project's major elements is shown on Table 19-1.

Table 19-1
Estimated Construction Schedule

Description	Estimated Completion Date
Passive Use Parklands along River Avenue	2007
Harlem River Waterfront Recreational Facilities	2007
Parking Garage C	2008
Parking Garage D	2008
Waterfront Esplanade	2008
Parkland and Tennis Courts over Garage C	2008
Parking Garage B	2009
Proposed Yankee Stadium	2009
Parking Garage A	2009
Recreational Facilities Over Garage A	2009
Babe Ruth Plaza	2010
Heritage Field	2010

Sources: Tishman Speyer Development and NYCDPR.

The peak years of construction are expected to be 2007 and 2008. The proposed stadium would be under construction at the same time as some of the parking garages and the recreational facilities. In addition, the waterfront construction is expected to take place in 2007 and be completed in the first quarter of 2008. The level of construction activity would lessen in the first few months of 2009 and continue at a reduced level through the end of 2010.

DEMOLITION

Demolition would be required in two areas. The first would be the three partially vacant buildings in the Bronx Terminal Market. These buildings would be demolished to accommodate the ballfields of the Harlem River waterfront park. In addition, much of the existing stadium and stands would be dismantled for the development of Heritage Field. All of the upper level stands and the stands around the outfield would be demolished. The playing field and the grandstand next to the infield would remain. The demolition of the existing stadium is expected to last about 15 months beginning in the third quarter of 2008 and finishing during the third quarter of 2009.

[1] Since publication of the Draft Environmental Impact Statement (DEIS), the New York City Department of Parks and Recreation (NYCDPR) and the Yankees have been working to develop a revised construction schedule that would allow for certain interim and permanent replacement recreational facilities to be available sooner. This new schedule is reflected in the Alternative Park Plan analyzed in Chapter 22, "Alternatives," of this FEIS. As applied to the proposed project, a similar construction schedule would result in additional interim recreational facilities and some permanent replacement facilities becoming available sooner. This new construction schedule would not result in any significant adverse impacts not already identified for the construction schedule analyzed in this chapter.

The first phase of demolition is asbestos abatement and lead-based paint removal. These are specialty tasks that are strictly regulated in New York City to protect the health and safety of the construction workers and nearby residents and workers. Depending on the extent of the asbestos and lead-based paint present, either the whole building or portions of the building would be enclosed in plastic sheeting. The sheeting prevents any asbestos or paint particles from becoming airborne. Specially trained workers in protective clothing use hand tools to remove the asbestos and lead-based paint. These materials are sealed in bags and taken to licensed landfills for disposal. After a New York City inspector certifies that the building is asbestos and lead-based paint free, general demolition begins. Depending on the amount of asbestos and lead-based paint to be removed, 10 to 20 workers can be on site, and about one or two truckloads of materials can be removed per day. This phase can last about a month.

The next step in general demolition is to remove any economically salvageable materials. Much of the reclaiming of salvageable materials is done on-site and the materials are transported to salvage dealers. As was done when Yankee Stadium was last renovated, the seats would be salvaged for re-sale. It is likely that large cranes would be used to dismantle the upper stands on the existing Yankee Stadium and salvage the steel framing. Large equipment would be used to collapse the concrete. Demolition at Yankee Stadium is expected to last 9 to 12 months. The three buildings in Bronx Terminal Market would likely be collapsed because these buildings contain few salvageable materials. Typical demolition requires solid temporary walls around the building to prevent accidental dispersal of building materials into areas accessible to the general public. After the structure is collapsed, bulldozers and front-end loaders are used to load materials into dump trucks. The demolition debris is taken to landfills for disposal. Depending on the size of the building demolished, about 10 to 20 workers are on site, and two to four truckloads of debris are removed per hour. The general demolition of the Bronx Terminal Market buildings is expected last between 1 to 3 months per building.

YANKEE STADIUM

The building and erection of the proposed Yankee Stadium would be the largest and most complex of the individual construction tasks. It is expected that the construction would take about 36 months, commencing in the second quarter of 2006 and ending in the first quarter of 2009. At the height of construction activities, approximately 800 workers could be on-site. It is expected that the majority of the staging would be on-site. However, parking lanes on some local streets surrounding the construction site may need to be closed for temporary periods of time to accommodate construction vehicles. Six construction phases are envisioned, some of which would overlap. The phases would be: excavation and foundations; superstructure frame and roof; seating area; exterior walls; interior finishing; and the playing field. Each phase is discussed below.

EXCAVATION AND FOUNDATIONS

This phase is expected to last about 14 months. The ground would be excavated to below the field level to allow for the installation of the stormwater drainage system and its associated detention system. Rock may be encountered in portions of the project area. In the areas of rock, blasting may be used for short periods of time. Blasting in New York City is tightly regulated and restricted. All blasting would conform to regulations of the New York City Fire Department (FDNY) and any other applicable regulations. Blasting would involve the use of timed multiple charges with limited blast intensity, which would reduce potential impacts. The regulations are intended to prevent endangering the public and to minimize vibrations that could affect nearby buildings. To the extent that work would be in the proximity of the subway; the blasting would

also be regulated by New York City Transit (NYCT). As discussed under "Vibration," a Construction Protection Plan would be implemented near historic structures. The caissons, piles, and footings for the foundations would be installed in this phase. If piles need to be installed close to the elevated subway, they would be drilled rather than driven. All remaining piles would be driven. Concrete mixer trucks would bring the concrete to the site, and concrete buggies would be used to move concrete around the site.

A construction Health and Safety Plan (HASP) would be developed and implemented for the excavation in case contaminated soils or groundwater are encountered. If any unreported petroleum tanks are uncovered, they would be removed in accordance with applicable New York State Department of Environmental Conservation (NYSDEC) regulations. The site-specific HASP is discussed in more detail in Chapter 10, "Hazardous Materials."

The construction would involve bulldozers, rock breakers, and scrapers for the excavation. About 250,000 cubic yards of soil and rock would be removed, and about 75,000 cubic yards would be reused on-site. The remaining 175,000 cubic yards would be hauled off-site for reuse elsewhere or disposal. If 12-cubic-yard dump trucks were used, about 15,000 round trips would be needed. The potential construction traffic impacts are discussed later in this chapter.

SUPERSTRUCTURE FRAME AND ROOF

This phase is expected to last about 20 months and would begin when the foundation work is about half completed. It would also overlap with all of the remaining construction phases for the proposed stadium. After the foundations in an area of the proposed stadium are cast, structural steel for the superstructure of the stadium would be installed. Steel beams and pre-cast concrete members would be attached to the columns to complete the structure. The roof over the seating area would be cantilevered from the structural frame. It is expected that about 5 to 8 cranes would be needed to place the steel and concrete. Approximately 11,500 tons of steel and about 21,500 cubic yards of concrete would be used to construct the frame and roof.

SEATING AREA

Construction of the seating area is expected to take about 12 months and would commence when about half of the superstructure had been constructed. Much of the seating area would be constructed of precast pieces of concrete that would be placed by the same cranes that installed the superstructure. About 2,000 individual precast pieces would be installed.

EXTERIOR WALLS

The exterior walls would be placed by cranes on the outside of the structural frame. Stone and metal panels and walls are expected to be used. This activity would take about 10 months and would occur while the seating area is being constructed.

INTERIOR FINISHING

Interior finishing is expected to take about 20 months. This activity would commence when about half of the superstructure has been constructed and would continue until the proposed stadium is completed. This is the most labor intensive activity. At its peak, about 800 workers would be on-site constructing the structure, the seating area, and exterior walls, and completing the interior finishing. Interior finishing uses mostly small hand tools, but requires a higher

number of deliveries for materials, such as sheet rock, ceiling tiles, flooring and interior electrical, mechanical and plumbing fixtures.

PLAYING FIELD

The main work in constructing the playing field is installing the drainage system and laying the sod for the field. The drainage system would consist of perforated pipes laid on geotechnical fabric. The perforated pipes are connected to detention tanks that release stormwater to the City sewer system at a controlled rate. One tank would likely be located under the proposed stadium close to the combined sewer under Jerome Avenue and the second tank close to East 161st Street. Above the perforated pipes, graded aggregate would be used to allow the stormwater to percolate downward. Above the graded aggregate would be another layer of geotechnical fabric on which the subbase for the sod would be placed. Construction of the playing field is expected to take about 3 months.

PARKING GARAGES

Construction staging would most likely occur within the garage sites themselves, but the parking lane on adjacent streets could be used for deliveries of concrete and other construction materials. Efforts would be made to maintain traffic flow and to minimize adverse effects from potential lane/sidewalk closures on pedestrian and vehicular circulation. Builders would be required to plan and carry out noise and dust control measures during construction. In addition, there would be requirements for street crossing and entrance barriers, protective scaffolding, and strict compliance with all applicable construction safety measures. Table 19-2 shows the anticipated start and finish date of each garage.

Table 19-2
Parking Garage Construction Sequencing

Parking Garage	Construction Start	Construction Finish
A	December 2007	February 2009
B	February 2008	January 2009
C	April 2007	March 2008
D	March 2008	December 2008

Source: NYCDPR.

Typical construction sequencing for the parking garages is described below.

EXCAVATION AND FOUNDATIONS

Post-demolition construction for the parking garages would begin with excavation for the foundation and below-grade work. Foundation work would include the use of equipment, such as excavators, bulldozers, rockbreakers, loaders, pumps, backhoes, tractors, hammers, pile drivers, motorized concrete buggies, concrete pumps, jack hammers, pneumatic compressors, a variety of small, mostly hand-held tools, dump trucks, and concrete trucks. First, excavation of the foundation would occur. The bulldozers would excavate the soil and load it onto trucks for transport and disposal. The trucks would remove any excavated material and construction debris. Then, concrete trucks would arrive at the site with pre-mixed concrete and pump it onto the site to form the foundations and building walls. At the same time, infrastructure connections would be built. These include lines for water, sewer, stormwater, electricity, and telecommunications.

In total, about 77,000 cubic yards of soil are expected to be excavated, and about 10,000 cubic yards would be reused on the sites as fill. About 67,000 cubic yards of unneeded soil would be

exported either for use at another site or disposal. If standard sized 12-cubic-yard dump trucks were used, about a total of 5,600 round trips would be needed to remove this soil during the 12 to 18 month period that foundations for the four parking garages are excavated. Potential construction traffic impacts are discussed later in this chapter. Garages A and C would be supported on spread footings made of concrete. Garages B and D would be pile supported, because of the weakness of the underlying soils. Both the concrete for the spread footings and the piles would be brought in by truck.

Rock may be encountered in the western and northern portions of the project area. In the areas of rock, blasting may be used for short periods of time. As discussed above, blasting in New York City is tightly regulated and restricted. All blasting would conform to regulations of FDNY and any other applicable regulations. Blasting would involve the use of timed multiple charges with limited blast intensity, which would reduce potential impacts. The regulations are intended to prevent endangering the public and to minimize vibrations that could affect nearby buildings. To the extent that work would be in the proximity of the subway; the blasting would also be regulated by NYCT. As discussed under "Vibration," a Construction Protection Plan would be implemented near historic structures.

In areas where the controlled drill-and-blast method would be used, there would typically be two to four controlled blasting periods per day, each lasting for only a few seconds. More frequent blasting using smaller charges is also possible. Properties near these activities would be documented and monitored before, during, and following each blasting period, and strict parameters would be established and maintained by a safety officer at all times. Vibrations from blasting would be monitored at nearby structures that could be damaged, such as bridges and elevated subway tracks. Blasting would not occur at night except under extraordinary circumstances. The time between controlled blasts is required to remove debris and set up for the next blast. Some vibrations at the street and inside adjacent properties may be detected from the drilling and blasting activities. The extent of vibrations would vary based on the density of the material being mined, with hard rock most efficient in transmitting vibrations; how deep below ground blasting occurs; proximity to structures; the foundation configuration of the adjacent structures; and the response to vibration of the adjacent structures.

Because of the proximity of the Harlem River and the depth of certain excavations, dewatering for the construction of the garage foundations may be required. The water would be sent to a sedimentation tank so that the suspended solids could settle out. Depending on the locations of the site, the decanted water would be discharged either into the New York City sewer system or the Harlem River, and the settled sediment conveyed to a licensed disposal area. Discharge to the sewer system is governed by New York City Department of Environmental Protection (NYCDEP) regulations, and discharge into the Harlem River is governed by NYSDEC regulations.

It is estimated that foundations and below-grade construction for each of the proposed garages would last approximately 3 to 6 months. Excavated material would be disposed off-site via trucks or potentially reused on-site as fill. During this phase of construction, about 40 to 50 construction workers would be on each site.

STRUCTURE

Construction of the exterior structure and enclosure of the parking garages would include construction of the framework, floor decks, ramps, vertical circulation, façade (exterior walls and cladding), and roof construction. These activities would require the use of equipment such as tower cranes, derricks, compressors, personnel and material hoists, front-end loaders, concrete

pumps; on-site bending jigs, welding machines, and a variety of hand-held tools, in addition to the delivery trucks bringing construction materials to and waste from the site. On average, about 25 to 75 construction workers would be required for this phase on a daily basis for each parking garage. This stage would overlap with the interior finishing and would last about 3 to 6 months.

INTERIOR FINISHING

Minimal interior finishing would be required for the parking garages. This stage would include the installation of lighting fixtures, striping of parking spaces and pedestrian areas, and interior finishes for the garage office and maintenance rooms. Mechanical and electrical work, such as the installation of toll mechanisms, ventilation, and elevators would be accomplished. Mechanical and other interior work would last 1 to 3 months and could overlap with construction of the structure. It is expected that this phase would employ about 25 persons with a greater number expected during phase overlaps. Equipment used during interior construction would likely include hoists, pneumatic equipment, delivery trucks, and a variety of small hand-held tools.

WATERFRONT CONSTRUCTION

A 5.11-acre Harlem River waterfront park would be located on property that currently contains the Bronx Terminal Market Buildings G, H, and J, and Piers 2 and 3. The existing concrete masonry bulkhead would be replaced in kind. The existing timber crib bulkhead in the two interpier/cove areas would be replaced with a stabilization structure to create a softer shoreline, such as a gabion wall system and establishment of tidal wetland vegetation at the shoreward portion of the coves. The existing riprap that lines the remaining portion of the shoreline would be stabilized and improved. The intertidal area is currently littered with debris, which would be removed.

Bulkhead repairs and shoreline stabilization would require cranes, likely mounted on barges, to remove and replace larger riprap stones. In addition, cranes would be required to place the rock-filled gabions. Barges would likely be used for much of the delivery and storage of construction materials, and for the staging of waterfront construction activities, including the riprap. To prevent the potential spillage of bulk items such as sand or concrete into the Harlem River, hopper barges (barges with sides) would be used for bulk materials, rather than open deck barges. To address potential spillage of fuel from the refueling of equipment on barges, construction contracts would specify fuel sumps under the fill valves of equipment during refueling. Containment booms would be used to contain floating materials.

The gabions may be filled and placed from the landward side of the bulkhead. The wire gabion cages on the stones would be stockpiled on shore. Front end loaders would be used to transport stones from the stockpile site to the gabions, where they would be filled with stone. Cranes would then be used to place the gabions in the water. The cranes could be land or barge mounted. Any intertidal planting would be done from the waterside.

PARKLANDS

The new recreational facilities would involve a number of facilities at seven locations within the project area. These are expected to be built under different construction contracts, although the same contractor could be awarded more than one contract. Table 19-3 presents the expected sequencing of the new recreation facilities.

Table 19-3
Recreational Facilities Construction Sequencing

Facility	Construction Start	Construction Finish	Construction Period
River Avenue/157th Street Parks	April 2007	October 2007	7 Months
Harlem River Waterfront Park	February 2007	October 2007	9 Months
Harlem River Esplanade	March 2008	August 2008	6 Months
Tennis Courts over Garage C	March 2008	December 2008	21 Months
Soccer Field/Track over Garage A	February 2009	November 2009	10 Months
Heritage Field	November 2008	December 2010	26 Months
Babe Ruth Plaza, Phase 1	October 2008	March 2009	6 Months
Babe Ruth Plaza Phase 2	June 2010	December 2010	7 Months
Source: NYCDPR.			

The main work would be earthmoving, installation of artificial turf, building of spectator stands at two facilities, and landscaping. First the land would be graded to allow for the installation of the active fields and for landscaping. The passive recreation areas would have natural turf. On the active recreation areas, such as the ballfields, artificial turf would be installed except at Heritage Field where the existing natural grass would be retained. Installation of artificial turf involves placement of perforated pipes for drainage. These pipes are connected to the stormwater system or on the waterfront areas; they may drain directly into the Harlem River. Above the drainage pipes, graded aggregate is used to allow rainwater to percolate down. The artificial turf is then installed over the aggregate. A crew of about 10 workers can install approximately 2,000 to 3,000 square feet of artificial turf per day. The equipment would be a crane for moving and handling the pipes and turf as well as a number of walk behind pieces of equipment for final installation. Installation of the surfaces for the track and the tennis, handball, and basketball courts would be similar type of construction, but productivity is about 200 to 500 square feet per day. For the recreation facilities on the roof of Parking Garages A and C, wells to contain trees and shrubs would be installed. Tree installation involves backhoes and hand tools to dig the holes and install the trees.

INFRASTRUCTURE RELOCATION

Infrastructure relocation and replacement would be ongoing during the construction of the proposed project. The first relocation would be a 36-inch water line that is currently located in Macomb's Dam Park under the former location of East 162nd Street. The proposed stadium would occupy the land above the water line, preventing access for maintenance and repair. The 36-inch water line would be relocated to the public streets, under East 161st Street. In addition, a 48-inch water main is located under East 164th Street and is close to the north wall of proposed Garage B. This water main would be located further out into East 164th Street away from the foundation of proposed Garage B. To install a water line, a trench is dug, usually about 4 to 6 feet below the ground surface. The bottom of the trench is lined with gravel to act as bedding material. Lengths of the water line are welded together and the welds tested before the water line is laid in the trench. Gravel is placed around the water line, and then the trench is filled with soil. If the removed soil is suitable, it is reused; if not, new soil is brought in. The street would be repaved in accordance with NYCDOT specifications. Traffic control measures would be coordinated with NYCDOT and implemented while work is ongoing to protect the workers and to maintain traffic flow. The trench is not left open during non-working times, but is either filled and patched or covered with steel plates. Typically, about 100 feet of water line can be installed per day.

When all of the water line has been installed, it is connected to the existing water line. This task is usually done during times of low water demand because the water flow to this section of the

water line has to be cut off. The water system is designed and built in such a way that the water can flow around the cut-off section, and water service to users is not interrupted. After the new water line is tested to ensure that it is functioning properly, the old section is either abandoned in-place or removed. The installation of the new 36-inch and 48-inch water lines is expected to take about 4 to 6 months of construction in the streetbed for each line.

The second relocation would be the combined sewer line currently under Ruppert Place. This sewer line is 12 inches in diameter increasing to 48 inches in diameter, and it drains the existing stadium. It would likely be relocated under East 157th Street, a public thoroughfare. Like the installation of new water lines, the new sewer line would be installed and tested before the old sewer line is disconnected.

The proposed stadium and a number of the new parkland facilities would require new utility connections. These connections would be for water, sanitary sewerage, stormwater, energy and telecommunications. These connections would entail excavating a short trench between the facility and the existing utility in the street. Generally, the connections would take less than a week. Connecting the new services to the proposed facilities is not expected to interrupt service to any other users.

C. POTENTIAL IMPACTS DURING CONSTRUCTION

Potential construction impacts on the relevant areas of concern are discussed below.

OPEN SPACE

Construction of the proposed stadium and parking garages would displace some of the existing recreational facilities and passive areas within Macomb's Dam and John Mullaly Parks, making them unavailable for various periods of time. Although the facilities would be replaced by new, permanent facilities, during construction almost all of the facilities would be unavailable for periods ranging from 3 months to 4 years (though only a limited number of facilities will actually be unavailable for the four year period). The construction of the proposed stadium would close all of the recreational facilities in the northern portion of Macomb's Dam Park and the southern portion of John Mullaly Park including a baseball field, a softball field, the soccer field with the running track, 16 tennis courts and 8 handball courts. The ballfields would be replaced in the first quarter of 2007 as part of the Harlem River waterfront park. The replacement soccer field and track would be operational in the fourth quarter of 2009, but a temporary track for the local residents would be created and available throughout the construction period. Some of the new tennis courts would be available in the fourth quarter of 2008 and the rest in the second quarter 2009. The handball courts would also be replaced by the second quarter of 2009. Two basketball courts would be displaced by construction in the fourth quarter of 2007 and would be replaced in the second quarter 2009. Table 19-4 lists the construction schedule for each facility. Permanent changes in open space are analyzed in Chapter 4, "Open Space and Recreation."

Table 19-4
Displacement and Replacement of Park Facilities

Facility	New Location	Date Closed	Date Operational	Years Closed
Passive recreation[1]	River Avenue Parks	New Facility	2007 4th Q	NA
Softball field 60-foot	Harlem River waterfront park	2006 2nd Q	2007 4th Q	1 ½
Baseball field 90-foot	Harlem River waterfront park	2007 4th Q	2007 4th Q	0
Harlem River Esplanade[1]	Harlem River waterfront park	New Facility	2008 3rd Q	NA
Tennis courts (16)	Macomb's Dam Park	2006 2nd Q	2008 4th Q (14)	2 ½
Babe Ruth Plaza	Macomb's Dam Park	2008 4th Q	2009 1st Q	½
Tennis courts (replace)	Macomb's Dam Park	2006 2nd Q	2009 2nd Q (2)	3
Basketball court (2)	Macomb's Dam Park	2007 4th Q	2009 2nd Q (2)	1 ½
Handball courts (24)	Macomb's Dam Park	2007 4th Q	2009 2nd Q (9)	1 ¾
Soccer field	Macomb's Dam Park	2006 2nd Q	2009 4th Q	3 ½
Competitive track[2]	Macomb's Dam Park	2006 2nd Q	2009 4th Q	3 ½
Baseball field 90-foot	Macomb's Dam Park	NA	2009 4th Q	NA
Baseball field 90-foot	Heritage Field	2007 4th Q	2011 1st Q	3
Baseball field 90-foot	NA	2006 2nd Q	NA	NA
Handball courts (8)	None[3]	2006 2nd Q	NA[3]	NA[3]

Notes:
[1] The Harlem River Esplanade and the River Avenue Parks would be new facilities.
[2] A temporary running course would be available throughout the construction period.
[3] The proposed project would not replace 23 of 32 existing handball courts.
One new basketball court and the soccer field/400-meter track would have spectator stands.
NA = Not Applicable.

A temporary running course would be created and made available to local residents throughout the construction period. From the second quarter of 2006 until about the fourth quarter of 2007, the temporary running course would be located around the two baseball fields next to and northwest of the existing stadium. When construction displaces these ballfields, the esplanade surrounding the new ballfields in the Harlem River waterfront park would serve as a temporary running course and would be available until the permanent competitive track is available in the second quarter of 2009.

The temporary running course would be about 15 feet wide and have a cinder surface and signage indicating distances. The temporary running course would be suitable for walking, jogging and recreational running, but would not be suitable for competitive track meets.

Competitive track meets that currently use Macomb's Dam Park would be held at other nearby tracks that meet the standards for competitive track meets. The New York City Department of Parks and Recreation (NYCDPR) operates 32 tracks in New York City that meet these standards. Of these tracks 7 are located in The Bronx, 6 in Manhattan and 5 are located within 3 miles of the existing Macomb's Dam Park track. NYCDPR uses a permit system to schedule use of these tracks, and the agency states that time periods are available for track meets at the nearby NYCDPR tracks. In addition to NYCDPR tracks, other nearby tracks that can host competitive meets are operated by the New York City Department of Education and various private schools, colleges and universities. These tracks may be available for use by competitive meets that currently are scheduled in Macomb's Dam Park. Local residents may also be able to use these tracks.

Finally, there are a number of parks containing recreational facilities within close proximity to the project area that would not be affected by the proposed project and would remain available to the community throughout the project's construction. These include: (i) Franz Sigel Park, 15.99 acres located 0.35 miles from the project area, which contains one little league field, one regulation-size baseball field and two basketball courts; (ii) the northern portion of John Mullaly Park, 18.5 acres located 0.35 miles from the project area, which contains two little league fields, one synthetic turf soccer field (youth size), one swimming pool, four basketball backboards, and one basketball court; (iii) Nelson Avenue Playground, 1.148 acres located 0.75 miles from the project area (i.e., from East 161st Street and the Macomb's Dam Bridge Approach), which contains two handball courts, one basketball court, and two basketball backboards; (iv) Claremont Park, 38.5 acres located 1 mile from the project area, which contains two basketball courts, two basketball backboards, two little league fields, and four handball courts; (v) St. Mary's Park, 35.3 acres located 1.3 miles from the project area, which contains four handball courts, six basketball courts, two regulation-size baseball fields, and one indoor swimming pool; and (vi) Crotona Park, 127.5 acres located 1.4 miles from the project area, which contains six basketball courts, three regulation baseball fields, 20 tennis courts, 26 handball courts, six basketball courts, and three basketball backboards.

Like the running track for competitive meets, the soccer field in Macomb's Dam Park would be unavailable for scheduled games during a period of about 3½ years. NYCDPR operates 64 soccer fields in New York City. Of these, 27 are in The Bronx, 6 in Manhattan and 7 within 3 miles of the existing Macomb's Dam Park soccer field. NYCDPR uses a permit system to schedule use of the soccer fields, and the agency states that time periods are available for scheduled soccer games at the nearby fields. These fields may be available for use by clubs that use the Macomb's Dam Park field.

The majority of the other recreational facilities would be unavailable for short periods of time, about 1 to 2 years. NYCDPR would also work with displaced baseball and softball field user groups to find playing time at nearby recreational fields as close as possible to Macomb's Dam Park. As discussed above, a temporary running course, which would be appropriate for recreational use by local residents, would be available throughout the construction period, and the NYCDPR operates 7 tracks and 27 soccer fields in The Bronx alone that meet the standard for competitive meets, and operates many more throughout the City. Therefore, there would be sufficient facilities available to accommodate park users, and the interim unavailability of certain park facilities is not considered to be a significant adverse impact.

ECONOMIC CONDITIONS

The construction activity associated with the proposed project would affect the New York City and State economies. Chapter 3, "Socioeconomic Conditions" discusses the potential effects of both construction and operations of the proposed project. This section summarizes the findings from that chapter concerning the economic effects of construction. Construction of the proposed project would have a direct effect on the economy by increasing construction jobs and salaries and overall economic output over the course of the 5-year construction period. These direct jobs, earnings, and output would, in turn, lead to additional indirect and induced economic effects. Indirect effects would stem from inter-industry purchases—contractors buying goods and services from other businesses. Induced effects would stem from the new economic demand created by households spending salaries earned through the direct and indirect jobs. The construction of the proposed stadium is estimated to generate a total of 5,600 jobs (including direct, indirect and induced) in New York City and a total of 10,400 jobs in the larger New York

State economy. In 2006 dollars, these jobs would represent $236.7 million of employee compensation in New York City and $433.4 million in New York State. Construction of the replacement parkland and the parking garages is estimated to generate a total of over 4,200 jobs in New York City and over 5,000 in the greater New York State economy, including New York City employment. The employment that would be generated by construction of the parkland and parking garages is estimated to represent $238.6 million of employee compensation in New York City and $262.3 million of employee compensation in the greater New York State economy, including New York City.

The construction activity would also generate tax revenues for New York City and State. Construction materials would not be subject to New York State or City sales tax. The proposed project would generate income and business taxes from direct, indirect, and induced employment. It is estimated that construction of the proposed stadium, the parkland, and the parking garages would generate about $21.3 million taxes for New York City, about $48.5 million in taxes for New York State, and $0.49 million for the Metropolitan Transportation Authority (MTA).

NOISE AND VIBRATION

NOISE

Introduction

Impacts on community noise levels during construction of the proposed project can result from noise and vibration from construction equipment operation and from construction vehicles and delivery vehicles traveling to and from the site. Noise and vibration levels at a given location are dependent on the kind and number of pieces of construction equipment being operated, as well as the distance from the construction site. Noise levels caused by construction activities would vary widely, depending on the phase and location of construction. The most significant noise sources are expected to be jackhammers, pile driving, paving breakers, truck movements, and cranes.

With regard to blasting, as discussed previously, it is anticipated that blasting and/or rock removal would be limited. Noise from blasting can be muffled by the use of blasting mats. These heavy wire mesh mats also prevent debris from being sent into the air. At locations where blasting would occur, noise from the blasting would be discernible for a very short period of time (i.e., for the approximately several-second duration of the blast). In general, due to the short duration of these events, average hourly noise levels would not be significantly. However, the rapid and dynamic changes in noise levels that result from these events may be intrusive at nearby locations.

Construction noise is regulated by the New York City Noise Control Code and by the U.S. Environmental Protection Agency (USEPA) noise emission standards for construction equipment. These local and federal requirements mandate that certain classifications of construction equipment and motor vehicles meet specified noise emissions standards; that, except under exceptional circumstances, construction activities be limited to weekdays between the hours of 7 AM and 6 PM; and that construction material be handled and transported in such a manner as not to create unnecessary noise. If overtime work is required, appropriate work permits from the NYCDOB would be obtained. In addition, appropriate low-noise emission level equipment and operational procedures would be used. Compliance with noise control measures would be assured by their inclusion in the contract documents as material specification and by directives to the construction contractor.

In general, noise from construction activities, particularly noise from impact equipment such as pile driving, jack hammers, paving breakers, would be intrusive and result in increased noise levels. In addition, construction related activities would result in a significant increase in both construction truck trips and construction worker trips, and associated vehicular noise. Given the scope and duration of construction activities, a quantified construction noise analysis was performed. The purpose of this analysis was to determine if significant adverse noise impacts would occur during construction, and if so, to examine the feasibility of implementing mitigation measures to reduce or eliminate such impacts.

Construction Noise Impact Criteria

The *CEQR Technical Manual* states that significant noise impacts due to construction would occur "only at sensitive receptors that would be subjected to high construction noise levels for an extensive period of time." In general, this means that such impacts would occur only at sensitive receptors where high noise levels would occur for 18 to 24 months or longer. In addition, the *CEQR Technical Manual* states that impact criteria for vehicular sources, using existing noise levels as the baseline, should be used for assessing construction impacts. These criteria are as follows:

> If the existing noise levels are less than 60 dBA $L_{eq(1)}$ and the analysis period is not a nighttime period, the threshold for a significant impact would be an increase of at least 5 dBA $L_{eq(1)}$. For the 5 dBA threshold to be valid, the resulting proposed action condition noise level with the proposed action would have to be equal to or less than 65 dBA. If the existing noise level is equal to or greater than 62 dBA $L_{eq(1)}$, or if the analysis period is a nighttime period (defined in the CEQR criteria as being between 10 PM and 7 AM), the incremental significant impact threshold would be 3 dBA $L_{eq(1)}$. (If the Existing noise level is 61 dBA $L_{eq(1)}$, the maximum incremental increase would be 4 dBA, since an increase higher than this would result in a noise level higher than the 65 dBA $L_{eq(1)}$ threshold.)

Selection of Noise Receptor Sites

Based upon the proposed construction activities, three receptor sites were selected as representative of existing ambient conditions adjacent to the construction site for the noise impact analysis (see Figure 19-1). Site 1 (a residential building) is located on East 158th Street between River and Gerard Avenues adjacent to the existing stadium, Site 2 (John Mullaly Park) is located on East 164th Street between Jerome and River Avenues adjacent to Garage B, and Site 3 (a residential building) is located on Jerome Avenue between East 162nd and East 164th Streets adjacent to the proposed stadium. These sites are representative of other sensitive noise receptors in the immediate area, and are the locations where maximum project impacts due to construction noise would be expected.

Determination of Existing Noise Levels

Noise Monitoring. Continuous noise monitoring was performed on January 10, 2006 at Site 2 between the hours of 7:00 AM and 6:00 PM. In addition, spot 20-minute measurements were made at Sites 1 and 3 during the three weekday time periods—the AM (6:00-7:30 AM), midday (12:00 noon-1:30 PM), and PM (5:00-6:30 PM). Weather conditions were noted to ensure a true reading as follows: wind speed under 15 mph; relative humidity under 90 percent; and temperature above 14°F and below 122°F.

The instrumentation used for the noise measurements was a Brüel & Kjær Model 2260 sound level meter. The instrument was mounted at a height of 5 feet above the ground surface and at

least 6 feet away from any large sound-reflecting surface to avoid major interference with sound propagation. The meter was calibrated before and after readings with a Brüel & Kjær Type 4231 sound level calibrator using the appropriate adaptor. Measurements at each location were made on the A-scale (dBA). Measured quantities included L_{eq}, L_1, L_{10}, L_{50}, and L_{90}. A windscreen was used during all sound measurements, except for calibration. All measurement procedures conformed to the requirements of ANSI Standard S1.13-1971 (R1976).

Existing Noise Levels. Tables 19-5 and 19-6 show the measured $L_{eq(1)}$ and $L_{10(1)}$ monitoring results at Site 2, and at Sites 1 and 3, respectively. At Site 2 the hourly $L_{eq(1)}$ values range from 66 to 71 dBA. The lowest measured $L_{eq(1)}$ values were 71.0 dBA at Site 1, 65.5 dBA at Site 2, and 69.4 dBA at Site 3.

Construction Noise Analysis Methodology

Construction activities for the proposed project would be expected to result in increased noise above current levels. Based upon the requirements of the NYC Noise Code, construction activities are limited to weekdays between the hours of 7 AM and 6 PM.

Typical noise levels for construction equipment that may be used during construction activities are presented in Table 19-7.

Table 19-5
Existing Noise Levels (dBA) at Site 2 (John Mullaly Park)

Hour Starting	$L_{eq(1)}$	L_{10}
6:00 AM	65.6	67.2
7:00 AM	67.8	70.9
8:00 AM	66.7	69.3
9:00 AM	67.4	70.2
10:00 AM	65.8	68.8
11:00 AM	65.5	69.1
Noon	66.6	69.6
1:00 PM	66.5	69.2
2:00 PM	66.1	69.4
3:00 PM	67.6	70.3
4:00 PM	67.4	70.3
5:00 PM	66.6	69.7
6:00 PM	65.5	68.5
Note: Field measurements were performed on January 10, 2006.		

Table 19-6
Existing Noise Levels (dBA) at Sites 1 and 3

Site	Location	Time	L_{eq}	L_{10}
1	158 Street between River & Gerard Avenues	AM	71.0	74.6
		MD	71.0	74.2
		PM	71.1	73.2
3	Jerome Avenue Between 162 & 164 Streets	AM	72.1	75.6
		MD	69.9	73.8
		PM	69.4	73.0
Notes: Field measurements were performed by AKRF, Inc., on November 17 and 29, 2005.				

Table 19-7
Construction Equipment Noise Emission Levels (in dBA)

Equipment	Typical Noise Level (dBA) 50 feet from source
Air compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Bulldozer	85
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Paver	89
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	88
Source: *Transit Noise and Vibration Impact Assessment*, FTA, April 1995.	

Noise levels with the project were determined based upon operations of construction equipment. The following equation was used to calculate noise levels due to operation of a single piece of construction equipment.

$L_{eq(1)} = E.L. + 10 \log (U.F.) – 20 \log (D/50) – Shielding$

where:

$L_{eq(1)}$ is the noise level at a peak hour time period;
E.L. is the noise emission level of the equipment at a reference distance of 50 feet;

U.F. is a usage factor that accounts for the fraction of time that the equipment is in use over the specified time period.

D is the distance from the receiver to the piece of equipment; and

Shielding is the noise attenuation by structures.

For each phase of construction, an estimate was prepared of the type and number of pieces of equipment that would be on-site and operating, the location of the equipment, the usage factor, and the level of attenuation achieved due to shielding.

The analysis assumes that the following measures would be implemented to reduce construction noise: (i) a temporary noise barrier would be constructed along the Jerome Avenue portion of the construction site from East 164th Street to 161st Street with a minimum height of approximately 15-18 feet; (ii) a temporary noise barrier or combination of earth berm and barrier would be constructed along 162nd Street from Jerome Avenue to River Avenue with a minimum height of approximately 15-18 feet (to be operational between the start of construction and approximately the 1st quarter of 2008); and (iii) the use of quiet dump, flat bed trucks, and concrete trucks (with noise levels of $\leq$ 80 dBA) for construction of the proposed stadium and Parking Garage B. (The feasibility of utilizing a noise barrier on East 164th Street between Jerome Avenue and River Avenue was explored. However, it was determined that a barrier at this location would have the potential for significantly affecting, and possibly killing, old growth trees along 164th Street which NYCDPR wishes to preserve. Consequently, use of a noise barrier at this location was rejected.)

On-site construction activities would typically occur between 7:00 AM and 3:30 PM. Worker trips would occur either before or after the hours of construction work. Noise from material delivery trips off-site between the hours of 7:00 AM and 3:30 PM would generally be low in comparison to noise generated by on-site construction activities. Noise impacts were determined by comparing the total noise level during construction (i.e., the combination of noise produced by adding the L_{eq} values for each piece of equipment to the lowest measured ambient noise level during the 7:00 AM to 3:30 PM time period) with the lowest measured ambient noise level during the 7:00 AM to 3:30 PM time period.

Noise Levels During Construction

Table 19-8 shows existing noise levels, noise levels due to construction activities (construction-generated noise) alone, total noise levels with construction activities (i.e., existing noise levels plus construction-generated noise), and the maximum increase in noise levels due to construction. (Site 3 shows noise results at the upper levels of buildings on Jerome Avenue which would have a clear line of sight [above the noise barrier] to the construction site.) Construction activities, particularly pile driving, would produce noise levels at some locations, for some limited periods of time, that would be noisy and intrusive. However, depending on the duration of noise level increases, they may or may not result in significant noise impacts based upon CEQR criteria.

Table 19-8
Predicted Construction Noise Levels with Mitigation Measures (in dBA)

Year	Quarter	Quietest Existing $L_{eq(1)}$	Construction-Generated $L_{eq(1)}$	Total Noise with Construction $L_{eq(1)}$	Increase $L_{eq(1)}$	3 dBA CEQR Criteria Exceeded?
Site 1 at 158 Street between River & Gerard Avenues						
	2nd Quarter	71.0	59.7	71.3	0.3	No
	3rd Quarter	71.0	61.3	71.4	0.4	No
2006	4th Quarter	71.0	61.0	71.4	0.4	No
	1st Quarter	71.0	61.1	71.4	0.4	No
	2nd Quarter	71.0	62.2	71.5	0.5	No
	3rd Quarter	71.0	49.8	71.0	0.0	No
2007	4th Quarter	71.0	50.2	71.0	0.0	No
	1st Quarter	71.0	60.6	71.4	0.4	No
	2nd Quarter	71.0	60.7	71.4	0.4	No
	3rd Quarter	71.0	52.8	71.1	0.1	No
2008	4th Quarter	71.0	74.0	75.8	4.8	Yes
	1st Quarter	71.0	74.4	76.0	5.0	Yes
	2nd Quarter	71.0	74.0	75.7	4.7	Yes
	3rd Quarter	71.0	68.0	72.8	1.8	No
2009	4th Quarter	71.0	68.0	72.8	1.8	No
	1st Quarter	71.0	68.0	72.7	1.8	No
	2nd Quarter	71.0	68.0	72.8	1.8	No
	3rd Quarter	71.0	68.0	72.8	1.8	No
2010	4th Quarter	71.0	68.0	72.8	1.8	No
Site 2 at 164th Street between Jerome Avenue and River Avenue						
	2nd Quarter	65.5	68.5	70.3	4.8	Yes
	3rd Quarter	65.5	71.3	72.3	6.8	Yes
2006	4th Quarter	65.5	71.3	72.3	6.8	Yes
	1st Quarter	65.5	71.3	72.3	6.8	Yes
	2nd Quarter	65.5	61.6	67.0	1.5	No
	3rd Quarter	65.5	51.8	65.7	0.2	No
2007	4th Quarter	65.5	52.6	65.7	0.2	No
	1st Quarter	65.5	77.0	77.3	11.8	Yes
	2nd Quarter	65.5	84.6	84.6	19.1	Yes
	3rd Quarter	65.5	72.2	73.1	7.6	Yes
2008	4th Quarter	65.5	72.2	73.0	7.5	Yes
	1st Quarter	65.5	54.3	65.8	0.3	No
	2nd Quarter	65.5	53.4	65.8	0.3	No
	3rd Quarter	65.5	49.0	65.6	0.1	No
2009	4th Quarter	65.5	46.5	65.6	0.1	No
	1st Quarter	65.5	46.5	65.6	0.1	No
	2nd Quarter	65.5	46.5	65.6	0.1	No
	3rd Quarter	65.5	46.5	65.6	0.1	No
2010	4th Quarter	65.5	46.5	65.6	0.1	No
Site 3 at Jerome Avenue between 162 & 164 Streets						
	2nd Quarter	69.4	70.0	72.7	3.3	Yes
	3rd Quarter	69.4	72.8	74.4	5.0	Yes
2006	4th Quarter	69.4	72.8	74.4	5.0	Yes
	1st Quarter	69.4	72.8	74.4	5.0	Yes
	2nd Quarter	69.4	65.0	70.7	1.3	No
	3rd Quarter	69.4	54.5	69.5	0.1	No
2007	4th Quarter	69.4	55.4	69.6	0.2	No
	1st Quarter	69.4	64.4	70.6	1.2	No
	2nd Quarter	69.4	69.1	72.3	2.9	No
	3rd Quarter	69.4	55.8	69.6	0.2	No
2008	4th Quarter	69.4	57.3	69.7	0.3	No

Table 19-8 (cont'd)
Predicted Construction Noise Levels with Mitigation Measures (in dBA)

Year	Quarter	Quietest Existing $L_{eq(1)}$	Construction-Generated $L_{eq(1)}$	Total Noise with Construction $L_{eq(1)}$	Increase $L_{eq(1)}$	3 dBA CEQR Criteria Exceeded?
	1st Quarter	69.4	58.3	69.7	0.3	No
	2nd Quarter	69.4	56.5	69.6	0.2	No
	3rd Quarter	69.4	53.9	69.6	0.1	No
2009	4th Quarter	69.4	47.2	69.4	0.0	No
	1st Quarter	69.4	47.2	69.4	0.0	No
	2nd Quarter	69.4	47.2	69.4	0.0	No
	3rd Quarter	69.4	47.2	69.4	0.0	No
2010	4th Quarter	69.4	47.2	69.4	0.0	No
Site 3' at Jerome Avenue between 162 & 164 Streets (Receptors on 3rd or upper levels)						
	2nd Quarter	69.4	73.1	74.7	5.3	Yes
	3rd Quarter	69.4	74.7	75.8	6.4	Yes
2006	4th Quarter	69.4	74.4	75.6	6.2	Yes
	1st Quarter	69.4	74.4	75.6	6.2	Yes
	2nd Quarter	69.4	66.6	71.2	1.8	No
	3rd Quarter	69.4	62.3	70.2	0.8	No
2007	4th Quarter	69.4	62.5	70.2	0.8	No
	1st Quarter	69.4	67.9	71.7	2.3	No
	2nd Quarter	69.4	72.3	74.1	4.7	Yes
	3rd Quarter	69.4	64.8	70.7	1.3	No
2008	4th Quarter	69.4	62.5	70.2	0.8	No
	1st Quarter	69.4	58.3	69.7	0.3	No
	2nd Quarter	69.4	56.5	69.6	0.2	No
	3rd Quarter	69.4	53.9	69.5	0.1	No
2009	4th Quarter	69.4	47.2	69.4	0.0	No
	1st Quarter	69.4	47.2	69.4	0.0	No
	2nd Quarter	69.4	47.2	69.4	0.0	No
	3rd Quarter	69.4	47.2	69.4	0.0	No
2010	4th Quarter	69.4	47.2	69.4	0.0	No

At Site 1 a maximum increase of 5.0 dBA in noise levels due to construction activities would occur during the 1st quarter of 2009. $L_{eq(1)}$ noise levels due to construction activities would exceed the impact threshold of 3 dBA $L_{eq(1)}$ during the 4th quarter of 2008 and the 1st and 2nd quarters of 2009. These increases would range from 4.7 dBA to 5.0 dBA. Due to the limited duration of these noise level increases, construction activities at Site 1, per CEQR criteria, would not result in significant adverse noise impacts at this location.

At Site 2 a maximum of increase of 19.1 dBA in noise levels due to construction activities would occur during the 2nd quarter of 2008. $L_{eq(1)}$ noise levels due to construction activities would exceed the impact threshold of 3 dBA $L_{eq(1)}$ from the 2nd quarter of 2006 through the 2nd quarter of 2007, and the entire year of 2008. These increases would range from 5 dBA to 19 dBA. The increases in noise levels occurring during 2nd quarter of 2006 through the 2nd quarter of 2007 are principally due to pile driving occurring during the construction of the proposed stadium, and the increases in noise levels occurring during 2008 are principally due to construction activities relating to Garage B. There are no practicable and feasible mitigation measures that could be implemented to eliminate these impacts. For the reasons stated above, the use of a noise barrier on East 164th Street was considered and found to be impractical and non-feasible. The use of additional quieter construction equipment was also determined to be impractical and non-feasible. The noise increases at Site 2 would impact park users at John

Mullaly Park and would occur during a total of 9 quarters (not all of which are consecutive). This portion of the park includes both active and passive uses, including a skate board park, an indoor recreation center, and a tot lot. Due to the duration and magnitude of the noise level increase, construction activities at Site 2 would be considered significant adverse noise impacts per CEQR criteria.

At Site 3' a maximum of 5.0 dBA in noise levels due to construction activities would occur from the 3rd quarter of 2006 through the 1st quarter of 2007. $L_{eq(1)}$ noise levels due to construction activities would exceed the impact threshold of 3 dBA $L_{eq(1)}$ from the 2nd of 2006 through the 1st quarter of 2007. These increases would range from 3 dBA to 5 dBA. It should be noted that at this location, the increase in noise level at residences above approximately the 3rd floor, which have a clear line of sight to the construction site, would be higher than for residences at lower elevations, and there would be a little benefit in noise reductions from the noise barrier. The Site 3 results are for these higher elevation receptor locations.

At Site 3', a maximum of 6.4 dBA in noise levels due to construction activities would occur during the 3rd quarter of 2006. $L_{eq(1)}$ noise levels due to construction activities would exceed the impact threshold of 3 dBA $L_{eq(1)}$ during 5 quarters—the 2nd, 3rd, and 4th quarters of 2006, the 1st quarter of 2007, and the 2nd quarter of 2008. Not all of the time periods when exceedences are predicted to occur are consecutive. These increases would range from 5 dBA to 6 dBA. Due to the limited duration of these noise level increases, construction activities at Site 3 and Site 3', per CEQR criteria, would not result in significant noise impacts at this location.

In conclusion construction activities would result in unavoidable, unmitigated, significant, adverse noise impacts only at Site 2.

TRAFFIC

Construction of the proposed project would generate construction activity that is expected to begin in 2006 and be completed in 2010. Construction activity would generate a substantial volume of construction worker trips and construction vehicle (i.e., truck) trips, with the highest level of activity expected to occur in 2008. The projected volume of daily construction workers and daily construction vehicles is presented in Table 19-9.

As shown in Table 19-9, in the peak construction quarter for construction workers, the third quarter of 2008, approximately 2,175 construction workers would be active on the various construction sites daily—the proposed stadium site, the four proposed garage sites, and the replacement parks. In addition, about 155 construction vehicles would be active at the various sites daily. In the first and second quarters of 2008, there would be a slightly higher volume of construction vehicles active at the sites (172 in the first quarter of 2008, and 174 in the second quarter of 2008). The average of the two busiest quarters of construction was used as the reasonable worst-case scenario in determining the estimated volume of construction workers driving to and from the sites as well as the volume of construction vehicles arriving and departing at the various sites. Therefore, considering the projections for the first and third quarters of 2008, there would be an average of 1,888 construction workers and 164 construction vehicles (164 arriving and 164 departing) active at the project sites on a typical peak construction day.

Table 19-9
Projected Daily Construction Activity

Year	Number of Workers	Number of Construction Vehicles
2006 2nd Quarter	220	42
2006 3rd Quarter	300	64
2006 4th Quarter	300	64
2007 1st Quarter	550	95
2007 2nd Quarter	970	121
2007 3rd Quarter	1,320	123
2007 4th Quarter	1,320	145
2008 1st Quarter	1,600	172
2008 2nd Quarter	1,485	174
2008 3rd Quarter	2,175	155
2008 4th Quarter	1,560	147
2009 1st Quarter	610	48
2009 2nd Quarter	310	33
2009 3RD Quarter	435	31
2009 4th Quarter	435	31
2010 1st Quarter	200	8
2010 2nd Quarter	200	8
2010 3rd Quarter	270	28
2010 4th quarter	270	28
Sources: Tishman Speyer Development, L.L.C. and STV, Inc.		

Construction activity is expected to start by about 7 AM and end at approximately 3:30 PM. Therefore, the peak hour for construction worker arrivals would be 6-7 AM, well before the weekday morning commuter peak period. The peak hour for construction worker departures would be 3:30-4:30 PM. Of the 1,888 projected daily construction workers, it is estimated that about 75 percent would drive, with an average auto occupancy of 1.2 persons per auto. It has also been estimated that about 80 percent of construction worker departures would occur during the peak departure hour; some construction activities tend to finish earlier and some slightly later.

Therefore, using these trip generation characteristics—1,888 daily construction workers, 80 percent of all departures occurring in the peak 3:30-4:30 PM hour, 75 percent of these trips made by auto, and 1.2 people per auto—it is projected that approximately 956 construction worker vehicles would depart the various construction sites during the construction peak hour.

Construction vehicle arrivals generally can be expected to peak between about 7 AM and 9 AM. In addition, another small peak would occur at about 3 PM for trucks to remove trash and deliver materials for use in the morning. Construction vehicle movements are relatively consistent (not highly peaked) throughout the day. A peak hour would involve about 20 percent of all construction vehicle departures or arrivals and would produce 33 construction vehicles arriving at the various construction sites in the morning peak hour and 33 construction vehicles in the afternoon peak hour.

These initial projections indicate that the construction worker peak departure period would be the overall construction peak condition, rather than the construction vehicle peak hour. For a conservative analysis, possibly 20 percent of daily construction vehicles may arrive at and depart from the various construction sites during the 3-4 PM peak afternoon construction hour. Therefore, some coincidence in peak hour conditions involving both construction worker vehicles and construction vehicles (i.e., trucks) would occur.

This volume of construction activity could create significant adverse traffic impacts in the peak afternoon construction hour for the reasonable worst-case scenario. The volume of overall projected construction traffic—956 autos departing the construction sites and 33 trucks arriving and departing at the various construction sites—would not all focus on a single construction site, but rather on several (the proposed stadium site, the four proposed garage construction sites and the replacement park facilities).

For truck trips returning to the various construction sites in the afternoon peak hour, about 65-70 percent would occur at the proposed stadium site, while the remaining 30-35 percent would occur at the four proposed garage sites. Thus, these construction vehicle trips would be distributed over several routes in the area and not concentrated along any one or two routes.

For the purpose of this construction phase impact analysis, it was assumed that approximately 45 percent of construction vehicles would approach the site on the northbound and southbound Major Deegan Expressway, respectively. An additional 10 percent were assumed to be distributed equally between the Macombs Dam Bridge, Jerome Avenue, River Avenue, East 161st Street, and East 149th Street. Construction vehicles using the Major Deegan would then connect to construction sites via local streets. The 33 construction vehicles per hour inbound and outbound would thus add 10-20 vehicles per direction on Jerome Avenue south of East 162nd Street and about one vehicle per direction on the Macombs Dam Bridge, Jerome Avenue, River Avenue, East 161st Street, and East 149th Street.

Construction workers departing the site by auto were assumed to be destined as follows: The Bronx, 20 percent; Queens, 20 percent; Brooklyn, 15 percent; New Jersey, 15 percent; Long Island, 10 percent; Westchester and points north, 10 percent; Manhattan, 5 percent; and Staten Island, 5 percent. These trips have been assigned to study area roadways as follows: 25 percent to the northbound Major Deegan; 50 percent to the southbound Major Deegan; 7 percent on the Macombs Dam Bridge; 3 percent on Jerome Avenue; 3 percent on River Avenue; 4 percent on the Grand Concourse; 4 percent on East 161st Street; 2 percent on East 149th Street; and 2 percent on East 138th Street. The 956 construction worker vehicles would add approximately 239 vehicle trips to the northbound Major Deegan, 478 vehicle trips to the southbound Major Deegan, 67 vehicle trips to the Macombs Dam Bridge, 29 vehicle trips to Jerome Avenue, 29 vehicle trips to River Avenue, 38 vehicle trips to the Grand Concourse, 38 vehicle trips to East 161st Street, 19 vehicle trips to East 149th Street, and 19 vehicle trips to East 138th Street.

Two alternative parking scenarios have been evaluated for the FEIS. The first scenario assumes construction worker parking would be provided at Yankee Parking Garage 3 between River and Gerard Avenues and East 162nd and East 164th Streets, across River Avenue from the proposed stadium. The second scenario assumes no dedicated parking garage location for construction workers who drive to the site, and therefore assumes a dispersion of construction worker trips to legal curbside on-street parking between East 149th and East 167th Streets between Jerome Avenue and the Grand Concourse.

Baseline traffic volumes for the mid-afternoon construction peak hour were calculated by factoring the 5:15-6:15 PM pre-game weeknight peak hour volumes downward by 12 percent, based on traffic volumes at 24-hour Automatic Traffic Recorder (ATR) machine count locations that were 12-15 percent lower in the 3-4 PM and 3:30-4:30 PM peak hours. These existing mid-afternoon volumes were increased using a 0.5 percent per year growth rate for the period from 2004 to 2008. Trips for No Build projects that would be completed by 2008 were added, including the Bronx Criminal Courthouse and the East 153rd Street Bridge over Metro-North Railroad tracks, and construction trips for Bronx Terminal Market trucks and departing

construction workers in private vehicles. The resulting volumes are termed the 2008 Construction No Build volumes.

The traffic generated under the Construction Build condition—including construction trucks and delivery vehicles and departing construction workers—were added to the 2008 Construction No Build volumes to create the 2008 Construction Build traffic volumes. A diversion of East 162nd Street traffic to East 164th Street was also included to account for the East 162nd Street closure after construction of the new stadium begins.

Level of service analyses were conducted at six key locations, through which the majority of Build increments would pass, including:

- Jerome Avenue at East 162nd Street/Macomb's Dam Bridge Approach
- Jerome Avenue at East 161st Street
- Macomb's Dam Bridge Approach at East 161st Street service roads
- Macomb's Dam Bridge Approach at the southbound Deegan off-ramp (Exit 5)
- River Avenue at East 162nd Street
- River Avenue at East 161st Street

It was assumed for analysis purposes that due to the closure of East 162nd Street, the currently signalized intersections of East 162nd Street at River Avenue and at Jerome Avenue would become unsignalized, since only construction vehicles would enter and leave the main stadium construction site at East 162nd Street.

SCENARIO WITH CONSTRUCTION WORKER PARKING AVAILABLE AT PARKING GARAGE 3

A central parking garage would be provided for construction workers under this scenario; a fee may be charged for each vehicle. Most workers were assumed to use Parking Garage 3 across River Avenue the stadium construction site, or very close to other work sites. However, with the availability of legal on-street parking, a portion would choose to park on-street for free. Because of the distance from some of the new garage work sites and daily fee, it was assumed that approximately 75 percent of construction workers would pay to use Yankee Parking Garage 3, and 25 percent would park on the street to be closer to other construction sites, or to avoid paying for parking. On-street parking would add about 10 to 20 vehicles per block on about 12 to 15 blockfaces between East 151st Street and East 165th Street between Jerome Avenue and Walton Avenue. For the purposes of this traffic impact analysis, these vehicle trips were assigned to blocks that currently accommodate legal parking, according to the on-street parking regulations. It was also assumed that at key intersections where closures would typically be in effect for construction purposes, daylighting would maintain the existing number of lanes approaching the intersection.

A summary of level of service and significant impact findings for this scenario is presented in Table 19-10.

As shown in Table 19-10, three of the six intersections analyzed would be significantly impacted in the 2008 peak construction hour. One of these three impacts—at Jerome Avenue and East 161st Street—could be mitigated via standard traffic engineering measures, in this case the

Table 19-10
2008 Construction Traffic Levels of Service with Parking in Garage 3: Afternoon Construction Worker Peak Traffic Departure Period

Intersection	No Build		Build		Mitigated	
	LOS	Delay (Seconds)	LOS	Delay (Seconds)	LOS	Delay (Seconds)
Jerome Avenue at East 162nd Street/Macomb's Dam Bridge Approach (Unsignalized)	B	15.3	C	21.2	--	--
Jerome Avenue at East 161st Street	C	32.5	E	63.7*	C	30.5
Macomb's Dam Bridge Approach at East 161st Street West Service Road	C	23.7	C	24.6	--	--
Macomb's Dam Bridge Approach at the Southbound Major Deegan off-Ramp (Exit 5)	D	43.7	F	103.8*	F	76.5*
River Avenue at East 162nd Street (Unsignalized)	B	15.1	C	24.4	--	--
River Avenue at East 161st Street	C	22.2	E	71.4*	D	49.0*

Notes: Overall intersection levels of service and overall average vehicle delays are shown; significant impacts were determined by lane group.
* Denotes significant adverse traffic impacts requiring mitigation.
Source: Eng-Wong Taub, Inc.

removal of curbside parking on one approach to the intersection (southbound Jerome Avenue). One other significant impact location—River Avenue at East 161st Street—could be partially mitigated via curb parking restrictions at this intersection along with signal timing changes. The other significant impact location—the southbound exit ramp from the Major Deegan at Exit 5 and Macomb's Dam Bridge Approach—could also be partially mitigated by using the currently striped-out shoulder lane on the exit ramp as a third travel lane during the exit ramp. Additional measures would be needed to further mitigate the two partially mitigated intersections. As described later in the FEIS in Chapter 21, "Mitigation," these measures could include the use of portable variable-message signs to advise traffic to use alternate routes on their way through the area for peak construction traffic hours during the busiest construction seasons. This would be needed to divert traffic away from key intersections and help reduce or eliminate significant adverse impacts (see Chapter 21, "Mitigation," for additional information).

SCENARIO WITH ALL CONSTRUCTION WORKERS PARKING ON-STREET

On-street parking for all construction worker autos would increase the need for on-street parking considerably—about 10 to 30 vehicle parking spaces could be needed per block on about 50 blocks between East 149th Street and East 167th Street between Jerome Avenue and the Grand Concourse. As with the other scenario with construction worker parking made available in Parking Garage 3, vehicle trips were assigned to blocks known to accommodate legal parking, as per on-street parking regulations.

A summary of level of service and significant impact findings for this scenario are presented in Table 19-11.

As shown in Table 19-11, two of the six intersections analyzed would be significantly impacted during the 2008 peak construction hour. One of these two impacts—at Jerome Avenue and East 161st Street—could be mitigated by implementing the same curbside parking restrictions as

Table 19-11
2008 Construction Traffic Levels of Service With All Parking On-Street: Afternoon Construction Worker Departure Traffic Period

Intersection	No Build		Build		Mitigation	
	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)
Jerome Avenue at East 162nd Street/Macomb's Dam Bridge Approach (Unsignalized)	B	15.3	C	17.8	--	--
Jerome Avenue at East 161st Street	C	32.5	D	39.4 *	C	30.7
Macomb's Dam Bridge Approach at East 161st Street West Service Road	C	23.7	C	25.5	--	--
Macomb's Dam Bridge Approach at the Southbound Deegan Off-Ramp (Exit 5)	D	43.7	E	70.7 *	D	42.2*
River Avenue at East 162nd Street (Unsignalized)	B	15.1	C	23.7	--	--
River Avenue at East 161st Street	C	22.2	C	25.9	--	--

Note: Overall intersection levels of service and overall average vehicle delays are shown; significant impacts were determined by lane group.
* Denotes significant adverse traffic impacts requiring mitigation
Source: Eng-Wong Taub, Inc.

noted above for the scenario with parking allowed in Garage No. 3. The second impact—at the southbound exit ramp from the Major Deegan at Exit 5 and Macomb's Dam Bridge Approach—would again be partially mitigated as was determined for the other scenario. Additional mitigation measures would be needed, as described previously for the scenario with parking available at Parking Garage 3.

Thus, traffic generated under this scenario with all construction workers parking on-street would create one less significant impact location and one less partially mitigated impact location. Under this scenario, with no specific garage targeted for construction worker vehicle parking, the generated 956 peak hour construction vehicle trips would be dispersed throughout the traffic network, adding fewer vehicle trips to any one street or any one intersection approach. Under the scenario with construction worker parking permitted in Parking Garage 3, construction worker traffic would be concentrated at that location and add significant volumes of traffic to River Avenue and other routes. A parking scenario where all construction workers must find on-street parking, while increasing neighborhood traffic circulation and taking more on-street parking spaces away from others, creates lesser traffic impacts at some of the more critical traffic intersections in the area. It may be possible to mitigate the remaining partially mitigated intersections by opening more garages and making them available to construction workers. Opening garages to construction workers has been determined to be financially impractical. The City will, however, continue to explore the economic feasibility of this option with the garage operators.

Construction activity at some of the construction sites would entail the closure of streets or lanes adjacent to the construction sites. For example, construction of proposed Parking Garage B would close existing East 162nd Street, which would be closed permanently under the Build condition and was analyzed as part of the Build traffic analyses contained in Chapter 15, "Traffic and Parking." In addition, construction of proposed Parking Garages A and C could

require closure of the curb lane along East 161st Street or East 157th Street or other streets. The construction plan for this project would include preparation of maintenance and protection of traffic plans that would be subject to the requirements of and approval by NYCDOT.

CUMULATIVE CONSTRUCTION TRAFFIC

The construction of the proposed stadium would overlap with three roadway improvement projects and the first phase of the Gateway Center at Bronx Terminal Market project. The proposed stadium would be completed in 2009, and the first phase of the Gateway Center at Bronx Terminal Market is projected to be completed in the same year. In addition, three roadway reconstruction projects—the Major Deegan Expressway, East 161st Street, and East 149th Street—would begin or be completed by 2009. It is also anticipated that the City will reconstruct the East 161st Street retaining wall and service roads by 2008. Its construction will be coordinated with other construction activities. The cumulative effect of these simultaneous construction projects is discussed below.

The first phase of the Gateway Center at Bronx Terminal Market project's construction is expected to begin in 2006, peak in 2008, and be completed by 2009. The construction would require the closure of 150th Street between River Avenue and Exterior Street; 151st Street between River and Cromwell Avenues; and Cromwell Avenue between Exterior Street and the Metro-North Railroad tracks. During construction, River Avenue and Exterior Street would be narrowed to one lane per direction bordering the site.

The New York State Department of Transportation (NYSDOT) is currently planning to reconstruct the deck of the elevated portion of the Major Deegan Expressway corridor between East 138th Street and the Macombs Dam Bridge, including temporary widening of the elevated deck and several ramps in order to maintain the current six lanes of traffic throughout reconstruction. This is a major construction project expected to begin in 2009 and last approximately three years. It would not add capacity or alter traffic patterns in the area.

NYCDOT is currently planning to reconstruct the East 161st Street tunnel below the Grand Concourse as part of the Grand Concourse streetscaping and rehabilitation project between East 161st and East 166th Streets. This project is in its scoping phase and the schedule is not known, but NYCDOT has stated that the capacity of the East 161st Street/Grand Concourse intersection would remain the same during construction and upon completion.

From 2005 to 2007, the New York City Department of Design and Construction (NYCDDC) will be rehabilitating East 149th Street between Exterior Street/River Avenue and Anthony J. Griffin Place, where it is planned to widen sidewalks, reconstruct the street, relocate utilities, and possibly create a striped median. NYCDDC has stated that this would not change the operation or capacity of the Exterior Street/River Avenue or the Grand Concourse intersections at East 149th Street within the study area, and all lanes will be maintained during construction.

The cumulative effects of the simultaneous construction projects would include street closures on Cromwell Avenue between Exterior Street and East 151st Street, East 150th Street between River Avenue and Exterior Street, and East 162nd Street between Jerome Avenue and River Avenue. Traffic counts have indicated that traffic on Cromwell Avenue and East 150th Street is predominantly related to the existing Bronx Terminal Market, and closing the two streets would only divert a small amount of peak hour traffic to Exterior Street or River Avenue. Traffic on East 162nd Street would be diverted to the nearby East 164th Street or East 165th Street intersections between River and Jerome Avenues.

Streets that would be narrowed, but would remain open, would include a section of River Avenue, Exterior Street, Jerome Avenue, East 149th Street, and East 161st Street. During peak hours, a small to moderate amount of traffic may divert during construction on or adjacent to the aforementioned streets, which could add traffic volumes to the Grand Concourse and minor east-west cross streets between East 138th Street and East 165th Street.

The major development project in the area that would be constructed concurrently with the construction of the proposed stadium and its associated parking garages, Gateway Center at Bronx Terminal Market, would generate construction worker and construction vehicle activity, primarily at the southern end of the study area.

A coordinated construction schedule would be developed and followed, including the designation of specific routes that delivery vehicles and trucks should use—and should not use—during construction activities. On weekdays when daytime New York Yankees baseball games are scheduled, it is likely that the construction work day would be shortened to avoid construction workers and game attendees using the streets at the same time. In the 2005 season, nine weekday afternoon games were scheduled.

AIR QUALITY

Possible impacts on local air quality during construction of the proposed project include fugitive dust (particulate) emissions from land clearing operations and demolition, and mobile source emissions, including hydrocarbons, nitrogen oxide, and carbon monoxide emissions.

New York City Local Law 77 was passed in December 2003 in order to reduce air pollutants emitted by non-road construction equipment used on City projects. This law requires the use of ultra-low sulfur diesel (ULSD) and "best available technology" (BAT) for reducing emissions from non-road equipment greater than 50 horsepower. The law applies to "any diesel-powered non-road vehicle that is owned by, operated by or on the behalf of, or leased by a City Agency." All builders under contract with NYCDPR would be required to follow Local Law 77. While not required, the private contractors constructing the proposed Yankee Stadium would also be required to meet the requirements of Local Law 77. Adherence to Local Law 77 would reduce the level of emissions from the on-site construction equipment and from the trucks transporting material to and from the construction sites.

FUGITIVE EMISSIONS

Fugitive dust emissions from land clearing operations can occur from excavation, hauling, dumping, spreading, grading, compaction, wind erosion, and traffic over unpaved areas. Actual quantities of emissions depend on the extent and nature of the clearing operations, the type of equipment employed, the physical characteristics of the underlying soil, the speed at which construction vehicles are operated, and the type of fugitive dust control methods employed. Much of the fugitive dust generated by construction activities consists of relatively large-size particles, which are expected to settle within a short distance from the construction sites and not significantly impact nearby buildings or people. All appropriate fugitive dust control measures—including watering of exposed areas and dust covers for trucks—would be employed. These measures would prevent fugitive dust from being a significant adverse impact.

For this project, demolition, below-grade work, and construction would be conducted with the care mandated by the site's proximity to active uses. All appropriate fugitive dust control measures—including watering of exposed areas and dust covers for trucks—would be

employed. In addition, all necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions is followed. As a result, no significant air quality impacts from fugitive dust emissions would be anticipated.

MOBILE SOURCES

Mobile source emissions are emissions of air pollutants from motor vehicles, referred to as mobile sources. During construction, such emissions may result from: (1) trucks delivering construction materials and removing debris; (2) workers' private vehicles; and (3) construction equipment.

Various types of construction equipment would be used at different locations throughout the project area sites during construction. Most of the equipment would operate on an intermittent basis. Some of the equipment is mobile and would operate in specified areas while some would remain stationary on-site at distinct locations. Any construction air quality impacts, while minimal, would also be temporary.

Carbon Monoxide

While it would be expected that there would be a localized increase in mobile source emissions of carbon monoxide (CO), these emissions are not expected to significantly impact air quality. Compared to Build game day conditions, overall traffic congestion would be lower since fewer peak hour vehicles would be generated during the proposed project's construction period. Consequently, since no significant adverse mobile source air quality impacts were predicted for the Build condition due to emissions of CO, mobile source air quality impacts as a result of construction activities would not result in any exceedance of the national ambient air quality standards for CO.

$PM_{2.5}$

As discussed in the traffic section, in a construction vehicle peak hour, approximately 33 construction vehicles would arrive and 33 would depart in the peak hour. This exceeds the City's interim guidance threshold for determining whether or not mobile source impacts are potentially significant for emissions of particulate matter finer than 2.5 microns. Therefore, a $PM_{2.5}$ microscale analysis was conducted to assess $PM_{2.5}$ impacts.

A Tier II analysis using with the CAL3QHCR model, which includes the modeling of hour-by-hour concentrations based on hourly traffic data and 5 years of monitored hourly meteorological data, was performed to predict maximum 24-hour and annual average $PM_{2.5}$ levels. The data consists of surface data collected at LaGuardia Airport and upper air data collected at Brookhaven, New York for the period 1999-2003. All hours are modeled, and the highest resulting concentration for each averaging period is presented.

As discussed in the traffic section of this chapter, construction activities generating the greatest number of worker trips and construction vehicles are anticipated to occur in 2008. The analysis was performed both without construction (the No Build condition) and with construction (the Build condition). The traffic analysis also included the effect of the temporary traffic diversions due to construction.

$PM_{2.5}$ emission rates were determined with fugitive road dust to account for their impacts in local microscale analyses. However, in accordance with the NYCDEP $PM_{2.5}$ interim guidance criteria, fugitive road dust was not included in the neighborhood scale $PM_{2.5}$ microscale analysis, since it is considered to be an insignificant contribution on that scale.

Vehicle classification data were based on field studies conducted for the project. Classifications of background traffic and worker vehicles were made using the general fleet-wide breakdown in MOBILE6.2 based on the project's location and analysis year. All construction vehicles were assumed to be heavy-duty diesel trucks.

The weekday AM (7 to 8 AM) and PM (3 to 4 PM) peak periods were analyzed for the construction traffic assessment. These peak periods produce the maximum anticipated project–generated and future traffic and were used to predict air quality impacts of $PM_{2.5}$. The weekday peak traffic volumes were used as a baseline; traffic volumes for other hours due to No Build traffic were determined by adjusting the peak period volumes by the 24-hour distributions of actual vehicle counts collected for the project. 24-hour and annual PM impacts were determined by using the 24-hour distribution associated with the highest total daily vehicle count. Project-generated traffic volumes during non-peak hours were assumed to be uniformly distributed during construction work hours.

A single intersection, Jerome Avenue and East 162nd Street, was selected for analysis. Construction trucks and worker vehicles arriving from and departing to the northbound and southbound Major Deegan Expressway would travel through this location. Since the greatest numbers of project-generated construction trips are predicted at this intersection, the maximum changes in the construction-related pollutant concentrations would be expected at this location.

$PM_{2.5}$ Impacts. $PM_{2.5}$ concentrations were determined for the construction peak year, 2008, using the methodology previously described. The purpose of the mobile source $PM_{2.5}$ analysis was to determine the maximum predicted incremental impacts, so that they could be compared to the interim guidance criteria that would determine the potential significance of the project's impacts.

The maximum predicted neighborhood-scale annual average and localized 24-hour average $PM_{2.5}$ incremental concentrations are presented in Table 19-12. $PM_{2.5}$ impacts from project mobile sources were obtained by subtracting the model results of the Future Without the Project (No Build) scenario from the results of the Future With the Project (Build) scenario. The interim mobile source guidance criteria are 5.0 micrograms per cubic meter ($\mu g/m^3$) for 24-hour averageconcentrations and 0.1 µg/m3 for annual average neighborhood scale concentrations. The results show that the predicted annual and daily (24-hour) $PM_{2.5}$ increments are below the interim guidance criteria, and therefore the proposed project would not result in significant $PM_{2.5}$ impacts at the analyzed receptor location due to construction vehicles and traffic diversions.

Table 19-12
Future (2008) Maximum Predicted Incremental 24-Hour and Annual Average $PM_{2.5}$ Concentrations ($\mu g/m^3$)

Receptor Site	Location	Neighborhood Scale Analysis Annual Increment	Localized Analysis 24-Hour Increment
1	Jerome Avenue and 162nd Street	0.001	0.02

$PM_{2.5}$ Interim Guidance Criteria:
Annual Average (Neighborhood Scale)—0.1 $\mu g/m^3$
24-Hour (Localized)—5.0 $\mu g/m^3$.
Source: AKRF, Inc.

HAZARDOUS MATERIALS

Development of the proposed project would involve excavation and disturbance of the existing on-site soil as part of construction activities, which could result in temporary increases in exposure pathways for construction workers and workers on nearby sites to potential contaminants in the soil. As discussed in Chapter 10, "Hazardous Materials," the investigations concluded that there is the potential for the dispersion of hazardous materials during construction activities resulting from the presence of fill from unknown sources and possible underground storage tanks. Preventive measures would be undertaken to protect the safety of the public, community residents, and construction workers, as well as the larger environment for areas where redevelopment has the potential to encounter areas of contamination. The environmental conditions identified in the project area during the current and previous environmental studies would be remediated prior to initiating operation of the proposed project and providing public access to the project area. Prior to construction on a site, a site-specific HASP would be prepared. It would include health and safety procedures to minimize exposure to workers and the public, including possible dust monitoring and/or VOC monitoring, if applicable, and provisions for the identification and management of known and unexpected buried tanks or contaminated materials that might be encountered during the soil disturbance activities associated with construction. The HASP would incorporate all applicable laws and regulations for transportation and disposal of contaminated materials. Such a plan would ensure that the construction workers, the surrounding community, and the environment are not adversely affected by environmental conditions exposed by or encountered during the construction activities. Post-construction monitoring, if warranted, would be performed at publicly accessible open spaces in accordance with a NYCDEP-approved Operations and Maintenance Plan. With the proposed measures in place, the health and safety of construction workers and the visiting public would be protected from any adverse environmental impacts during construction.

As discussed in Chapter 10, "Hazardous Materials," trace levels of petroleum-related contaminants have been detected in the groundwater in localized areas near underground storage tanks or former maintenance facilities where the use of petroleum and/or solvents was common. These petroleum tanks are located at a number of sites throughout the project area. During demolition of existing structures, debris removal, and grading, any hazardous materials encountered would be handled and removed in accordance with NYCDEP, NYSDEC, U.S. Occupational Safety and Health Administration (OSHA), and USEPA requirements, minimizing the potential for adverse impacts to water quality. Furthermore, because the groundwater under this area of The Bronx is not used for drinking water, and people normally do not come into contact with it, exposure to contaminated groundwater is not considered to be of concern. During the construction of the parking garages, dewatering may be needed for certain construction below the water table. If dewatering is required, the dewatered groundwater would be discharged into the City sewerage or into the Harlem River. The dewatered liquid would be sampled and tested before it is discharged to ensure that it meets the appropriate standards.

In-water construction activities for the proposed project that result in sediment disturbance have the potential to result in short-term adverse impacts to water quality. While disturbance of sediment has the potential to result in increased suspended sediment in the water column and resuspension and redeposition of contaminants, these temporary effects would be localized to the immediate vicinity of the shoreline disturbance. On the basis of the rapid flushing of the Harlem River, any increase in suspended sediment would be expected to dissipate shortly after the completion of the sediment disturbing activity and would not be expected to result in any significant adverse impacts to water quality. Similarly, any contaminants released to the water

column as a result of sediment disturbance would be expected to dissipate rapidly and would not be expected to result in any significant adverse long-term impacts to water quality. Therefore, no significant adverse impacts are expected.

WATER QUALITY AND NATURAL RESOURCES

STORMWATER RUNOFF

During construction, before the permanent drainage system is installed, erosion and stormwater runoff would be controlled through measures such as hay bales placed around catch basins and scuppers, silt fences, trenches, and/or sedimentation/retention basins. Erosion and sediment control measures, and stormwater management measures as part of the Storm Water Pollution Protection Plan (SWPPP) would be implemented during construction of the proposed project. These measures would minimize any potential impacts to the water quality of the Harlem River associated with stormwater runoff during land disturbance. The erosion and sediment control measures included in the SWPPP would be in accordance with the NYSDEC's "New York Standards and Specifications for Erosion and Sediment Control."

At each construction site, the water from any dewatering operations and from stormwater runoff would be conveyed to a settling tank before the water is discharged. In the settling tank, the water, which contains suspended solids, is slowed to allow the solids to settle to the bottom of the tank. The clear water is discharged and the settled solids removed and conveyed to a licensed disposal area. For the majority of the construction sites, the decanted water would be discharged into the New York City sewer system. For the Harlem River waterfront park, the decanted water may be discharged either into the City sewers or the Harlem River. Discharge to the sewer system is governed by NYCDEP regulations, and discharge into the East River is governed by NYSDEC regulations.

If the water were to be discharged into the City sewers, it would have to meet NYCDEP's requirements shown on Table 19-13. If it were to be discharged into the Harlem River, it would be treated to NYSDEC standards to ensure that it would not cause water quality standard violations in the Harlem River.

Table 19-13
Nycdep Sewer Discharge Standards

Substance	Concentrations (mg/l)
Petroleum hydrocarbons	50
Cadmium	2
Hexavalent chromium	5
Copper	5
Amenable cyanide	0.2
Lead	2
Mercury	0.05
NICKEL	3
zinc	5
Notes: mg/l is milligrams per liter and equivalent to parts per million.	
Source: *CEQR Technical Manual*	

FLOODPLAINS AND WETLANDS

The only elements of the proposed project that would be located within the 100-year floodplain are the Harlem River waterfront park, esplanade, and existing Yankee Stadium Parking Lots 13A and 13B that would be repaved, restriped, and extended to the south. All other elements, such as the proposed stadium, the parking garages, Heritage Field, and the parklands, are located above the 100-year floodplain. Ballfields and esplanades are considered to be appropriate uses within the 100-year floodplain. They are easily evacuated during periods of flood; they can be constructed to minimize any damage to the facility or to surrounding uses; and they can store flood waters. The proposed project is not expected to result in adverse impacts to the floodplain or result in increased flooding of adjacent areas.

There are no wetlands under the jurisdiction of the U.S. Army Corps of Engineers (USACOE) within the project area. Areas of NYSDEC littoral zone wetlands occur adjacent to the shoreline within the project area. Improvements to the shoreline stabilization as part of the Harlem River waterfront park design, such as replacement of existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall system) that would permit the development of intertidal area and establishment of tidal wetland vegetation at the shoreward portion of the coves would improve wetland resources within the project area. Measures such as floating booms and limiting construction to times when fish are not spawning would be implemented to minimize any adverse impacts to any littoral zone wetlands during construction near or in the Harlem River. The shoreline improvements that would result from modifications to the relieving platforms would benefit wetland resources through the creation of intertidal wetland habitat. Therefore, the construction of these shoreline improvements and removal of in-water debris would not result in any significant adverse impacts to NYSDEC tidal wetlands.

AQUATIC BIOTA

The construction of the in-water project elements has the potential to result in temporary adverse impacts to fish and macroinvertebrates due to increases in suspended sediment and loss of bottom habitat for associated benthic invertebrates. Implementation of the SWPPP would minimize potential adverse impacts to aquatic biota from the discharge of stormwater during construction of the upland project elements.

Fish, bivalves, and other large invertebrates are fairly tolerant of elevated suspended sediment concentrations and have developed behavioral and physiological mechanisms for dealing with variable concentrations of suspended sediment. Fish are mobile and generally avoid unsuitable conditions in the field, such as increases in suspended sediment and noise, and have the ability to expel materials that may clog their gills when they return to cleaner, less sediment laden waters. Most shellfish are adapted to naturally turbid estuarine conditions and can tolerate short-term exposures by closing valves or reducing pumping activity. More mobile bottom dwelling invertebrates have been found to be tolerant of elevated suspended sediment concentrations. In studies of the tolerance of crustaceans to suspended sediments that lasted up to two weeks, nearly all mortality was caused by extremely high, suspended sediment concentrations, which would not occur during any of the proposed shoreline improvement activities.

The proposed bulkhead replacement would temporarily remove bottom habitat and permanently remove some bottom dwelling, large invertebrates unable to move from within the shoreline area being modified. The temporary loss of some bottom habitat and of some large invertebrates during replacement of the bulkhead, and improvement of the riprapped areas would not result in any significant adverse impacts to populations of large invertebrates using this portion of the Harlem

River, nor would it significantly impact the food supply for fish foraging in the area. Encrusting and bottom dwelling organisms would be expected to recolonize the new shoreline structures shortly after construction is completed. The proposed gabion wall system and creation of vegetated tidal wetland habitat proposed as part of the waterfront park design would benefit aquatic resources by increasing the diversity of aquatic habitat for invertebrates and fish available within the project area. In general, greater physical complexity leads to better aquatic habitat. In-water structures such as riprap, and the gabion wall system, have rough surfaces with many interstitial spaces and a high surface area to volume ratio that provides more surface area for algae and invertebrates that attach to surfaces; they would also provide habitat for fish foraging and refuge.

The use of work barges could also disturb the benthic environment. Because of the lower water levels experienced at low tide, work barges located in relatively shallow areas might spend some portion of each day resting on the bottom. The affected area would generally be limited to the immediate are of the bulkhead being repaired. Therefore, the extent of disturbed area would be limited and the time of disturbance of short duration. Recolonization of these relatively small physical disturbances would begin within weeks and would typically be completed within a year.

Overall, during construction of the in-water project elements, temporary increases in suspended sediment, noise, and the loss of bottom habitat and invertebrates unable to move from the area of activity would not be expected to result in any significant adverse impacts to aquatic biota of the Harlem River.

TERRESTRIAL RESOURCES

During construction of the proposed project, adverse effects could occur to some individual birds and other wildlife that use the limited wildlife habitat if there are no suitable habitats that are available nearby. Terrestrial wildlife habitat is found in the area of the proposed waterfront park and in the park areas. Undisturbed parklands in the area would include the remainder of John Mullaly Park, the triangular portion of Macomb's Dam Park north of East 161st Street, Franz Sigel Park, Joyce Lilmer Park, and nearby developed shoreline areas. In addition, not all existing parkland would be disturbed at the same time.

The wildlife species that use the habitats available within the project area are limited to those that are tolerant of urban conditions. The loss of some individuals of these urban tolerant wildlife species would not result in a significant adverse impact on the bird and wildlife community of the New York City region. Therefore, no significant adverse impacts to terrestrial resources are anticipated due to construction of the proposed project.

RODENT CONTROL

Construction contracts would include provisions for a rodent (mouse and rat) control program. Prior to the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractor would carry out a maintenance program. Coordination would be maintained with appropriate public agencies. Only USEPA- and NYSDEC-registered rodenticides would be permitted, and the contractor would be required to perform rodent control programs in a manner that avoids hazards to persons, domestic animals, and non-target wildlife.

INFRASTRUCTURE

As discussed above, several major water and sewer lines would have to be relocated as well as many smaller utility lines. In the vicinity of Ruppert Place and proposed Garage A, a 48-inch combined sewer line would have to be relocated. An existing 48-inch water line located under East 164th Street is located close to the foundation wall of proposed Garage B and would require relocation. A 36-inch water main would be relocated to East 161st Street. Numerous water service lines in the proposed garage locations that appear to be part of the irrigation system for the existing parks would have to be replaced after construction of the garages.

All relocations and replacements would have to meet the standards of NYCDEP and would have to be approved by that agency. NYCDEP regularly repairs, relocates, and replaces water and sewer lines without disruption to service. Therefore, no significant adverse impacts to the infrastructure systems or to users are expected. ✷

Chapter 20: Public Health

A. INTRODUCTION AND METHODOLOGY

This chapter assesses the potential for public health related impacts associated with the proposed project.

For determining whether a public health assessment is appropriate, the 2001 *City Environmental Quality Review* (*CEQR) Technical Manual* lists the following as public health concerns for which an assessment may be warranted:

- Increased vehicular traffic or emissions from stationary sources resulting in significant adverse air quality impacts;
- Increased exposure to heavy metals (e.g., lead) and other contaminants in soil/dust resulting in significant adverse impacts;
- The presence of contamination from historic spills or releases of substances that might have affected or might affect groundwater to be used as a source of drinking water;
- Solid waste management practices that could attract vermin and result in an increase in pest populations (e.g., rats, mice, cockroaches, and mosquitoes);
- Potentially significant adverse impacts to sensitive receptors from noise or odors;
- Vapor infiltration from contaminants within a building or underlying soil (e.g., contamination originating from gasoline stations or dry cleaners) that may result in significant adverse hazardous materials or air quality impacts;
- Actions for which the potential impact(s) result in an exceedance of accepted Federal, State, or local standards; or
- Other actions, which might not exceed the preceding thresholds, but might nonetheless result in significant public health concerns.

The proposed project would not meet any of the thresholds warranting a public health assessment. As discussed in Chapter 17, "Air Quality," the proposed project would not result in any increased vehicular traffic or emissions from stationary sources that would result in significant adverse air quality impacts. No groundwater in the project area is to be used as a source of drinking water. The proposed project would not engage in any solid waste management practices that could attract vermin and result in an increase in pest populations. As described in Chapter 19, "Construction Impacts," construction-related truck and worker vehicles would not result in any significant adverse air quality impacts. In addition, construction contracts for the proposed project would include provisions for a rodent (mouse and rat) control program. Prior to the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractor would carry out a maintenance program. Coordination would be maintained with appropriate

public agencies. Only rodenticides registered with the U.S. Environmental Protection Agency (USEPA) and the New York State Department of Environmental Protection (NYSDEC) would be permitted, and the contractor would be required to perform rodent control programs in a manner that avoids hazards to persons, domestic animals, and non-target wildlife. As discussed in Chapter 10, "Hazardous Materials," any hazardous materials in structures to be demolished would be handled and removed in accordance with all applicable regulations, thus avoiding any significant adverse impacts. In addition, areas containing petroleum-related contamination would be remediated and backfilled with clean fill to prevent subsurface contaminant migration. Further, a Health and Safety Plan (HASP) would be developed to protect site workers and the surrounding community from exposure to hazardous materials during proposed construction activities in areas where soil excavation and/or remediation would occur. Therefore, the proposed project is not anticipated to have a significant adverse impact with respect to hazardous materials.

As discussed in Chapter 18, "Noise," future Build noise levels would be less than 3.0 dBA higher than No Build noise levels. Based upon CEQR impact criteria, the changes would not be significant. At some sites there would be a decrease in noise levels due to a decrease in vendor/crowd noise and/or changes in traffic. In the future with the proposed project, noise levels within and adjacent to parkland would be above the *CEQR Technical Manual's* Table 3R-3, "Noise Exposure Guidelines for Use in City Environmental Impact Review" guideline level of 55 dBA $L_{10(1)}$ for outdoor areas requiring serenity and quiet. However, they would be comparable to noise levels in a number of well-used and attractive open spaces in New York City that are also located adjacent to heavily trafficked roadways, such as the present Macomb's Dam Park, Hudson River Park, Empire State Park, and East River Esplanade. Therefore, the noise levels that would be associated with the proposed project do not represent any significant adverse impacts on public health.

While the proposed project would not meet any of the thresholds warranting a public health assessment, to address comments made during the scoping of the proposed project, this chapter presents a discussion of the potential for impacts on public health from the proposed project and specifically on asthma. This analysis concludes that potential emissions of fine particulate matter (i.e., $PM_{2.5}$) from mobile and stationary sources related to the proposed project are not expected to result in any significant adverse public health impacts, including asthma.

B. HEALTH EFFECTS RELATED TO ASTHMA[1]

Given concern that exposure to particulate matter (PM)—in particular, emissions of fine particulate matter with an aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$) from activities associated with the proposed project—could either aggravate asthma in an individual with prior history of the disease, or induce asthma in an individual with no prior history of the disease, the potential for emissions of $PM_{2.5}$ to affect public health is examined in the following discussion.

[1] Portions of the text contained in this section are derived from the August 27, 2004 Final Supplemental Environmental Impact Statement for the IKEA Red Hook project, prepared by AKRF, Inc.

BACKGROUND

PARTICULATE MATTER

Particulate matter is a broad class of air pollutants that exist as liquid droplets or solids, with a wide range of sizes and chemical composition. Particulate matter is emitted by a variety of sources, both natural and man-made. Natural sources include the condensed and reacted forms of natural organic vapors, salt particles resulting from the evaporation of sea spray, wind-borne pollen, fungi, molds, algae, yeasts, rusts, bacteria, and debris from live and decaying plant and animal life, particles eroded from beaches, desert, soil and rock, and particles from volcanic and geothermal eruptions and forest fires. Major man-made sources of particulate matter include the combustion of fossil fuels, such as vehicular exhaust, power generation and home heating, chemical and manufacturing processes, all types of construction, agricultural activities and wood-burning fireplaces. Since the chemical and physical properties of PM vary widely, the assessment of the public health effects of airborne pollutants in ambient air is extremely complicated. The principal health effects of airborne PM are on the respiratory system.

ASTHMA

Asthma is a chronic disorder characterized by tightening of the airways of the lungs, airway irritability, and inflammation of the bronchial tubes. Asthma is an episodic disease, with acute episodes interspersed with symptom-free periods. Asthma episodes may be triggered by specific substances, environmental conditions, and stress, as discussed below.

Asthma can generally be categorized as having either an allergic or a non-allergic basis.[1,2,3] About 75 percent of people suffering from asthma have allergic asthma.[4] For people with allergic asthma, exposure to allergens (substances that induce allergies) may be most important for eliciting asthma symptoms; in contrast, people with non-allergic asthma experience symptoms when confronted with exercise, breathing cold air, or respiratory infections.[5] Exercise, cold air, and respiratory infections also may exacerbate asthma in people with allergic asthma.

CAUSES AND TRIGGERS

Scientists and clinicians have researched the causes and risk factors for the disease. Factors that have been investigated include indoor air pollution, outdoor air pollution, behaviors, food and food additives, medical practices, and illness in infancy. Current hypotheses tend to focus on three areas: (1) increases in individual sensitivity (possibly due to reduced respiratory infection in modern society, which could shift the balance of the immune system in favor of factors that

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[1] Scadding, J.G. 1985. "Chapter 1: Definition and clinical categorization." In *Bronchial Asthma: Mechanisms and Therapeutics*, Second Edition (Eds: Weiss, E.B, M.S. Segal, and M. Stein), Little, Brown, and Company, Boston, MA, pp. 3-13.

[2] McFadden, Jr., E.R. 2005. Asthma. In *Harrison's Principles of Internal Medicine*, 16th ed. McGraw-Hill, New York, NY, pp. 1508-1516.

[3] Sears, M.R. 1997. "Epidemiology of childhood asthma." *Lancet* 350:1015-1020.

[4] Centers for Disease Control (CDC). 1998. "Surveillance for Asthma—United States, 1960-1995." *Morbidity and Mortality Weekly Report* 48(4):1015-1028.

[5] McFadden, 2005.

predispose persons to asthma and allergy[1]); (2) increases in exposures to allergens; and (3) increases in airway inflammation of sensitized individuals. No single factor is likely to explain increased rates of asthma, however, and various factors will dominate in specific areas, homes, and individuals.

Some researchers have suggested that outdoor air pollution is not likely to contribute significantly to asthma because air pollution has decreased on the whole while asthma rates have increased. Yet, on a local scale, air pollution may be important, and on a larger scale, it is possible that specific pollutants, such as ozone or diesel exhaust, enhance the effects of other factors, such as allergens, even if the pollutants themselves are not triggers of asthma. Though some studies have found an association between 24-hour average PM_{10} (particulate matter less than 10 microns in diameter) levels and asthma hospitalizations and emergency department visits, others have not.[2] In addition, weather conditions, and cold air in particular, can elicit asthmatic symptoms independent of air pollution.

The relationship between diesel exhaust and asthma has been studied experimentally and epidemiologically with inconclusive results.

C. PROBABLE IMPACTS OF THE PROPOSED PROJECT

MOBILE SOURCES

The proposed project involves construction activities over a period of four years, with substantial activities for a period of approximately two years. The projected period of greatest on- and off-site air quality emissions from construction-related activity would occur in 2008. The emissions of airborne particulate matter related to construction would decrease after this year as the proposed stadium project, proposed garages, and all of the replacement parkland except Heritage Field would be completed in 2009, although the full development of the project would not be completed until 2010.

As described in Chapter 19, "Construction Impacts," during construction of the proposed project, construction equipment would generate particulate matter emissions from the combustion of fuel and construction-related activities. With respect to $PM_{2.5}$, fuel combustion sources are the primary components of this pollutant. Particulate matter generated by construction-related transfer of materials and other fugitive dust sources tend to be larger size particulate matter that settles to the ground within a relatively short distance from the source and thus would not significantly affect the buildings or people nearby.

Fuel combustion, especially from diesel combustion sources, generates particular matter that mostly consists of $PM_{2.5}$. Heavy construction equipment operating on the project area sites would be dispersed at various locations throughout the sites for the various phases of construction, and much of the time these sources would be located within the sites, removed from the site boundaries and sensitive receptors. In addition, the proposed project would comply with New York City Local Law 77 that requires the use of ultra-low sulfur diesel (ULSD) and

[1] Cookson, W.O.C.M., and M.F. Moffat. 1997. "Asthma: an epidemic in the absence of infection?" *Science*. 275: 41-42.

[2] Norris et al., 1999; Schwartz et al., 1993; Sheppard et al., 1999; Tolbert et al., 2000; Henry et al., 1991; Hiltermann et al., 1997; Roemer et al., 1998; Roemer et al., 1999; Roemer et al., 2000.

"best available technology" (BAT) for reducing emissions from non-road equipment greater than 50 horsepower. The law applies to "any diesel-powered non-road vehicle that is owned by, operated by or on the behalf of, or leased by a City Agency." All builders under contract with NYCDPR would be required to follow Local Law 77. While not required, the private contractors constructing the proposed Yankee Stadium would also be required to meet the requirements of Local Law 77. Adherence to Local Law 77 would reduce the level of emissions from the on-site construction equipment and from the trucks transporting material to and from the construction sites. However, the construction-related on-street truck traffic related to the proposed project would need to traverse the truck routes through the local community.

Any future truck trips would be substantially reduced after construction of the proposed stadium and parking garages and almost all of the replacement parkland is completed in 2009, and the number of truck trips during operation of the proposed project would be less than during construction. Therefore, potential $PM_{2.5}$ increments from mobile sources during the operation of the proposed project are anticipated to be less than those experienced in the worst-case construction year (2008).

As presented in Table 19-8 of the FEIS, the maximum predicted neighborhood-scale annual average and localized 24-hour average $PM_{2.5}$ incremental concentrations are well below the interim guidance criteria, and therefore the proposed project would not result in significant $PM_{2.5}$ impacts at the analyzed receptor location due to construction vehicles and traffic diversions. The total maximum predicted daily (24-hour) concentrations of $PM_{2.5}$ at all off-site locations are anticipated to be within the applicable National Ambient Air Quality Standards. Therefore, the potential effects of diesel emissions from construction-related off-site truck traffic and operational mobile sources are not expected to result in a significant adverse impact on public health and local asthma incidents.

Notwithstanding this, both the New York Yankees and the City are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction period and a full-time health specialist would be employed by the New York Yankees to monitor conditions throughout the construction period.

STATIONARY SOURCES

The proposed project also would result in the emission of PM from stationary sources associated with the proposed project, such as emissions from fuel burned on-site for heating and hot water systems. These proposed heating systems would use natural gas as fuel.

Particulate matter emitted from sources combusting natural gas consists primarily of organic products of incomplete combustion, and is very low in metal content.[1] Further, this PM contains no biological material. Small amounts of nitrates and sulfates may be present in this PM (given the gas-phase presence of nitrogen oxides and sulfur dioxide), and nitrogen oxide (NO_x), sulfur dioxide (SO_2), and ammonia emissions may lead to further (but much more diffuse) formation of secondary PM, but these constituents, when present at less than 1 $\mu g/m^3$ levels in air—even at

[1] AP42, Section 1.3, September, 1998 and Section 3.1, April, 2000.

the maximally affected locations—do not appear to harm health.[1] Many toxicological studies have shown that concentrations of hundreds of micrograms of sulfate or nitrate per cubic meter of air are required before even minimal changes in respiratory or other function can be observed, even in asthmatic subjects or in sensitive laboratory rodents.[2] The specific types and amount of $PM_{2.5}$ associated with combustion of natural gas are not known to adversely impact health, and are expected to be benign at the concentrations that would be present in ambient air with the operation of the combustion sources associated with the proposed project.

As described in Chapter 17, "Air Quality," an air quality screening analysis was conducted following the methodology described in the *CEQR Technical Manual*, which determined that the proposed project would not result in significant adverse impacts from stationary sources from pollutants other than $PM_{2.5}$. Likewise, the proposed project would not result in potentially significant adverse health impacts from $PM_{2.5}$, since the quantity of $PM_{2.5}$ emissions from the proposed project is estimated to be very small, given the type of fuel to be used, size of the proposed developments, and distances to sensitive receptors such as P.S. 156 on Sheridan Avenue at East 156th Street, All Hallows Institute on East 169th Street and Walton Avenue, and Cardinal Hayes Memorial High School on the Grand Concourse at East 151st Street. In addition, the specific types and amount of $PM_{2.5}$ associated with combustion of natural gas are not known to adversely impact health.

D. CONCLUSION

The causes of asthma and its increase over the last two decades are not certain, and the triggers for its exacerbation are only partially understood. The potential relationship between vehicular exhaust resulting from increased truck traffic and asthma, especially in communities with high rates of asthma, requires further study. Since the proposed project is not considered to have significant $PM_{2.5}$ impacts, diesel emissions from project-related truck traffic are unlikely to significantly adversely affect public health and local asthma incidents. Also, the specific types and amount of $PM_{2.5}$ associated with combustion of natural gas are not known to significantly adversely impact health, and are expected to be benign at the concentrations that would be present in ambient air with the operation of the proposed project's stationary sources of combustion. Therefore, potential $PM_{2.5}$ emissions from mobile and stationary sources related to the proposed project are not expected to result in significant adverse public health impacts. Nonetheless, NYCDPR and the Yankees are sensitive to the community's concerns with respect to the incidence of asthma among the local population. Accordingly, the project sponsors are working and will continue to work with the community to develop measures to address those concerns. ✷

[1] Concentrations of at least 100 micrograms of sulfate or nitrate per cubic meter of air are required before even minimal changes in respiratory function can be observed, even in asthmatic subjects or in sensitive laboratory rodents. See U.S. EPA 2001 (PM Criteria Document Draft) for extended discussion and references.

[2] See U.S. EPA 2001 (PM Criteria Document Draft) for extended discussion and references.

Chapter 21: Mitigation[1]

A. HISTORIC RESOURCES

The proposed project would result in the construction of a new park with ballfields, esplanade, and surface parking on the west side of Exterior Street at the Bronx Terminal Market in the area of Buildings G, H, and J of the Bronx Terminal Market (S/NR-eligible). Therefore, to build the new park and ballfields, esplanade, and surface parking associated with the proposed project, these buildings would be demolished, resulting in a significant adverse impact on historic resources. In comments dated September 20, 2005, the New York State Historic Preservation Officer (SHPO) concurred with this finding. Therefore, measures to mitigate this impact have been developed in consultation with SHPO. The mitigation measures would be expected to include a Historic American Buildings Survey (HABS)-level photographic documentation with an accompanying narrative, and interpretive design elements, such as a fence and plaques/historic markers. The mitigation measures developed with SHPO would be recorded in a Memorandum of Agreement (MOA) to be entered into among the New York City Department of Parks and Recreation (NYCDPR), the National Park Service (NPS), and SHPO, and implemented to partially mitigate the effects of the proposed project on historic resources. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among the parties, is included in Appendix G.[2]

B. TRAFFIC AND PARKING

OVERVIEW AND SUMMARY OF FINDINGS

The proposed project would result in significant adverse traffic impacts at local intersections within the traffic study area and along sections of the Major Deegan Expressway near the proposed stadium site. The sections that follow identify traffic capacity and operational improvements needed at each location in order to mitigate projected impacts.

As discussed in Chapter 15, "Traffic and Parking," a total of 34 intersections were analyzed for Build conditions, including intersections analyzed under existing and No Build conditions plus additional intersections created at proposed garage entrances/exits. The Build analyses also include specific traffic measures assumed to be in place as part of the proposed project to help accommodate the large volumes of fans that would be walking to the proposed stadium from the

[1] Mitigation for construction-related impacts is addressed in the construction chapter.

[2] As set forth in the Foreword, because the Alternative Park Plan analyzed in Chapter 22, "Alternatives," is the preferred park plan that is anticipated to be adopted and approved by NYCDPR, the Draft MOA applies to that alternative program. Bronx Terminal Market Building J, rather than being demolished by the proposed project, would be retained and adaptively reused in connection with the tennis facilities to be located at the waterfront park under this alternative.

proposed parking garages and via new walking routes and crossing locations from subway stairwells in the area. In some cases, these measures would benefit both vehicular traffic and pedestrian traffic; at other locations, measures that would accommodate pedestrians would adversely affect vehicular traffic. Other measures were assumed in the Build analyses aimed at maintaining efficient traffic flow, such as allowing only right-in garage access and right-out egress for traffic on Macomb's Dam Bridge Approach, for proposed Parking Garages A and C. These measures that are part of the proposed project are described in Chapter 15 and are repeated below.

This chapter identifies traffic capacity improvements needed to mitigate any potential significant adverse impacts during game-day peak periods[1], including standard traffic capacity improvements, such as signal phasing and timing changes, installation of traffic signals where they would be needed at currently unsignalized intersections, lane re-striping and channelization improvements including the use of traffic cones or other physical means of delineating traffic lanes for specific game-day needs, parking regulation modifications, and enforcement. These traffic capacity improvements would constitute one component of an overall game-day traffic management plan. Several of these measures, such as signalization improvements, fall within the purview of the New York City Department of Transportation (NYCDOT). Other measures, such as the deployment of traffic enforcement agents (TEAs) and the deployment of temporary (game-day) lane delineators, fall within the purview of the New York Police Department (NYPD) if they are part of a game-day traffic management plan.

The game-day traffic management plan would also include additional game-day traffic operations improvements, such as street closures, turn prohibitions, and traffic diversion strategies using variable message signs (VMS) that were developed and fully analyzed during the period between DEIS and FEIS; they were evaluated for their overall effectiveness in improving projected traffic and pedestrian conditions. The detailed analyses of mitigation measures presented in this chapter of the FEIS indicate that such strategies (to be referred to as "diversion strategies" since they include turn prohibitions, street closures, and signage that would divert traffic away from key problem intersections to the extent practicable) can assist in mitigating projected impacts but might not be able to fully mitigate all impacts—just as all adverse conditions are not fully mitigatable under existing conditions at the existing stadium with a comprehensive game-day traffic management plan deployed by NYPD and NYCDOT. But the analyses conducted during the period between the DEIS and FEIS indicate that a comprehensive game-day traffic management plan—including both standard traffic capacity improvements plus traffic diversion strategies—would be beneficial in minimizing potential impacts. This includes a reduction in the number of locations that would not be fully mitigatable otherwise. And, for those few locations that would not be fully mitigatable, the extent of the delays could be significantly reduced.

The analyses and descriptions that follow later in this chapter first analyze the ability of standard traffic capacity improvements to mitigate significant adverse traffic impacts. After that, the chapter proceeds to describe the effectiveness of standard traffic capacity improvements plus traffic diversion strategies to mitigate remaining impacts further. Since traffic diversion strategies could adversely affect traffic conditions along diversion routes, a secondary traffic study area was also analyzed and the findings of those analyses are also provided in this chapter.

[1] Mitigation of significant adverse impacts for peak construction periods is addressed in Chapter 19, "Construction Impacts."

The analyses within Chapter 15 also identified several analysis locations where significant traffic impacts are not expected under any of the pre-game or post-game analysis periods. There are several other intersections analyzed where only minor measures are needed, such as minor shifts in signal timing during one or two of the four pre-game and post-game traffic analysis hours (e.g., Jerome Avenue and East 164th Street). There also are locations—the multi-legged intersection of the northbound Major Deegan Expressway exit ramp at 149th Street, with River Avenue, Extension Street, and 149th Street—where the proposed project would improve traffic conditions by shifting existing stadium-generated traffic away from the southern part of the traffic study area.

Descriptions of the traffic mitigation measures identified and evaluated follow; detailed level of service comparison tables are contained in Appendix B for conditions with and without mitigation. It should also be noted that these mitigation measures would be needed for sellout games. A lesser level of mitigation would be needed for games that are significantly less attended than 54,000-person sellout crowds.

PROJECT-RELATED TRAFFIC IMPROVEMENTS

The proposed project has been defined to include a series of game-day traffic and pedestrian improvements that would be needed to help accommodate vehicular and pedestrian flows pre-game and post-game on both weeknights and weekends. These measures would be part of the overall game-day traffic management plan along with mitigation measures and mitigation strategies identified later in this chapter. The traffic improvements that have been incorporated into the proposed project and, thus, the Build analyses presented in Chapter 15, "Traffic and Parking," include:

- Provision of a 60-foot-wide signalized crosswalk from Ruppert Place across East 161st Street to the first base side of the proposed stadium. This will be one of the three major pedestrian crossing locations to and from the stadium.
- Provision of a crosswalk extension at the River Avenue/East 161st Street intersection. An extension of the all-red phase for River Avenue, operated by TEAs, has also been assumed in the Build condition as a means of helping pedestrians cross to and from the proposed stadium with reduced interference with vehicular traffic.
- Provision of new and wider crosswalks connecting the proposed garages along Macomb's Dam Bridge Approach and East 161st Street en route to the proposed stadium.
- Right-in and right-out only operations at the entrances/exits of proposed Parking Garages A and C along Macomb's Dam Bridge Approach.
- Re-opening of River Avenue southbound between East 161st and East 157th Streets after games (currently closed when games finish and near completion).
- Signalizing the intersection of East 153rd and East 157th Streets at the entrance/exit for proposed Garage A.
- Installation of a traffic signal at the intersection of Macomb's Dam Bridge Approach and the eastbound East 161st Street service road.

As noted above, these measures are part of the proposed project. Mitigation measures are identified and evaluated in the remainder of this chapter (with quantitative level of service analyses provided in Appendix B).

EVALUATION OF STANDARD TRAFFIC CAPACITY IMPROVEMENTS FOR IMPACT MITIGATION

WEEKNIGHT AND WEEKEND PRE-GAME TRAFFIC MITIGATION

Since pre-game traffic patterns and impacts have several distinct similarities for weeknight and weekend pre-game conditions, they are addressed together in this section for intersections where traffic mitigation is needed. Overviews of the effectiveness of standard traffic capacity improvements to mitigate significant adverse traffic impacts are presented in Figures 21-1 and 21-2. Detailed level of service tables are provided in Appendix B.

As indicated in Chapter 15, 13 intersections would experience significant adverse impacts in the weeknight pre-game peak hour and 15 intersections would experience significant adverse impacts in the weekend pre-game peak hour. As described below, each of these impacts can be mitigated by standard traffic capacity improvements except for two intersections in the weeknight pre-game peak hour and three intersections in the weekend pre-game peak hour.

River Avenue and East 165th Street

Mitigation would only be needed in the weekend pre-game hour, and adverse impacts would be fully mitigated by using physical measures, referred to as "footed delineators,"[1] which are not permanent installations but are more stable than traffic cones, or other physical channelization improvements that define two travel lanes along both northbound and southbound River Avenue approaching East 165th Street. The current approach widths are approximately 19 feet northbound and 18 feet southbound, so two 9½-foot-wide lanes could be achieved for pre-game conditions northbound and 9-foot-wide lanes southbound.

River Avenue and East 164th Street

Minor signal timing changes would fully mitigate adverse impacts—shifting one second of green time from the northbound/southbound approach to the eastbound/westbound approach in the weeknight pre-game peak hour, and three seconds from the eastbound/westbound approach to the northbound/southbound approach in the weekend pre-game peak hour.

River Avenue and East 161st Street

At this major vehicular and pedestrian activity location, standard traffic capacity improvement measures would only be able to partially mitigate expected impacts during both pre-game traffic analysis periods—deploying traffic enforcement agents to make sure that pedestrians do not encroach on vehicular traffic lanes during non-pedestrian phases. This location is addressed later in this chapter with a traffic diversion strategy in place.

River Avenue and East 157th Street

During both the weeknight and weekend pre-game peak hours, enforcement of "No Parking, Stadium Event" restrictions along the east side of northbound River Avenue in order to provide two 9½-foot-wide travel lanes on the overall 19-foot-wide approach, would fully mitigate significant impacts. In the weeknight pre-game peak hour, it would also be necessary to shift

[1] These are physical means of separating and delineating traffic lanes; they are used in New York City, when and where needed.

three seconds of green time from the eastbound/westbound phase to the northbound/southbound phase.

River Avenue and East 153rd Street

During both the weeknight and weekend pre-game peak hours, significant impacts would be fully mitigated by enforcing "No Parking" restrictions along both the northbound and southbound approaches of River Avenue, and using physical measures such as footed lane delineators to provide two 10-foot-wide travel lanes in each direction. During the weeknight pre-game peak period, it would also be necessary to enforce "No Parking" restrictions on the north side of East 153rd Street to allow a widened (17-foot-wide) travel lane. Signal timing re-allocations would also be needed during each analysis period.

Jerome Avenue and East 165th Street

Mitigation would only be needed in the weekend pre-game peak hour. Prohibiting parking on the east side of northbound Jerome Avenue would fully mitigate the traffic impact.

Jerome Avenue and East 164th Street

Minor shifts in green time would fully mitigate impacts in both pre-game peak hours—i.e., shifting two seconds from the westbound phase to the northbound/southbound phase in the weeknight pre-game peak hour, and shifting one second between the same movements in the weekend pre-game peak hour.

Jerome Avenue and Macomb's Dam Bridge Approach/162nd Street

Mitigation would only be needed in the weekend pre-game peak hour—modification of signal phasing and timing plans increasing the cycle length from 90 seconds to 120 seconds would fully mitigate the traffic impact.

Jerome Avenue and East 161st Street

In the weeknight pre-game peak hour, mitigation measures would include the following: using physical measures such as traffic cones or footed physical lane delineators to shift the Jerome Avenue centerline to provide for four northbound travel lanes on Jerome Avenue, i.e., one 10-foot-wide exclusive left turn lane, two 11-foot-wide through lanes, and one 12-foot-wide exclusive right turn lane; using similar physical measures on westbound East 161st Street to provide one 12-foot-wide shared left-through lane and one 12-foot-wide through lane; and prohibiting parking on the west side of the southbound Jerome Avenue approach to the intersection; using similar physical measures as above on southbound Jerome Avenue to provide one 15-foot-wide exclusive left turn lane and one 16-foot-wide shared through-right lane and modifying the signal timing plan; and deploying a TEA to operate an optimized signal plan at this location. These measures would fully mitigate projected traffic impacts.

In the weekend pre-game peak hour, mitigation would include the following: using physical measures such as footed lane delineators along westbound East 161st Street to provide one 13 ½-foot-wide exclusive left turn lane and one 10½ –foot-wide through lane; signal timing modifications (shifting six seconds of green time from the westbound phase to the northbound/southbound phase); and deploying a traffic enforcement agent who would allow right turns to be made from northbound Jerome Avenue concurrently with the movement of westbound East 161st Street traffic. These measures would fully mitigate projected traffic impacts.

Jerome Avenue at Ogden Avenue and Macomb's Dam Bridge Service Road

One measure would be sufficient to fully mitigate impacts during both the weeknight and weekend pre-game peak hours—adding signage that directs eastbound through traffic to use the left-most lane and directs through traffic and right-turning traffic to use the right-most lane. This would allow for the most effective use of the two eastbound travel lanes.

Macomb's Dam Bridge Approach and East 161st Street

Significant adverse traffic impacts at this location can only be partially mitigated in both pre-game peak hours by using conventional traffic capacity improvements without being complemented by an overall game-day traffic management plan that includes strategies to divert traffic away from this intersection. This results from the confluence of intensive vehicular and pedestrian traffic activity, including conflicts posed by right turns from the northbound Macomb's Dam Bridge Approach and left turns from the southbound Macomb's Dam Bridge Approach. A comprehensive plan at this location is described later in this chapter.

Major Deegan Expressway Southbound Exit 5 Off-Ramp at Macombs Dam Bridge and Macomb's Dam Bridge Approach

A TEA would be needed at this location to accommodate an increase in traffic volumes exiting the southbound Major Deegan Expressway en route to proposed Parking Garages A and C. The TEA would direct motorists to form three lanes by using the striped-out shoulder as needed during game-day peak hours. In addition to the TEA, a VMS would be used to direct traffic exiting the southbound Major Deegan Expressway with the proper lane use designation per peak period. The current Stop line, which is set back approximately 55 feet from the intersection on the eastbound Macombs Dam Bridge roadway, would allow for right turns from Exit 5 under the supervision of the TEA. In weeknight and weekend pre-game peak hours, a minor signal timing shift would also be needed. Prohibiting right turns by trucks using Exit 5 would also be operationally beneficial (the volume of truck right turns is minimal). These measures would fully mitigate impacts in the weekend pre-game peak hour. This location is addressed later in this chapter with traffic diversion strategies in place.

Macombs Place at West 155th Street

Signal phasing and timing changes would be needed at this intersection on the Manhattan side of the Macomb's Dam Bridge. Both weeknight and weekend pre-game peak hour impacts could be fully mitigated.

Walton Avenue and East 161st Street

Significant impacts would be expected only during the weeknight pre-game peak hour and could be fully mitigated by re-striping the southbound Walton Avenue approach to provide two 12-foot-wide travel lanes plus a minor shift of green time. The same approach re-striping would be present during the weekend pre-game peak hour, as well.

River Avenue and East 162nd Street (South Intersection, East of River Avenue)

It would be necessary to install a traffic signal at this currently unsignalized intersection in order to fully mitigate traffic impacts during both pre-game arrival hours (weeknight and weekend). This traffic light would continue to operate during other time periods. A signal warrant analysis conducted between DEIS and FEIS has shown that NYCDOT signal warrant criteria would be satisfied.

Major Deegan Expressway Southbound Flyover Exit Ramp at East 153rd Street

It would be necessary to operate the flashing traffic light at this unsignalized intersection as a regular traffic signal, in order to fully mitigate traffic impacts during both the weeknight and weekend pre-game peak hours.

Conclusions

Implementation of the standard traffic mitigation measures at each of the intersections described above would result in all significant adverse traffic impacts being mitigated with the following exceptions: (1) the Macomb's Dam Bridge Approach/East 161st Street intersection would be partially mitigated in both the weeknight and weekend pre-game arrival peak hours; (2) the River Avenue/East 161st Street intersection would be partially mitigated in both peak hours; and (3) the intersection of the Major Deegan Expressway southbound exit ramp (Exit 5) at Macomb's Dam Bridge Approach intersection would be partially mitigated in the weekend pre-game peak hour.

Later in this chapter, the ability of traffic diversion strategies to mitigate impacts by using left turn prohibitions at select locations and VMS that advise motorists of alternate routes that avoid problem locations—in conjunction with standard traffic capacity improvements—is addressed. The combination of these measures as a comprehensive game-day traffic management plan would reduce the number of partially mitigated impact locations and reduce delays at locations that would still not be fully mitigated.

WEEKNIGHT AND WEEKEND POST-GAME TRAFFIC MITIGATION

Since post-game traffic patterns and impacts have several distinct similarities for weeknight and weekend conditions, they are addressed together in this section for intersections where traffic mitigation is needed. Overviews of the effectiveness of standard traffic capacity improvements to mitigate significant adverse traffic impacts are presented in Figures 21-3 and 21-4. Detailed level of service tables are provided in Appendix B.

As indicated in Chapter 15, 10 intersections would experience significant adverse impacts in the weeknight post-game peak hour and 16 intersections would experience significant adverse impacts in the weekend post-game peak hour. As described below, each of these impacts can be mitigated by standard traffic capacity improvements except for four intersections in the weeknight post-game peak hour and three intersections in the weekend post-game peak hour.

Grand Concourse and East 161st Street

Weeknight and weekend post-game impacts would be fully mitigated via signal timing changes. In the weekend post-game period, this would also include reducing the signal cycle length from 120 seconds to 90 seconds in addition to shifting green time from one movement to another.

River Avenue and East 165th Street

Weekend post-game impacts would be fully mitigated by using footed lane delineators to define two travel lanes along northbound River Avenue approaching East 165th Street. The current approach width is approximately 19 feet, so two 9½-foot-wide lanes would be provided. Weeknight post-game conditions would not be significantly impacted and would not require mitigation.

River Avenue and East 164th Street

Physical measures such as footed lane delineators would provide two 9½-foot-wide travel lanes along northbound River Avenue in the weekend post-game period and allow for full mitigation of impacts. Weeknight post-game conditions would not be significantly impacted at this location.

River Avenue and East 161st Street

As noted for the pre-game analysis periods, only partial mitigation of impacts can be achieved at this location for the weeknight and weekend post-game traffic analysis hours using the same measure described above for the pre-game traffic analysis hours (deployment of traffic enforcement agents to make sure that pedestrians do not encroach on vehicular traffic lanes during non-pedestrian phases). Additional measures would be needed as part of a comprehensive game-day traffic management plan, and are described later in this chapter.

River Avenue and East 157th Street

Significant impacts are expected only during the weekend post-game peak hour, and could be fully mitigated using the following traffic improvement measures: enforce "No Parking" restrictions along the east side of northbound River Avenue; use physical measures, such as the placement of footed lane delineators to shift the centerline of River Avenue five feet to the east in order to provide one 14-foot-wide northbound travel lane and two 12-foot-wide "receiving lanes" along southbound River Avenue; make East 157th Street one-way eastbound to provide sufficient traffic lanes to accommodate traffic exiting proposed Parking Garage A at this location.

River Avenue and East 153rd Street

During both the weeknight and weekend post-game peak hours, enforcement of "No Parking" restrictions along both the northbound and southbound approaches of River Avenue, and the use of physical measures such as footed lane delineators or traffic cones to provide three travel lanes along southbound River Avenue and one travel lane northbound would be needed to fully mitigate impacts. During the weekend post-game peak hour, it would also be necessary to enforce "No Parking" regulations during stadium events to allow one 17-foot-wide travel lane on the westbound East 157th Street approach, and to shift three seconds of green time from the eastbound/westbound phase to the northbound/southbound phase.

Jerome Avenue and East 165th Street

Mitigation would only be needed in the weekend post-game peak hour—shifting two seconds of green time from the westbound phase to the northbound/southbound phase would fully mitigate impacts.

Jerome Avenue and Macomb's Dam Bridge Approach/162nd Street

Mitigation would only be needed in the weekend post-game peak hours—shifting three seconds of green time to the northbound/southbound phase would fully mitigate significant impacts.

Jerome Avenue and East 161st Street

Standard traffic capacity improvements would fully mitigate impacts in the weekend post-game peak hour but would only partially mitigate impacts in the weeknight post-game peak hour. In the weeknight post-game peak hour, these measures would include using physical measures such

as footed delineators on the northbound and southbound Jerome Avenue approaches and on the westbound East 161st Street approach to provide the number and types of lanes needed. On northbound Jerome Avenue, this would include an 11-foot-wide shared left turn and through lane, an 11-foot-wide shared through and right turn lane, and an 11-foot-wide exclusive right turn lane, and two 10½-foot-wide receiving lanes on the southbound side of the centerline. On southbound Jerome Avenue, this would include an 11-foot-wide exclusive left turn lane, a 13-foot-wide through lane, a 13-foot-wide shared through and right turn lane, and two 12-foot-wide receiving lanes. On westbound East 161st Street, this would include a 13½-foot-wide exclusive left turn lane and a 10½-foot-wide shared left-through lane. Prohibiting parking on the west side of the southbound Jerome Avenue approach to the intersection would also be needed to gain a southbound travel lane. Six seconds of green time would also need to be shifted from the northbound/southbound phase to the westbound phase. For the weekend post-game peak hour condition, only the parking prohibitions along southbound Jerome Avenue to allow for one more southbound lane, and footed delineators and the two lane width designations along westbound East 161st Street would be needed to fully mitigate impacts.

Jerome Avenue at Ogden Avenue and Macombs Dam Bridge Service Road

Signal timing changes—shifting green time from the southbound phase to the eastbound/westbound phase—would partially mitigate weeknight post-game peak hour impacts. Weekend post-game peak hour impacts could be fully mitigated by shifting one second of green time from the southbound phase to the eastbound/westbound phase.

Macomb's Dam Bridge Approach and East 161st Street

As was described for the two pre-game peak analysis periods, significant traffic impacts would be partially mitigated using conventional traffic capacity improvements in the weeknight and weekend post-game peak hours. A comprehensive game-day traffic management plan would be needed to improve post-game conditions as well as pre-game conditions; a detailed assessment is provided later in this chapter.

Major Deegan Expressway Southbound Exit 5 Off-Ramp at Macombs Dam Bridge and Macomb's Dam Bridge Approach

As was described for pre-game conditions, use of the striped-out shoulder lane along the exit ramp as a third lane approaching the traffic signal under the control of a TEA would be needed for both weeknight and weekend post-game peak periods, but could only partially mitigate significant traffic impacts in the weekend post-game condition. Additional measures would be needed as part of a comprehensive traffic management plan, in order to fully mitigate potential significant adverse impacts.

Macomb's Place at West 155th Street

Signal phasing and timing changes would be needed to mitigate significant impacts during the weekend post-game peak hour. Significant impacts are not projected for weeknight post-game peak hours and, therefore, mitigation measures would not be needed for that time period, although signal timing changes needed for other time periods would also be retained during the weeknight post-game peak hour.

Walton Avenue and East 161st Street

Significant impacts would be expected only during the weeknight post-game peak hour—re-striping the southbound Walton Avenue approach to provide two 12-foot-wide travel lanes,

prohibiting parking alongside the westbound East 161st Street approach to the intersection, and a signal timing modifications would fully mitigate impacts. The same approach re-striping would be present during the weekend post-game peak hour, as well.

Major Deegan Expressway Northbound Exit Ramp at East 157th Street

Signal timing changes would fully mitigate impacts during both post-game peak departure hours.

River Avenue and East 162nd Street (South Intersection, East of River Avenue)

It would be necessary to install a traffic signal at this unsignalized intersection in order to mitigate traffic impacts during the weekend post-game peak hour. This traffic signal would continue to operate during other time periods. A signal warrant analysis conducted between DEIS and FEIS showed that this signal would meet NYCDOT signal warrant criteria.

Major Deegan Expressway Southbound Flyover Exit Ramp at East 153rd Street

It would be necessary to operate the flashing traffic light at this unsignalized intersection as a regular traffic signal, in order to mitigate traffic impacts during both the weeknight and weekend post-game peak hours (as was also noted for pre-game peak traffic analysis hours).

Conclusions

Implementation of the standard traffic mitigation measures described above would result in all significant adverse traffic impacts being mitigated with the following exceptions: (1) the Macomb's Dam Bridge Approach/East 161st Street intersection would be partially mitigated in both post-game analysis hours; (2) River Avenue/East 161st Street intersection would be partially mitigated in both peak hours; (3) Jerome Avenue/East 161st Street intersection would be partially mitigated in the weeknight post-game peak hour; (4) the Jerome Avenue/Ogden Avenue/Major Deegan Expressway service road intersection would be partially mitigated in the weeknight post-game peak hour; and (5) the intersection of Macomb's Dam Bridge Approach and the exit ramp from the southbound Major Deegan Expressway would be partially mitigated during the weekend pre- and post-game peak hours.

Mitigation with traffic diversion strategies (turn prohibitions, street closures, and VMS) in conjunction with standard traffic capacity improvements is addressed later in this chapter and found to reduce the number of partially mitigated impact locations and reduce delays at locations that would still not be fully mitigated.

EVALUATION OF A COMPREHENSIVE GAME-DAY TRAFFIC MANAGEMENT PLAN

The detailed traffic impact analyses conducted as part of the DEIS and this FEIS have indicated that there would be between two and five local intersection areas where standard traffic capacity improvements applied at individual intersections would likely not be sufficient to fully mitigate impacts. These locations include: (1) River Avenue and East 161st Street; (2) Macomb's Dam Bridge Approach and East 161st Street; (3) Jerome Avenue and East 161st Street; (4) Jerome Avenue, Ogden Avenue, and the loop ramp to the Macomb's Dam Bridge; and (5) the Major Deegan Expressway's southbound off-ramp at Macomb's Dam Bridge.

Considering these locations and the set of traffic improvements assumed and used in the Build analyses, a comprehensive game-day traffic management plan would need to be developed and implemented. Such measures exist and are used today for the existing stadium, under the

cooperative efforts of NYCDOT and NYPD, seeking to optimize traffic conditions to the extent possible. Possible measures that could be considered as part of this plan were evaluated at an initial level in the DEIS, and were comprehensively evaluated between the DEIS and FEIS. They include:

- Close River Avenue, post-game only, from the north side of East 161st Street to East 162nd Street (just south of existing Parking Garage 3), and prohibit the southbound River Avenue through movement at 164th Street to keep the section of River Avenue alongside the proposed stadium free of vehicular traffic. Post-game traffic exiting from Parking Garage B and Parking Garage 3 onto River Avenue would need to proceed northbound on River Avenue. This measure would be similar to the closure of River Avenue between East 157th Street and East 161st Street that occurs today to allow for better pedestrian access to and from the stadium.
- Prohibit left turns from southbound Macomb's Dam Bridge Approach onto the eastbound East 161st Street service road, to eliminate frictions between left-turning vehicles and oncoming traffic. In the DEIS, one additional mitigation measure was cited for examination between the DEIS and FEIS—construction of a walkway parallel to the Macomb's Dam Bridge Approach viaduct on the west side of the viaduct, the elimination of pedestrian crossings from the west sidewalk to the east side of the viaduct, and elimination of the traffic signal proposed at this location under Build conditions. Although the combination of these measures could potentially fully mitigate significant adverse traffic impacts at this location, other considerations have eliminated construction of the walkway as a practicable measure (refer to Section C, "Transit and Pedestrians," later in this chapter).
- Prohibit right turns from the westbound East 161st Street service road onto northbound Macomb's Dam Bridge Approach/Jerome Avenue in order to eliminate conflicts between right-turning vehicular traffic and pedestrians crossing to and from the proposed stadium near the stadium's main home plate area entrance.
- Prohibit left turns from proposed Parking Garage B onto Jerome Avenue post-game. Exiting traffic would either have to make right turns onto northbound Jerome Avenue, or make left turns from the garage onto northbound River Avenue on the other side of the garage. Prohibiting left turns onto southbound Jerome Avenue would reduce traffic flows and delays at the intersection of Jerome Avenue and East 161st Street near the exit from proposed Parking Garage C, and would reduce traffic demands on the northbound Major Deegan, as well. Traffic choosing to turn right onto northbound Jerome Avenue from the garage could be directed to continue north on Jerome Avenue and on Edward Grant Highway in order to access the Major Deegan and the George Washington Bridge. Traffic choosing to turn left onto northbound River Avenue from the garage could continue north and access the eastbound and westbound Cross Bronx Expressway—en route to the George Washington Bridge to the west and Queens, Long Island, Westchester and Connecticut to the east—in the vicinity of 176th Street.
- Utilize portable VMS on game-days to advise motorists of conditions at key highway locations and parking garage space availability near the stadium, and to direct motorists to alternate routes to the stadium and to garages with available capacity. Portable VMS could be deployed at the following locations:
    - Along the northbound Major Deegan between Exits 3 and 4, directing stadium-bound traffic to use Exit 4 rather than Exit 5 when traffic conditions along Exit 5 and the Jerome Avenue corridor have excessive delays and congestion. Greater use of

northbound Exit 4 would lead motorists to proposed Garage D. VMS signage can even direct northbound Major Deegan traffic to exit at "138th Street/Grand Concourse" and use the Grand Concourse to approach the stadium area.

- Along the eastbound George Washington Bridge and Trans Manhattan Expressway, advising stadium-bound traffic of an alternate route to the stadium using the exit to Amsterdam Avenue/University Avenue. This exit would allow motorists heading to the stadium to use the Washington Bridge (different than the George Washington Bridge) that connects the Washington Heights area of Upper Manhattan with University Avenue in the Bronx, and then southbound Edward Grant Highway and Jerome Avenue to access proposed Parking Garage B. This would reduce traffic volumes using the Major Deegan pre-game, as well as reduce delays otherwise projected along the Macomb's Dam Bridge Approach corridor from Exit 5 from the southbound Major Deegan to East 161st Street.
- Along the westbound Cross Bronx Expressway advising stadium-bound traffic of an alternate route to the stadium using the exit to Jerome Avenue. This would allow motorists heading to the stadium to use this exit to approach proposed Garage B via southbound Jerome Avenue/River Avenue. This would also reduce traffic volumes using the Major Deegan Expressway pre-game, as well as reduce delays that would otherwise be expected along the Macomb's Dam Bridge Approach corridor, described earlier in this chapter.

These three VMS deployments would complement one other VMS—the VMS for southbound Major Deegan traffic on Exit 5 at the Macombs Dam Bridge to advise motorists of lane use designations on the exit ramp that would be different for various game-day peak hours.

Traffic diversions resulting from VMS signage, turn prohibitions, and the closure of River Avenue post-game between 161st and 162nd Streets are aimed at: (a) minimizing conflicts between vehicular traffic and pedestrian flows to the extent feasible; (b) directing vehicular traffic away from expected significant impact locations to the extent possible; and c) minimizing vehicular delays and congestion to the extent possible, understanding that major sports venues such as Yankee Stadium and other stadiums generate traffic that can be difficult to accommodate without some level of impact (as evidenced by existing conditions at the existing Yankee Stadium on game-days).

The findings of the detailed analyses for a comprehensive game-day traffic management plan that utilizes both standard traffic capacity improvements and traffic diversion strategies are presented below. Detailed level of service comparison tables are provided in Appendix B. The implementation of comprehensive game-day traffic management plan measures would reduce the number of partially mitigated impact locations from two, three, four, and three in the weeknight pre-game peak hour, weekend pre-game peak hour, weeknight post-game peak hour, and weekend post-game peak hour, respectively, to two, one, three, and one locations with the degree of impact and vehicle delays significantly reduced at locations that would still remain partially mitigated.

WEEKNIGHT AND WEEKEND PRE-GAME TRAFFIC MITIGATION

The analyses that follow provide a description of the mitigation measures that would be part of the overall game-day traffic management plan along with any significant new conclusions regarding the mitigatability of impacts on the local roadway network. These analyses begin with

intersections where impacts could only be partially mitigated via standard traffic capacity improvements, and report whether the combination of traffic diversion strategies together with standard traffic capacity improvements could be effective in fully mitigating significant adverse impacts. In some cases, the combination of both types of measures would fully mitigate impacts. In other cases, full mitigation would not be achieved, but the magnitude of vehicle delays would be significantly reduced. Detailed level of service tables are provided in Appendix B.

River Avenue and East 161st Street

Significant traffic impacts at this location would remain partially mitigated, as was concluded for conditions with just standard traffic capacity improvements provided (i.e., the deployment of traffic enforcement agents to make sure that pedestrians do not encroach on vehicular traffic lanes during non-pedestrian phases).

Macomb's Dam Bridge Approach and East 161st Street

Significant traffic impacts would remain partially mitigated in the weeknight pre-game peak hour, but the magnitude of vehicle delays would be significantly reduced with inclusion of traffic diversion strategies. This location was one of the major focal points of traffic diversion strategies, such as eliminating right turns from the westbound East 161st Street service road onto Macomb's Dam Bridge Approach at the homeplate area outside the stadium where pedestrian concentrations would be substantial. In the weekend pre-game peak hour, significant traffic impacts would be fully mitigated, as opposed to being only partially mitigated without traffic diversion strategies in place.

Major Deegan Expressway Southbound Exit 5 Off-Ramp at Macombs Dam Bridge and Macomb's Dam Bridge Approach

Mitigation measures would be the same as described earlier—utilization of the painted-out shoulder lane on the exit ramp as a third travel lane plus signal timing changes. However, with the deployment of VMS signage on the Cross Bronx and Trans Manhattan Expressways, sufficient traffic could be diverted away from the southbound Major Deegan to allow for full mitigation of impacts in the weekend pre-game peak hour as opposed to being only partially mitigated without traffic diversion strategies in place.

Because the traffic diversion strategies would also affect traffic volumes at intersections where significant traffic impacts would be mitigated by the standard traffic capacity improvements described earlier in this chapter, or where significant impacts did not occur previously without traffic diversions, those intersections were also re-evaluated to make sure that impacts would be mitigated. These intersections are addressed below.

Grand Concourse and East 161st Street

During the weeknight pre-game peak hour, signal timing modifications—including reducing the signal cycle length from 120 seconds to 90 seconds—would fully mitigate significant impacts.

River Avenue and East 165th Street

Mitigation measures here would be the identical standard traffic capacity improvements as those described previously for the weekend pre-game period (i.e., footed lane delineators to create two travel lanes on northbound and southbound River Avenue) and would fully mitigate impacts. Mitigation measures would not be needed in the weeknight pre-game period.

River Avenue and East 164th Street

Mitigation measures would be identical standard traffic capacity improvements—signal timing changes—to those described previously for both pre-game periods and would fully mitigate impacts.

River Avenue and East 157th Street

Mitigation measures would be identical standard traffic capacity improvements—parking regulation enforcement, footed lane delineators to create two travel lanes on northbound River Avenue, and signal timing changes—to those described previously and would fully mitigate impacts in both pre-game periods.

River Avenue and East 153rd Street

Mitigation measures would be identical to the standard traffic capacity improvements described previously—parking regulation enforcement and/or footed lane delineators to create two travel lanes on northbound and southbound River Avenue and one wider travel lane on westbound 153rd Street, and signal timing changes—and would fully mitigate impacts in both pre-game periods.

Jerome Avenue and East 165th Street

In the weekend pre-game peak period, signal timing changes would also be needed and would fully mitigate impacts along with measures described previously in the section on standard traffic capacity improvements (i.e, parking prohibitions), since there would be some shift in traffic patterns that would require signal re-timings.

Jerome Avenue and East 164th Street

Signal timing changes would fully mitigate impacts, as was identified previously in the section on standard traffic capacity improvements for both pre-game periods.

Jerome Avenue and East 161st Street

Mitigation measures would remain essentially the same as described previously in the section on standard traffic capacity improvements, with some minor differences in signal timing allocations per movement and minor changes in the lane widths to be accomplished via the installation of footed lane delineators. Significant impacts would be fully mitigated.

Jerome Avenue at Odgen Avenue and Macomb's Dam Bridge Service Road

Mitigation would be the same as described earlier in the section on standard traffic capacity improvements and would fully mitigate significant weeknight pre-game impacts. There would be no significant impact in the weekend pre-game peak hour, so no mitigation would be needed then.

Macombs Place and West 155th Street

Signal timing changes would fully mitigate impacts, as was identified previously in the section on standard traffic capacity improvements for both pre-game periods.

Walton Avenue and East 161st Street

In the weeknight pre-game peak hour, signal timing changes would not be needed; only lane re-striping would be needed along southbound Walton Avenue, as it would be for the other traffic analysis hours, to fully mitigate impacts.

River Avenue and East 162nd Street (South Intersection, East of River Avenue)

Installation of a traffic signal would be needed to fully mitigate impacts, as was described previously in the section on standard traffic capacity improvements.

Major Deegan Expressway Southbound Flyover Exit Ramp at East 153rd Street

As noted in the section on standard traffic capacity improvements, operation of the flashing traffic light as a regular traffic signal would fully mitigate traffic impacts during both pre-game periods.

Conclusions

With the combination of traffic diversion strategies and standard traffic capacity improvements as part of a comprehensive game-day traffic management plan, all significant adverse traffic impacts would be fully mitigated with these exceptions—there would be two partially mitigated impact locations in the weeknight pre-game peak hour and one partially mitigated impact location in the weekend pre-game peak hour. For one of the three remaining partially mitigated conditions, the magnitude of vehicle delays would be significantly reduced.

WEEKNIGHT AND WEEKEND POST-GAME TRAFFIC MITIGATION

The analyses that follow provide a description of the mitigation measures that would be part of the overall game-day traffic management plan along with any significant new conclusions regarding the mitigatability of impacts on the local roadway network. These analyses begin with intersections where impacts could only be partially mitigated via standard traffic capacity improvements, and report whether the combination of traffic diversion strategies together with standard traffic capacity improvements could be effective in fully mitigating significant adverse impacts. In some cases, the combination of both types of measures would fully mitigate impacts. In other cases, full mitigation would not be achieved, but the magnitude of vehicle delays would be significantly reduced. Detailed level of service tables are provided in Appendix B.

River Avenue and East 161st Street

Significant traffic impacts would remain partially mitigated even with the closure of River Avenue to vehicular traffic post-game between East 161st Street and East 162nd Street and a range of standard traffic capacity improvements. However, in the weeknight post-game peak hour, the magnitude of traffic delays and impacts would be significantly reduced. A traffic enforcement agent would also be deployed at this location, as was described in the section on standard traffic capacity improvements.

Jerome Avenue and East 161st Street

The addition of traffic diversion measures to standard traffic capacity improvements would fully mitigate significant traffic impacts that would only be partially mitigated without traffic diversion measures. In the weeknight post-game peak hour, deployment of a traffic enforcement agent would also be needed in addition to the standard traffic capacity improvements described and evaluated earlier in this chapter of the FEIS. The inclusion of an enforcement agent at this

location would allow for full mitigation. Weekend traffic mitigation measures needed would be identical to those described earlier for conditions with standard traffic capacity improvements.

Jerome Avenue at Ogden Avenue and Macomb's Dam Bridge Service Road

In the weeknight post-game peak hour, conditions would remain partially mitigated but the magnitude of vehicular delays would be significantly reduced. In the weekend post-game peak hour, there would no longer be significant traffic impacts requiring mitigation (without traffic diversion strategies in place, weekend post-game impacts were fully mitigatable using minor signal timing shifts).

Macombs Dam Bridge Approach and East 161st Street

In the weeknight post-game peak hour, significant impacts would remain partially mitigated with the traffic diversion strategies in place plus a traffic enforcement agent deployed at this location, but the magnitude of vehicle delays would be significantly reduced when compared to the application of just traffic capacity improvements without traffic diversion strategies. In the weekend post-game peak hour, traffic diversion strategies plus a traffic enforcement agent at this location would fully mitigate significant impacts—a major improvement over conditions without the traffic diversion strategies.

Major Deegan Expressway Southbound Exit 5 Off-Ramp at Macombs Dam Bridge and Macombs Dam Bridge Approach

In the weeknight post-game peak hour, the same types of mitigation measures described previously in the section on standard traffic capacity improvements would be able to fully mitigate impacts—use of the striped-out shoulder lane on Exit 5 to provide a third travel lane, plus signal timing changes. In the weekend post-game period, however, standard traffic capacity improvements would only partially mitigate impacts at this location. With traffic diversion strategies in place, plus use of the striped-out shoulder lane as a travel lane and signal timing changes, significant impacts would be fully mitigated.

Because the traffic diversion strategies would also affect traffic volumes at intersections where significant traffic impacts would be mitigated by the standard traffic capacity improvements described earlier in this chapter, or where significant impacts did not occur previously without traffic diversions, those intersections were also re-evaluated to make sure that impacts would be mitigated. These intersections are addressed below.

Grand Concourse and East 165th Street

In the weekend post-game peak hour, signal timing changes would fully mitigate significant traffic impacts. In the weeknight post-game peak hour, mitigation would not be needed since significant impacts would not be generated.

Grand Concourse and East 161st Street

Signal timing changes would fully mitigate significant impacts during both post-game periods.

River Avenue and East 165th Street

Significant impacts are not expected in the weeknight post-game peak hour. For the weekend post-game peak hour, footed lane delineators providing two northbound travel lanes on River Avenue would fully mitigate impacts as was previously described in the section on standard traffic capacity improvements.

River Avenue and East 164th Street

In the weeknight post-game peak hour, footed lane delineators installed along northbound River Avenue in order to provide two travel lanes, along with a shift of two seconds of green time from the northbound/southbound approach to the eastbound/westbound approach, would fully mitigate impacts. In the weekend post-game peak hour, footed lane delineators to create two northbound travel lanes would fully mitigate impacts, without signal timing changes.

River Avenue and East 157th Street

There would be no significant impacts in the weeknight post-game peak hour. In the weekend post-game peak hour, measures similar to those cited previously in the section on standard traffic capacity improvements—enforcement of parking regulations and footed lane delineators on northbound River Avenue to shift the street's centerline and provide the required number of lanes—would fully mitigate expected impacts.

River Avenue and East 153rd Street

The same set of mitigation measures described previously under standard traffic capacity improvements—parking regulation enforcement, footed lane delineators to provide the required lanes and lane widths along River Avenue, and signal timing changes—would fully mitigate expected impacts.

Jerome Avenue and East 165th Street

Modest additional traffic mitigation measures would be needed at this location to fully mitigate impacts associated with diverted traffic—prohibiting parking along the north side of westbound East 165th Street along with additional shifts in green time in the weekend post-game peak hour.

Jerome Avenue and East 164th Street

As noted above in "Jerome Avenue and East 165th Street," modest additional traffic mitigation measures would be needed at this location—shifting green time in both the weeknight and weekend post-game peak hours, along with prohibiting parking on the east side of northbound Jerome Avenue and along the north side of westbound East 164th Street in just the weekend post-game peak hour—in order to fully mitigate traffic impacts.

Jerome Avenue and Macombs Dam Bridge Approach/East 162nd Street

With traffic diversion strategies, there would be no significant impacts at this location in either of the post-game peak hours.

Macombs Place and West 155th Street

The same standard traffic capacity improvement described previously—signal phasing and timing changes—would fully mitigate traffic impacts.

Walton Avenue and East 161st Street

In the weeknight post-game hour, it would no longer be necessary to prohibit parking on the north side of westbound 161st Street approaching this intersection in order to fully mitigate traffic impacts; re-striping southbound Walton Avenue to provide a second travel lane plus signal timing changes would fully mitigate traffic impacts. In the weekend post-game peak hour, only re-striping Walton Avenue would be needed to fully mitigate impacts.

Major Deegan Expressway Northbound Exit Ramp at East 157th Street

Signal timing changes would fully mitigate impacts during both post-game periods.

River Avenue and East 162md Street (South Intersection, East of River Avenue)

Installation of a traffic signal would fully mitigate impacts, as was described previously in the section on standard traffic capacity improvements.

Major Deegan Expressway Southbound Flyover Exit Ramp at East 153rd Street

Operation of the flashing traffic light as a regular signal would fully mitigate traffic impacts during both post-game periods, as described previously.

Conclusions

With the combination of traffic diversion strategies and standard traffic capacity improvements as part of a comprehensive game-day traffic management plan, all significant adverse traffic impacts would be fully mitigated with these exceptions—there would be three partially mitigated impact locations in the weeknight post-game peak hour and one partially mitigated impact location in the weekend post-game peak hour. For three of the four remaining partially mitigated conditions, the magnitude of vehicle delays would be significantly reduced.

EXPANDED TRAFFIC STUDY AREA

Since game-day traffic management planning and proposed mitigation measures include the prohibition of left and/or right turns at some locations, post-game closure of River Avenue just north of 161st Street, and the use of variable-message signs (VMS) to direct traffic to alternate routes to and from the proposed stadium, the traffic study area was expanded to include the following 10 signalized intersections along potential diversion routes (see Figure 21-5):

- Gerard Avenue and East 149th Street
- Jerome Avenue/Cromwell Avenue/East 167th Street/Edward Grant Highway
- Edward Grant Highway and Washington Avenue Bridge On-Ramp
- Edward Grant Highway and Washington Avenue Bridge Off-Ramp
- River Avenue and East 167th Street
- Jerome Avenue and East 170th Street
- Jerome Avenue and East 173rd Street
- Jerome Avenue and Cross Bronx Expressway North Service Road
- Jerome Avenue and Cross Bronx Expressway South Service Road
- Grand Concourse and East 149th Street

The unsignalized movements at Edward Grant Highway/University Avenue at Martin Luther King, Jr. Boulevard, and at Jerome Avenue and the Cross Bronx Expressway south service road were also analyzed. These signalized and unsignalized intersections were analyzed using the same procedures used for the remainder of the local street network traffic study area, as detailed in Chapter 15, "Traffic and Parking."

Under Existing Conditions, 1 of the 10 signalized intersections analyzed operates at overall unacceptable LOS E in the weeknight pre-game arrival peak hour—the intersection of River Avenue and East 167th Street. There are no other overall unacceptable intersection levels of

service at the remaining extended study area intersections in the four peak traffic analysis hours, although a few intersections have individual traffic movements operating at LOS E or F. There are several signalized intersections operating at overall marginally acceptable/unacceptable LOS D—three in the weeknight pre-game and post-game peak hours, five in the weekend pre-game peak hour, and six in the weekend post-game peak hour. There is one unsignalized intersection operating at marginally acceptable/unacceptable LOS D during all time periods except for the weekend post-game peak hour.

Projected future No Build and Build traffic volumes and levels of service were also determined as part of the analysis of this expanded study area. The future No Build analyses included the same background projects considered in Chapter 15, "Traffic and Parking," as well as others expected to be developed in the vicinity of the northern Jerome Avenue/Edward Grant Highway analysis corridors. Projected Build conditions include traffic diversions that would occur as part of the comprehensive game-day traffic management plan.

Under projected Build conditions, three intersections would be significantly impacted in the weeknight and weekend pre-game peak hours (Jerome Avenue/Cromwell Avenue at East 167th Street /Edward Grant Highway; Edward Grant Highway/University Avenue and the Washington Bridge off-ramp; and River Avenue and East 167th Street), one intersection would be significantly impacted in the weeknight post-game peak hour (Jerome Avenue/Cromwell Avenue at East 167th Street/Edward Grant Highway), and three intersections would be significantly impacted in the weekend post-game peak hours (Jerome Avenue/Cromwell Avenue at East 167th Street/Edward Grant Highway, River Avenue and East 167th Street, and Jerome Avenue and 170th Street).

Mitigation analyses were conducted for these locations, and it was determined that the significant adverse impacts at these locations could be fully mitigated as follows:

Jerome Avenue/Cromwell Avenue at East 167th Street/Edward Grant Highway

The following traffic capacity improvements would fully mitigate traffic impacts during all the traffic peak hours: prohibiting parking on the east side of northbound Jerome Avenue and the west side of southbound Jerome Avenue; re-striping the eastbound Edward Grant Highway approach to the intersection to shift the existing 6-foot-wide bike lane to the south curb and removing the 4-foot-wide shaded area, and providing three travel lanes including a shared left-through lane, a shared through-right turn lane, and an exclusive right turn lane; prohibiting parking on the west side of the southbound Jerome Avenue receiving lanes to gain improved transition from the eastbound bike lane; relocating the bus stop on East 167th Street from its existing near-side location to a far-side location; and modifying the signal timing plan while maintaining its existing 90-second cycle length.

Edward Grant Highway/University Avenue at the Washington Bridge Off-Ramp

Significant traffic impacts in the weeknight post-game peak hour would be fully mitigated by shifting three seconds of green time from the northbound/southbound phase to the eastbound phase. During the weekend pre-game peak hour, a shift of one second from the northbound/southbound to the eastbound phase would be needed.

River Avenue and East 167th Street

Significant traffic impacts in the weeknight and weekend pre-game peak hours would be fully mitigated by prohibiting parking on the south side of eastbound East 167th Street and the north

side of westbound East 167th Street and on the east side of northbound River Avenue, and by shifting one to three seconds of green time from the northbound/southbound phase to the eastbound/ westbound phase. Significant impacts in the weekend post-game peak hour would be fully mitigated by prohibiting parking only on the south side of the eastbound 167th Street approach.

Jerome Avenue and East 170th Street

Significant traffic impacts in the weekend post-game peak hour would be fully mitigated by prohibiting parking on the east side of northbound Jerome Avenue.

Jerome Avenue and East 173rd Street

Significant traffic impacts in the weekend post-game peak hours would be fully mitigated by prohibiting parking on the east side of northbound Jerome Avenue.

MAJOR DEEGAN EXPRESSWAY

Significant traffic impacts were also identified for sections of the Major Deegan Expressway, including the following:

- Weeknight Pre-Game Arrival Peak Hour: several locations on the northbound Major Deegan (travel speed decreases of 0.2 to 3.3 mph). Southbound Major Deegan north of Exit 6 (Bronx Terminal Market off-ramp diverge) and between Exit 6 and Exit 5 (Macombs Dam Bridge/East 161st Street), both of which would experience very substantial travel speed reductions.
- Weekend Pre-Game Arrival Peak Hour: Northbound Major Deegan Expressway mainline between the 149th Street exit and the 157th Street exit that leads to the existing stadium (decrease of 0.8 mph between the No Build and Build conditions). Southbound at the same locations cited above for the weeknight pre-game arrival peak hour, which would experience very substantial travel speed reductions.
- Weeknight Post-Game Departure Peak Hour: Northbound Major Deegan Expressway mainline between the 157th Street exit that leads to the existing stadium and the service road on-ramp merge to the north (decreases of 0.8 and 7.1 mph, respectively).
- Weekend Post-Game Departure Peak Hour: Northbound Major Deegan Expressway mainline north of the service road on-ramp north of Jerome Avenue (decrease of 1.9 mph).

To partially or fully mitigate projected impacts northbound approaching the exits at East 149th Street and East 157th Street, it would be necessary to install a VMS that informs motorists of traffic conditions at the upcoming exits, and advises through traffic to use the left-most lanes while approaching the two exits. This VMS would assist in managing northbound traffic, informing exiting traffic to use the right-most lanes so that there would be fewer late lane changes and less of a slowdown effect approaching the off-ramps. Additional VMS deployment would be needed along the southbound Major Deegan advising motorists of the proper lanes to be used along the exit ramp at Exit 5. This is described further in the remainder of this section.

During the post-game departure periods, the proposed project would generate a substantial volume of traffic accessing the northbound Major Deegan Expressway via the service road on-ramp north of Jerome Avenue. The existing one-lane roadway connection from westbound Jerome Avenue to the northbound service road would not have sufficient capacity to accommodate the projected volume under the Build condition. Overall congestion during post-

game departure periods is a persistent existing problem due to the substantial volume of traffic wanting to access the northbound Major Deegan Expressway en route to the Cross Bronx Expressway, the George Washington Bridge, or destinations in Westchester County or in Upstate New York. This pre-existing problem can be traced to capacity bottleneck issues at the Highbridge Interchange which causes extensive queuing on the northbound Major Deegan Expressway back to the Yankee Stadium area.

An operational improvement strategy would be to direct stadium-generated traffic leaving the stadium's northern-most parking garages to alternative routes to the northbound Major Deegan Expressway. It would be possible to direct autos leaving proposed Parking Garage B to turn right onto northbound Jerome Avenue (rather than turning left onto southbound Jerome Avenue) and proceed northward to Edward Grant Highway and University Avenue to access the northbound Major Deegan Expressway and/or the Washington Bridge viaduct leading to the George Washington Bridge north of the area. These routes often have more capacity available to motorists than the series of narrow on-ramps, merge conditions, en route to the westbound Cross Bronx Expressway at the Highbridge Interchange. Alternatively, post-game traffic exiting from proposed Garage B could be restricted to use of the River Avenue exits, to divert traffic away from Jerome Avenue and its routing to the northbound Major Deegan Expressway.

Impacts along the southbound Major Deegan Expressway would result from additional traffic seeking to exit the expressway at Exit 5/Macombs Dam Bridge en route to the major new proposed garages being constructed close to the proposed stadium (Parking Garages A, B, and C). During the pre-game peak hours being analyzed, traffic would be expected to spill back onto the expressway's southbound mainline since its demand volume would exceed the capacity of the signalized intersection at the head of the off-ramp to process this demand within the two currently available travel lanes. To mitigate these impacts on the southbound Major Deegan, a TEA would be needed to direct motorists on the exit ramp to use the striped-out shoulder lane as a third lane during game-day peak hours, thus helping the intersection process more traffic and providing the ramp with additional storage capacity. The three lanes would need to have slightly different lane use designations by arrival and departure peak hours; a VMS deployed at this location could advise exiting traffic to use the lane(s) appropriate for their movements. Impacts along the section of the southbound Major Deegan Expressway approaching Exit 5 would be fully mitigated in the weekend pre-game peak hour and partially mitigated in the weeknight pre-game peak hour by using these measures. Also, an advisory sign would need to be posted on the southbound Major Deegan Expressway, informing motorists of the prohibition of truck right turns from southbound Exit 5 of the Major Deegan Expressway and informing them to use the 145th Street Bridge (traffic count data indicate that truck right turn volumes are extremely low).

The potential impacts of traffic diversions on the Major Deegan Expressway were also examined between DEIS and FEIS, and the conclusions of these analyses are summarized below.

During the weeknight and weekend pre-game peak hours, placement of a VMS south of the 138th Street entrance ramp to the Major Deegan Expressway would inform motorists that they could exit the northbound Major Deegan earlier at Exit 4/149th Street instead of at Exit 5/157th Street, and access Garage D on River Avenue. The number of impacted locations on the northbound Major Deegan during the pre-game peak hours would remain the same; however, the severity of the impacts would be reduced. With the diversions in effect, all travel speed reductions from No Build to Build would be less than 1 mph for impacts on the northbound Major Deegan.

In the southbound direction, the deployment of VMS on the Cross Bronx and Trans Manhattan Expressways would shift some traffic from using the Major Deegan to the Exit 5/Macombs Dam Bridge off-ramp, with pre-game traffic using the following routes to the proposed stadium: from the eastbound Trans Manhattan Expressway, traffic would divert to the University Avenue exit via the Washington Bridge and take Edward Grant Highway to Jerome Avenue; from the westbound Cross Bronx Expressway, traffic would take the Exit 2A/Jerome Avenue off-ramp to access Jerome Avenue to River Avenue. There would still be the same number of impacts on the southbound Major Deegan Expressway mainline; however, travel speeds would improve by 2 to 3 mph compared to Build conditions without VMS. Also, less congestion affecting the mainline would slightly improve density conditions in the expressway lanes.

During the weeknight and weekend post-game peak hours, traffic exiting proposed Garage B would use northbound Jerome Avenue, instead of the service road on-ramp to the northbound Major Deegan via southbound Jerome Avenue. This diversion would somewhat reduce the volume of vehicles using the service road on-ramp and conditions would improve, but demand would still exceed the capacity of the ramp, and impacts would persist on the mainline immediately south and north of the merge.

There would be no significant impacts requiring mitigation along the southbound Major Deegan during the weeknight and weekend post-game peak hours.

CONCLUSIONS

Implementation of a comprehensive game-day traffic management plan would include both standard traffic capacity improvements (signal phasing and timing changes; parking restrictions; lane and intersection re-striping and channelization; new traffic signals; enforcement) and traffic diversion strategies (turn prohibitions; street closures; variable message signs advising motorists of alternate routes that would help divert traffic away from potential problem locations). The vast majority of significant adverse traffic impacts could be fully mitigated. However, two intersections could only be partially mitigated in the weeknight pre-game peak hour, three intersections in the weeknight post-game peak hour, and one intersection during weekend pre- and post-game peak hours.

NYCDOT would be responsible for signs, signals, and pavement markings on City streets, and would be responsible for the implementation of these types of mitigation measures. New signals need to satisfy NYCDOT signal warrant analysis guidelines in order to be approved for installation and signal warrant analyses conducted between DEIS and FEIS have shown that such signal warrants have been met, as noted previously. NYPD would be responsible for the deployment of traffic enforcement agents (or traffic control officers) and for game-day traffic management, and currently provides a level of staffing needed for expected attendance levels. It is expected that NYPD will continue to deploy officers to locations where they are needed for the proposed stadium and for traffic management on game days. NYSDOT has jurisdiction over the Major Deegan Expressway, Cross Bronx Expressway, and Trans Manhattan Expressway, so its approval is needed for installation of VMS on these highways.

C. TRANSIT AND PEDESTRIANS

As discussed in Chapter 16, "Transit and Pedestrians," the proposed project is expected to result in similar overall transit use and pedestrian levels as currently exist in the surrounding area of the project site. However, localized significant adverse impacts on several subway and

pedestrian elements are anticipated due to the change in access patterns and the redistribution of pedestrian flow. In addition, the new crosswalk at Ruppert Plaza was anticipated to be insufficient to provide adequate capacity. The following sections present a summary of potential measures that could mitigate the identified significant adverse impacts or further improve pedestrian flow. As with the assessment of vehicular traffic, the mitigation analysis for transit and pedestrians is intended to illustrate the level of improvements needed to eliminate projected impacts under the *CEQR Technical Manual* guidelines. City and State agencies are expected to then evaluate the magnitudes of improvements needed, and make the appropriate determination on the implementation of physical or operational measures. Since the adverse conditions that are typical of peak game-day conditions are currently alleviated with various game-day management strategies, it is likely that decision-makers would continue to make use of similar efforts in combination with some of the measures identified in this EIS to facilitate reasonable operations for local bus routes, at the 161st Street-Yankee Stadium Station, and at key crossing locations along East 161st Street between Ruppert Plaza and River Avenue.

SUBWAY STATION ELEMENTS

The analysis presented in Chapter 16, "Transit and Pedestrians," concluded that while the total demand could be met by the combined capacity of all stairways serving Yankees patrons at the 161st Street-Yankee Stadium Station, the shift in pedestrian flow would result in improved conditions at some stairways and deteriorations at others. As shown in the width increment threshold (WIT) estimates presented in Table 16-16, the impacted stairways would require widenings of up to 5 feet to return operating levels to No Build or LOS C/D conditions, as summarized below.

- Stairway A: WIT = 15.49 inches;
- Stairway C: WIT = 32.61 inches;
- Stairway D: WIT = 19.95 inches;
- Stairway E: WIT = 53.36 inches;
- Stairway P12: WIT = 17.35 inches;
- Stairway P16: WIT = 17.0 inches;
- Stairway P11: WIT = 51.1 inches; and
- Stairway P15: WIT = 53.38 inches.

However, if these stairway widenings were undertaken, the added capacity would simply be taken up by subway riders circulating back to the most direct route. As stated in Chapter 16, "Transit and Pedestrians," the assignment of subway riders to the nearest station entrances accounted for capacity constraints at these stairways, such that the excess demand (beyond 10 percent over the stairways' crush capacities) was redistributed to other available entrances. Because of the magnitude of the total pedestrian demand at the station, reasonable stairway widenings could not be achieved to avoid significant adverse impacts. However, further dispersion of subway riders to less congested stairways would be achieved with the TEA management of pedestrian movements at the subway station to mitigate the projected impacts. The City and New York Yankees would coordinate with the Metropolitan Transportation Authority to ensure the effectiveness of the described measures, and, if necessary based on actual operations, would provide such additional practicable mitigation measures as may be warranted.

PEDESTRIAN ELEMENTS

Mitigation of significant crosswalk impacts would typically involve the widening of painted areas to allow pedestrians additional crossing space. The analysis presented in Chapter 16, "Transit and Pedestrians," showed that three crosswalks at the River Avenue and East 161st Street intersection would experience significant adverse impacts with the proposed project. Table 21-1 shows the crossing widths necessary to accommodate acceptable mid-LOS D (20 SFP) operating conditions.

Table 21-1

Crosswalk Mitigation: River Avenue and East 161st Street

Location	Crosswalk	Width (feet)	No Build Condition		Build Condition		Mitigated Condition		
			SFP	LOS	SFP	LOS	Width	SFP	LOS
Weekday Pre-Game									
River Avenue at E.161st Street Westbound Service Road	North	16	27	C	8	F	42	20	D
Weekday Post-Game									
River Avenue at E.161st Street Westbound Service Road	North	16	36	C	5	F	60	20	D
River Avenue at E.161st Street Eastbound Service Road	South	13	23	D	18	D	14	20	D
Weekend Pre-Game									
River Avenue at E.161st Street Westbound Service Road	North	16	64	A	7	F	48	20	D
	East	15.5	20	D	15	D	20	20	D
Weekend Post-Game									
River Avenue at E.161st Street Westbound Service Road	North	16	39	C	5	F	60	20	D

At the intersection's north crosswalk, a total width of 60 feet or a widening of 44 feet would be required to achieve acceptable level of service during all game-day peak periods. A permanent crosswalk widening of this magnitude is not recommended. However, it could be implemented as a game-day operational measure, similar to the Babe Ruth Plaza reconfiguration that was incorporated as part of the proposed project to create a substantial extension of the intersection's west crosswalk. Therefore, the mitigation of the north crosswalk impacts would contemplate a temporary set-back of the southbound vehicular traffic via coning or other measures to facilitate a game-day north crosswalk width of 60 feet. As with the west crosswalk extension, TEAs directing traffic and maintaining crowd control would be required at this location. However, under the game-day traffic management plan described in Section B, "Traffic and Parking," the portion of River Avenue north of East 161st Street would be closed to vehicular traffic during the weekday and weekend post-game peak periods. Therefore, the projected significant adverse impact for post-game conditions would not occur and the related pedestrian mitigation measures would not be required. With regard to the intersection's east crosswalk at the westbound service road and south crosswalk at the eastbound service road, widenings of 4.5 feet and 1 foot, respectively, would be sufficient to mitigate the projected significant adverse impacts.

At the new Ruppert Plaza intersection with East 161st Street, the 60-foot-wide crosswalk assumed for analysis would not be adequate to achieve mid-LOS D operating conditions during the peak weekday and weekend post-game time periods. As shown in Table 21-2, the acceptable operating level would require a crosswalk width of 65 feet. This width could be achieved by

Table 21-2
Mid-LOS D Crossing Requirements at Ruppert Plaza and East 161st Street

Location	Crosswalk	Width (feet)	No Build Condition		Build Condition		Mid-LOS D Condition		
			SFP	LOS	SFP	LOS	Width	SFP	LOS
Weekday Post-Game									
Ruppert Plaza at E.161st Street	East	60	-	-	18	D	65	20	D
Weekend Post-Game									
Ruppert Plaza at E.161st Street	East	60	-	-	19	D	61	20	D

painting vehicular traffic stop bars setting back 2.5 feet on each of the eastbound and westbound approaches which would effectively provide a wider crossing width of 65 feet. Alternatively, for short stretches of peak pedestrian flow, the intersection's signal timing could be overridden by TEAs to provide pedestrians additional crossing time. Since vehicular traffic operations at this location were determined to be at favorable levels, a TEA override of the intersection's signal is not expected to adversely impact traffic flow. Either one of these measurements would be adequate in mitigating the projected significant adverse impacts.

The above mitigation measures and game-day management of pedestrian flow were developed in consultation with and have received approval from the NYCDOT and the Metropolitan Transit Authority (MTA), such that with the implementation of these measures, the proposed project would not result in unmitigated significant adverse transit and pedestrian impacts.

D. AIR QUALITY

Chapter 17, "Air Quality," showed that under the 2009 Build year, impacts on carbon monoxide (CO) would be well below ambient air quality standards and the City's *de minimis* criteria. The proposed weeknight and weekend post-game traffic mitigation measures, which include new roadway configurations, physical restrictions and signal timing adjustments, were evaluated to determine the potential effects on air quality in the study area.

Table 21-3 illustrates the effect that the proposed traffic mitigation measures developed as part of the project's traffic analysis (see Chapter 15, "Traffic and Parking,") would have on maximum predicted CO concentrations with the proposed project. The analysis was performed for the three analyzed intersections where mitigation measures were proposed (East 157th Street and River Avenue, East 161st Street and Jerome Avenue, and Macomb's Dam Bridge and the Major Deegan Southbound Off-Ramp). The values shown are the highest predicted concentrations for these intersections for the time periods analyzed. Table 21-3 shows that the maximum predicted 8-hour CO concentrations for the analyzed sites with the proposed traffic mitigation measures would be below the NAAQS and would not result in any significant adverse air quality impacts.

The proposed traffic mitigation measures would not affect the stationary or industrial source analyses provided in Chapter 17, "Air Quality," which determined that there would be no significant air quality impacts resulting from the proposed project.

Table 21-3
Future (2009) Maximum Predicted 8-Hour Average Carbon Monoxide Concentrations: Build with Traffic Mitigation (parts per million)

Site	Location	Time Period	8-Hour CO Concentration (ppm)	Not-To-Exceed *De minimis* Criteria (ppm)
1	East 157th Street & River Avenue	Weekday PM	2.6	5.8
		Saturday PM	2.6	5.7
2	East 161st Street & Jerome Avenue	Weekday PM	3.3	6.2
		Saturday PM	3.5	6.1
3	Macomb's Dam Bridge & I-87 Southbound Off-Ramp	Weekday PM	6.0	7.4
		Saturday PM	5.8	7.4

Notes:
8-hour CO standard is 9 ppm.
An adjusted ambient background concentration of 2.0 ppm is included in the project Build values presented above.

E. NOISE

Noise levels with the project were recalculated using the mitigated traffic data. This recalculation was performed using the same modeling methodology used for Chapter 18, "Noise," for the unmitigated traffic. The revised noise levels are shown in Table 21-4 for the two weekday and two weekend analysis periods in the year 2009 for the eight receptor sites. (Components from each of the specific noise sources (i.e., the elevated No. 4 subway trains, traffic, and stadium vendor/crowd) are shown in Table E-5 in Appendix E).

The major effect of the traffic mitigation is to change vehicle speeds. Future Build noise levels with mitigation at all sites would be less than 3.0 dBA higher than the No Build noise levels. Change of this magnitude would be barely perceptible, and based upon CEQR impact criteria, the changes would not be significant.

As discussed in Chapter 18, "Noise," noise levels within the new parks proposed at River Avenue and East 157th Street and within the new proposed Harlem River waterfront park located west of Exterior Street and the Major Deegan Expressway, would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. The high noise levels at these new park locations are independent of this proposed project. Based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels within these parks to below the 55 dBA $L_{10(1)}$ guideline noise level. Noise barriers and/or berms would not be practicable. As discussed in Chapter 18, noise levels in these new parks would be comparable to noise levels in a number of existing parks in New York City. However, based upon CEQR impact criteria, the project would result in an unmitigated significant noise impact on users of these new parks.

Table 21-4
Future Build Noise Levels (in dBA)

Site	Time		2009 Build with traffic mitigation $L_{eq(1)}$	2009 No-Build $L_{eq(1)}$	Change
1	Weekday	Pre-Game	71.1	71.1	0.0
	Weekday	Post-Game	68.5	68.4	0.1
	Weekend	Pre-Game	74.7	74.7	0.0
	Weekend	Post-Game	74.8	74.6	0.2
2	Weekday	Pre-Game	73.2	73.0	0.2
	Weekday	Post-Game	70.4	70.3	0.1
	Weekend	Pre-Game	69.4	69.3	0.1
	Weekend	Post-Game	69.2	69.2	0.0
3	Weekday	Pre-Game	68.9	68.9	-0.0
	Weekday	Post-Game	66.4	66.5	-0.1*
	Weekend	Pre-Game	64.1	64.2	-0.1*
	Weekend	Post-Game	65.0	64.7	0.3
4	Weekday	Pre-Game	70.6	68.5	2.1
	Weekday	Post-Game	72.2	71.1	1.1
	Weekend	Pre-Game	68.9	67.4	1.5
	Weekend	Post-Game	71.0	70.3	0.7
5	Weekday	Pre-Game	68.0	67.3	0.7
	Weekday	Post-Game	67.2	65.8	1.4
	Weekend	Pre-Game	69.0	68.4	0.6
	Weekend	Post-Game	68.0	67.2	0.8
6	Weekday	Pre-Game	71.9	69.8	2.1
	Weekday	Post-Game	69.9	68.3	1.6
	Weekend	Pre-Game	72.2	69.6	2.6
	Weekend	Post-Game	71.2	70.1	1.1
7	Weekday	Pre-Game	60.8	67.8	-7.0**
	Weekday	Post-Game	58.2	66.9	-8.7**
	Weekend	Pre-Game	60.2	68.0	-7.8**
	Weekend	Post-Game	60.2	67.8	-7.6**
8	Weekday	Pre-Game	69.8	69.1	-0.3***
	Weekday	Post-Game	65.9	67.3	-1.4***
	Weekend	Pre-Game	71.9	71.8	0.1***
	Weekend	Post-Game	68.7	70.6	-1.9***

Notes:
* Decrease in noise level is due to predicted decrease in vehicle speed on adjacent street.
** Decrease in noise level is due to elimination of traffic on Ruppert Place and elimination of vendor/crowd noise.
**** Decease in noise level is due to elimination of vendor/crowd noise.

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Chapter 22: Alternatives

A. INTRODUCTION

The purpose of this alternatives analysis is to examine reasonable and practicable options that would avoid or reduce project-related, significant adverse impacts and still meet the proposed project's stated goals and objectives.

As described in Chapter 1, "Project Description," locations for a new Yankee Stadium were previously studied in Manhattan as well as at Van Cortlandt Park and Pelham Bay Park in The Bronx. The feasibility of renovating the existing stadium or rebuilding it near the current site, but, unlike the proposed project, south of East 161st Street was also studied. However, all of these options were found to be not reasonable or practicable, either because they were infeasible or they would not meet the goals and objectives of the project.

This chapter summarizes the evaluation of alternatives to the proposed project. It begins with a discussion of alternatives that were considered but were determined to be infeasible and/or did not meet project goals and objectives. It then continues with a more detailed discussion of the No Action Alternative, in which the anticipated effects of this alternative are compared with those of the proposed project, as relevant. The consideration of alternatives also includes an alternative parking arrangement in an effort to reduce the project's identified significant adverse impacts, including those related to traffic on East 161st Street, Jerome Avenue and the Macomb's Dam Bridge Approach. In response to comments on the Draft Environmental Impact Statement (DEIS) indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street, a construction schedule that would minimize the duration of time that recreational facilities would be unavailable, and concern about the visual effect of the elevated tennis concession atop Garage C, an alternative park plan has been developed and is analyzed in this chapter.

B. ALTERNATIVES CONSIDERED AND DISCARDED

Over the past decade, as part of the current planning process, and in response to comments made at the scoping meeting for the DEIS, other alternatives for the stadium were considered, including three locations outside the neighborhood (Van Cortlandt Park and Pelham Bay Park, both in The Bronx, and the Caemmerer Yard (rail yard) on Midtown Manhattan's West Side) and several suggested locations near the existing Yankee Stadium, but south of East 161st Street. Also considered were the renovation of the existing stadium and the possibility of demolishing the existing stadium and rebuilding using the current site, expanded by the inclusion of Ruppert Place and portions of Macomb's Dam Park adjacent to Ruppert Place. None of these alternatives proved viable for the reasons detailed below.

LOCATIONS OUTSIDE THE LOCAL NEIGHBORHOOD

The three alternative stadium locations outside the local neighborhood were found in prior analyses to be unsuitable, as described below. In addition, any proposal to remove Yankee Stadium from its historic location would adversely affect the surrounding area. Although the relocation of the stadium from its current area would eliminate game-day traffic, parking demand, pedestrian activity, and associated noise, its removal would change neighborhood character substantially and would adversely affect the stores, restaurants, and other businesses along River Avenue that rely on the visitors to the stadium as part of their customer base.

VAN CORTLANDT PARK

The use of Van Cortlandt Park was rejected for a number of reasons. The site is not easily accessible. Transit service to the site is extremely limited. It is estimated that only 5 percent of stadium visitors would arrive by mass transit. Bus service in the area is locally oriented and not a viable option. Improvements would be needed at the Woodlawn Station so that trains could be stored for post-game service. Subway service would stop at 13 local stops in The Bronx before reaching the stadium.

In addition, the existing vehicular and mass transportation networks would not be expected to be able to handle the demand required by a stadium use without substantial delays and congestion, because a much higher volume of fans would drive to this site compared to the proposed project site. Significant ramp and highway upgrades would be required because there is only one primary route to the site. The Major Deegan Expressway, which provides access to the site has available traffic capacity but does not have a sufficient number of exits/entrances or ramp capacity for stadium needs. Secondary routes and local streets have limited capacity to accommodate average or sellout crowds at the site. Major interchange improvements would be needed on the Major Deegan Expressway. Furthermore, new direct access from the Henry Hudson Parkway may be needed, and existing ramp connections to and from the Bronx River Parkway at West 233rd Street would need to be upgraded. Existing ramp connections to and from the Bronx River Parkway at 233rd Street would need to be upgraded. Substantial upgrading of the feeder network along Jerome Avenue and 233rd Street would also be needed. Even with an expanded/improved roadway network, the traffic network would not be able to accommodate a high attendance game and there would be unacceptable vehicular circulation and numerous pedestrian vehicular conflicts. In addition, there is no major source of available parking near the site. All new parking would be required, because of the low share of visitors expected to arrive by public transit. The parking would occupy a large area of the park.

The construction of the stadium and parking fields at this location would require the loss of approximately 140 acres of landscaped parkland, including 12 acres of high-quality wetlands. Existing facilities (a heavily utilized golf course and recreation area with ballfields and picnic grounds) would be displaced. The impacts on freshwater wetlands would require mitigation.

The alternatives analysis concluded that the site was not feasible. Moreover, since conducting the analysis, the City has begun clearing the site for the construction of a water filtration plant that was approved by State and City officials in 2004, so the site is no longer available. The City will replace the driving range and clubhouse on top of the completed facility, and thus it would be unavailable for stadium use.

PELHAM BAY PARK

The alternatives analysis concluded that the use of Pelham Bay Park for a stadium was not feasible. The site is poorly served by public transit, and it is expected that only 5 percent of visitors would arrive by mass transit. No. 6 subway service would have to be extended north (from the southern portion of the park) to provide sufficient service to the site. Bus service in the area is locally oriented and not a viable option. Because of the low share of visitors expected to arrive by public transit, substantial parking would be required, which would occupy a large area of the park.

The existing transportation network would not be sufficient to accommodate the demand from a stadium use. Access to the general area is from the Hutchinson River Parkway and the New England Thruway, which do have capacity for additional vehicles in this location. Additional ramp connections to the Hutchinson River Parkway and the New England Thruway, new interchanges, and peripheral roads would be needed to access the site.

Siting the stadium and parking fields within Pelham Bay Park would require the loss of approximately 190 acres of landscaped parkland, including 12 acres of high-quality wetlands, for which mitigation would be required. A heavily used public golf course would also be displaced.

WEST SIDE RAIL YARD

This site was considered in the late 1990s, and was determined to be a feasible alternative, but was not pursued because of a lack of funding at the time. Subsequently, and during the proposed project's planning process, the site was committed by the City and State for the development of a new multi-use facility, including a stadium to be used by the New York Jets football team and the 2012 Olympics. While these two projects are no longer under consideration, the City and State will likely continue to pursue development of the site that would not contemplate a new Yankee Stadium. Furthermore, the use of this site would not be consistent with the project objective of remaining in a location near the historical home of the Yankees in The Bronx.

OTHER SITES NEAR THE EXISTING YANKEE STADIUM

The project sponsors also considered other sites near Yankee Stadium, particularly locations to the south of the stadium. Three areas were identified, as shown on Figure 22-1. These included the portion of Macomb's Dam Park adjacent to Ruppert Place (Site I), the site of existing Garage 8 and its surroundings, south of East 157th Street (Site II), and the Harlem River waterfront (Site III). Other locations south of Yankee Stadium, primarily in the Bronx Terminal Market area, are slated for other development and therefore would not be available as alternative stadium sites. As described below, all three sites considered would not meet the basic physical criteria for the new stadium, as follows:

- Site I, at 372,752 square feet (8.6 acres) is too small to accommodate the proposed stadium, which requires a footprint of at least 518,000 square feet (13.3 acres). As described in Chapter 1, "Project Description," the most recently (since 2000) constructed stadiums have an average stadium site footprint of 15.5 acres. In addition, use of this site for the proposed stadium would entail the loss of a large site to accommodate required parking for the Yankees (Garage A). This parking could not be relocated nearby without using additional parkland (see discussion of Waterfront Garage Alternative in section D of this chapter). Since Site I would not meet the required footprint size for a new stadium and would remove

the largest proposed parking site and necessitate unacceptable locations to compensate for that loss, it was eliminated from further consideration.

- Site II, at 354,431 square feet (8.1 acres), is also too small to accommodate a new stadium, and the use of Site II would require the removal of existing Yankee Stadium Garage 8 and its 2,212 parking spaces, as well as acquisition of private property. Since a nearby site with room to accommodate the spaces now in Garage 8 is not available without using additional parkland (see Waterfront Garage Alternative in section D of this chapter), this alternative would reduce number of parking spaces as compared to today. For these reasons, Site II was eliminated from further consideration.
- Site III, at 177,537 square feet (4.1 acres), is the smallest of the three sites and would be completely inadequate to accommodate an appropriately sized stadium. Furthermore, Site III would be a considerable distance from the existing and proposed Yankee Stadium parking lots and structures east of the Major Deegan Expressway, the subway, and buses. Since Site III would not provide an adequate footprint for a new stadium and since it would have poor access, it was eliminated from further consideration.

RENOVATION

Renovation of the existing stadium in its current location was determined to be infeasible because it would not achieve the project's goals and objectives. The renovation alternative would involve limited, primarily cosmetic changes and would not change the basic size, shape, or layout of the stadium. One of the project's major goals is to expand the stadium—i.e., to significantly change its size. There is insufficient space within the existing stadium to accommodate the extensive needs and requirements for transforming it into a modern-day stadium. As detailed in Chapter 1, "Project Description," all aspects of the current stadium are inadequate to support baseball and stadium operations, and to meet the needs of fans, players, Yankees management and the media. Many back-of-the-house functional areas are seriously out-of-date or simply do not exist and would have to be added. With intense competing demands for the very limited space in the stadium, it would not be possible to expand space for the players, which is currently badly constrained. Adequate practice space and batting cages are lacking, and there is only one weight room, which must be shared by both the Yankees and visiting teams. For the stadium to function properly and provide a comfortable experience for fans, players, and the press, a nearly 100 percent increase in public concourse and fan amenity areas would be required. This cannot be accomplished as a renovation, or with a few incremental changes. In fact, major demolition and reconstruction would be required for any meaningful expansion, because of the stadium's poured-in-place concrete structure. Moreover, although new seats could theoretically be provided as part of a renovation, the decks could not be reconstructed to orient the seats to the field properly, and with more than 41 percent now in the steeply raked upper deck, it would be impossible, as part of a renovation, to alter the location of this seating to provide better views and comfort. In addition to expanding and modernizing the stadium, another critical goal for the project is to provide adequate parking to meet the stadium's existing demand. Therefore, this alternative would involve creation of new parking garages. Similar to those proposed for the proposed project, these garages would have to be built on other parkland or be built along the waterfront, which, as discussed below in Section D, "Waterfront Garage Alternative," would be infeasible, given the required height of the structure, and, further, it would conflict with public waterfront policies and would result in unmitigable impacts that would not occur with the proposed project.

RECONSTRUCTION

Reconstruction of the stadium on the existing site was also considered. As noted above, the existing stadium has insufficient space to accommodate modern-day baseball and stadium operations, and the stadium site itself is not large enough to allow the needed expansion at the site. To modernize the stadium and provide adequate area for pedestrian concourses, back-of-the-house operations, and improved facilities for fans, players, Yankees management and the media, the footprint would need to be expanded by 3.9 acres, to a total of 13.3 acres. (As described in Chapter 1, "Project Description," and indicated above, the most recently constructed stadiums have an average stadium site footprint of 15.5 acres.) To expand the stadium structure while retaining the field in its current location, in a way that would allow the construction of a full concourse around the playing field, a 65-foot-wide ring around the existing stadium would have to be created. However, the stadium site is not large enough to accommodate this ring, because of the presence of East 161st Street, River Avenue (and the No. 4 elevated subway), and East 157th Street. Even without a full concourse encircling the playing field, an expansion of the stadium's seating areas would extend into Macomb's Dam Park and East 157th Street, and potentially into East 161st Street.

Thus, any "reconstruction" of the stadium on its current site would require shifting the playing field away from River Avenue so that the expanded stadium would not be constrained by the presence of that street and the elevated subway. Such reconstruction would therefore require complete demolition of the existing stadium and construction of a totally new stadium on a bigger site that would extend westward from the existing site across Ruppert Place and the portion of Macomb's Dam Park adjacent to Ruppert Place. This alternative was found unacceptable and infeasible, as follows.

A stadium on the south side of East 161st Street between River and Jerome Avenues might be large enough to meet stadium criteria, but the result would be sharply inferior to the proposed project and would not meet several key project objectives. Construction on this site would displace the recreational facilities in the portion of Macomb's Dam Park west of Ruppert Place, but would not provide the opportunity for new parkland and replacement recreational facilities at the site of the existing stadium. In light of community concerns with replacing public ballfields along the Harlem River waterfront—the only site that might be available as replacement parkland under this alternative—this would result in an adverse impact on parkland that would not occur with the proposed project. Moreover, Garage A could not be built in the location proposed for the project. Therefore, this alternative would either fail to provide adequate off-street parking, which is one of the stated goals of the project; require that Garage A be built on other parkland; or necessitate that Garage A be built along the waterfront, which, as discussed below in section D, "Waterfront Garage Alternative," would be infeasible, given the required height of the structure, and, further, would conflict with public waterfront policies and result in unmitigable impacts that would not occur with the proposed project.

The reconstruction alternative is also infeasible because demolition and reconstruction of the stadium in an area containing today's Yankee Stadium site would require the relocation of the Yankees to another venue for approximately four years. Of the various sports venues in the City, only Shea Stadium could accommodate a major-league baseball team. Thirty years ago, when the Yankee Stadium was undergoing major reconstruction, the Yankees played for three seasons at Shea Stadium. This is not possible today. The Mets are poised to build a new Shea Stadium next to the existing facility, which is widely acknowledged to be out of date. Having the Yankees play along with the Mets during construction of the new stadium would greatly

exacerbate the parking impacts of the Shea Stadium project during its construction. Instead of games on 81 days, there would be games on 162 days during the approximately six-month baseball season. The current plans for parking during Shea construction include use of grassy areas and parking lots in the park, use of land beneath the Van Wyck Expressway, and the parking area for the former Ederle Theater; all of these areas are distant enough from the stadium to require shuttle buses. The likelihood of games at Shea Stadium conflicting with the U.S. Open at the Tennis Center in Flushing Meadows-Corona Park would be substantially increased. Use of the park fields for parking would displace recreational uses in those areas. Given the addition of the Yankees' schedule to that of the Mets and the U.S. Open, these areas would be effectively lost to park users during the warm weather seasons for as much as four years or more. In addition, the relocation would be particularly disruptive to the Yankees, and could be achieved only at a great cost—not only the cost of relocation, but also the costs related to loss of revenue from team sponsors who could not be accommodated at Shea. These cost penalties would likely be reflected in a substantial increase in public sector contributions to the project. For all of these reasons, any option requiring relocation of the team is completely unacceptable to the Yankees.

C. NO ACTION ALTERNATIVE

DESCRIPTION

With the No Action Alternative, a new stadium would not be constructed within portions of Macomb's Dam and John Mullaly Parks, and the existing stadium would remain in its current location. Regular maintenance of the existing stadium would occur, but there would be no investment to expand or upgrade the facility. Furthermore, the City would not build new parking structures, and parking Lots 12 and 13D would be removed with the construction of Gateway Center at Bronx Terminal Market, resulting in a loss of parking as compared to today. Existing parkland would not be displaced, but most new and renovated parkland would not be provided. Conditions under the No Action Alternative are described in each chapter as "The Future Without the Proposed Project." The No Action Alternative is specifically compared to the proposed project, below.

ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The No Action Alternative would not result in an increase in parking facilities or parklands in the vicinity of Yankee Stadium. Furthermore, the waterfront would not be developed under the No Action Alternative. Similar to the proposed project, the No Action Alternative would not result in a substantial change in the land use, zoning, or applicable public policy goals for the project site or the study area. Therefore, the No Action Alternative would not result in significant adverse impacts on land use, zoning, or public policy.

SOCIOECONOMIC CONDITIONS

Similar to the proposed project, the No Action Alternative would not result in direct or indirect displacement of residents and businesses.

With the No Action Alternative, New York City would continue to collect rent on the existing stadium. Over the next 30 years, the City would collect $497 million in rent. However, the City

must spend money for stadium upkeep, which would total $574 million over the next 30 years. In total, the City would realize a direct deficit of $77 million under the No Action Alternative. With the proposed project, the City would not collect rent on the new stadium, but it would also not expend funds for stadium upkeep. As detailed previously, the No Action Alternative would result in a fiscal detriment for the City as compared to the proposed project.

The new stadium would generate approximately $58 million more annually in direct expenditures than the existing stadium. These new direct expenditures have fiscal benefits in terms of new jobs, new tax revenues, and subsequent indirect expenditures. Compared with the existing stadium, the proposed project would result in 1,200 new jobs, $14.3 million in new tax revenues, and a total of nearly $116 million in new spending. These fiscal benefits would not be realized with the continued operation of the existing stadium under the No Action Alternative. In addition, annual operation of the new parking garages would result in an estimated 33 jobs, 0.5 million in tax revenues, and a total of $5.4 million in economic output within New York City.

Construction of a new stadium, new garages, and new parks as planned with the proposed project would produce 15,484 new construction jobs, $2.05 billion in direct and indirect construction expenditures, and $73.3 million in new tax revenues. With the No Action Alternative, the local economy would not benefit from these construction expenditures.

Neither the proposed project nor the No Action Alternative would result in significant adverse impacts on socioeconomic conditions. However, the No Action Alternative would not produce the fiscal benefits that would be realized with a new stadium.

OPEN SPACE

Unlike the proposed project, the No Action Alternative would not displace parkland, nor would it cause a temporary loss of recreational facilities in the project area during construction. However, the No Action Alternative would not result in a 4.63-acre net increase in accessible open space, including 5.82 new acres of recreational waterfront parks and esplanade that would be provided as part of the proposed project. Therefore, although the No Action Alternative would not result in significant adverse impacts on open space, it would not provide new and enhanced recreational facilities and would, therefore, not have the benefits to parklands that would be realized with the proposed project.

SHADOWS

Because the No Action Alternative would not result in new parking structures, it would not increase shadows on parklands as compared to today, but the existing stadium would continue to cast shadows on surrounding parks. However, similar to the proposed project, the No Action Alternative would not result in significant adverse impacts from stadium shadows since the duration and coverage of shadows would not affect vegetation or park usage. Portions of the parks that would be in shadow contain mostly active recreation uses, which are less affected by shadow than passive uses. In addition, several other portions of these parks are available for recreational use during the times the incremental shadows from the stadium would occur.

HISTORIC RESOURCES

The No Action Alternative would not have significant adverse impacts on Buildings G, H, and J of the Bronx Terminal Market as with the proposed project. In the No Action Alternative, these buildings would remain. Since the No Action Alternative would not result in construction of

Parking Garages A and C, it would not obstruct views of the Macomb's Dam Bridge Approach that would be obscured with the proposed project.

URBAN DESIGN AND VISUAL RESOURCES

Neither the No Action Alternative nor the proposed project would result in significant adverse impacts on urban design or visual resources.

Since the No Action Alternative would not result in the construction of Parking Garages A and C, it would not result in the contextual impacts on the Macomb's Dam Bridge Approach that would occur with the proposed project. This alternative would also not affect Macomb's Dam and John Mulally Parks, visual resources in the area, and it would preserve the mature trees in those parks and along the streets. However, since the No Action Alternative would not provide new public open space along the Harlem River, it would not provide for the new visual resources that would be realized with the proposed project.

NEIGHBORHOOD CHARACTER

With the No Action Alternative, Yankee Stadium would not be relocated and the effects of this relocation would not occur. However, existing parkland would not be modernized and enhanced, new parkland and a waterfront esplanade would not be constructed, and streetscape elements would not be improved. Like the proposed project, the No Action Alternative would not result in significant adverse impacts to neighborhood character on game days as compared to today, but it would not provide for the same benefits to the overall neighborhood character that would be realized with the proposed project.

NATURAL RESOURCES

Like the proposed project, the No Action Alternative would have no significant impact on natural resources. However, with the No Action Alternative, parking facilities along the waterfront would not be replaced with parkland. Since impervious surfaces would remain on the river's edge, the No Action Alternative does not offer the potential to reduce run-off into the Harlem River.

The No Action Alternative would not result in the removal of mature street trees or the alteration of existing parkland, both of which may serve as terrestrial habitats. However, the No Action Alternative would not result in an increase in parkland, which would increase natural habitats.

WATERFRONT REVITALIZATION PROGRAM

With the No Action Alternative, parking facilities along the waterfront would remain. In contrast, the proposed project would replace some parking uses on the waterfront with recreational uses and would re-establish physical and visual public access to the Harlem River. The No Action Alternative would not provide new public waterfront access or recreational opportunities and, therefore, would not offer the same benefits to the coastal zone as the proposed project.

INFRASTRUCTURE

Compared with the proposed project, the No Action Alternative would demand approximately 110,000 fewer gallons per day of water and approximately 26,000 fewer gallons per day of

sanitary sewage disposal. However, neither the No Action nor the proposed project would result in significant adverse impacts on the City's water supply or sanitary sewage systems.

SOLID WASTE AND SANITATION

Because the No Action Alternative would have a higher seating capacity than the proposed project, it would generate approximately 1 ton more solid waste during a sold-out game. However, neither the No Action nor the proposed project would result in significant adverse impacts on solid waste and sanitation services.

ENERGY

The proposed project would increase the energy consumption by approximately 46 billion BTUs as compared to today, which is mostly attributable to energy demand from the four new parking garages. Because the No Action Alternative would not result in new parking facilities, this increase in energy demand would not occur. However, neither the No Action Alternative nor the proposed project would result in significant adverse energy impacts.

TRAFFIC AND PARKING

The No Action Alternative would result in the same volume of auto trips being generated to and from Yankee Stadium as would the proposed project. However, with the No Action Alternative, there would continue to be the same substantial shortfall in the amount of off-street parking available to Yankees fans on game-days, and this substantial shortfall would continue to lead to an excessive amount of traffic circulating through the area in search of hard-to-find legal, available parking spaces. Stadium-generated traffic would continue to heavily use local streets for parking, and would continue to illegally park along the service road of the northbound Major Deegan Expressway and to also double park and illegally park on local streets. With the proposed project, there would be a significantly increased amount of off-street parking provided at the stadium, with a net increase of over 3,000 off-street parking spaces. This would result in less circulation of stadium traffic on local streets, less use of local residential streets for parking by Yankees fans, and significant decreases in illegal parking.

Under the No Action Alternative, traffic patterns generated by the Stadium, meaning the routes taken by auto traffic, would differ from those expected for the proposed project. With both the No Action Alternative and the proposed project, the Major Deegan Expressway would be the major route leading Yankees traffic to and from the stadium, with a total of about 80 percent using this major limited-access highway. With the No Action Alternative, however, a larger volume of Yankees traffic would use street connections south of 157th Street to connect to and from existing garages, while under the proposed project, more traffic would connect to new parking garages using Jerome Avenue and Macomb's Dam Bridge Approach since there would be three new major parking garages along those two local roadways.

With the No Action Alternative, out of the more than 104 individual traffic movements analyzed at 24 intersections in the study area, 21 traffic movements would operate at unacceptable level of service (LOS) E or F conditions in the weeknight pre-game arrival peak hour, 16 traffic movements would be at LOS E or F in the weeknight post-game departure peak hour, 31 traffic movements would be at LOS E or F in the weekend pre-game arrival peak hour, and 38 traffic movements would be at LOS E or F in the weekend post-game departure. With the proposed project, there would be a larger number of traffic movements operating at LOS E or F conditions—38 movements in the weeknight pre-game arrival peak hour out of the 125 traffic

movements at the 34 intersections analyzed for the proposed project (this includes new intersections created at entrance/exit driveways at proposed parking garages), 30 movements in the weeknight post-game departure peak hour, 37 movements in the weekend pre-game arrival peak hour, and 50 movements in the weekend post-game departure peak hour.

With the No Action Alternative, the Major Deegan Expressway would continue to operate at unacceptable levels of service E and F during all four traffic analysis periods throughout the corridor adjacent to the existing stadium. With the proposed project, nearly all levels of service would remain the same as with the No Action Alternative, but there would be significant impacts at a number of locations where traffic densities (i.e., the volume of traffic per mile per lane) would be expected to increase beyond CEQR thresholds.

With the No Action Alternative, there would be no additional traffic mitigation measures in place beyond those that are implemented under existing conditions on game days. With the proposed project, a series of conventional traffic engineering measures would need to be implemented to increase capacity at significantly impacted intersections. Such measures would include signal phasing and timing modifications at currently signalized intersections, the installation of traffic signals at some currently unsignalized intersections, on-street parking restrictions and enforcement of existing parking regulations at key locations, the use of traffic cones or other physical measures needed to delineate the traffic lanes needed for improved traffic capacity, and the use of portable variable-message signs (VMSs) to direct traffic at key locations on the Major Deegan Expressway. Additional traffic mitigation measures, as described in Chapter 21, "Mitigation," would also include the implementation of a comprehensive game-day traffic management plan, such as the management plan that occurs today for the existing stadium and would occur under the No Action Alternative, which includes street closures, turn prohibitions, traffic diversion strategies, and the deployment of a sufficient number of NYPD traffic enforcement agents (a.k.a., traffic control officers) needed to maintain traffic flow and pedestrian safety. The proposed mitigation measures under the proposed project would mitigate all but three local intersections.

TRANSIT AND PEDESTRIANS

The No Action Alternative would not result in the need to divert the Bx13 bus route to East 164th Street as compared to the proposed project. The operation of subway stairways and control areas would also differ. For the weekday and Saturday pre-game period, the No Action Alternative would result in less congestion and improved conditions on stairways A, C, D, E, P12, and P16 at the 161st Street-Yankee Stadium station; however, stairways F1, F2, and G1 would have a poorer LOS. In the post-game periods, the No Action Alternative would result in substantial improvement in the operation of stairways A, C, D, E, P11, and P15 as compared to the proposed project, but the operation of F1, F2, G1, G2, H1, H2, P1, P3, P7, and P8 would be worse. These differences in the operation of subway stairways result from the shifting of passengers between the north side and south side of East 161st Street, depending on the stadium's location. While this shift would also result in different volumes through station control areas, adequate capacity is available for both the No Action Alternative and the proposed project. As stated in Chapter 21, "Mitigation," stairway widenings would not be feasible to alleviate congested conditions under the proposed project. This would also be true for the congested stairways projected for the No Action Alternative.

With the No Action Alternative, pedestrian travel would be concentrated south of East 161st Street, but a substantial number of pedestrians would cross the intersection of East 161st Street

and River Avenue to travel between subways and parking areas to the stadium site. With the proposed project, pedestrian activities would shift north of East 161st Street near subway entrances and west and north of the proposed stadium where new parking facilities would be located. As a result, the proposed project would result in substantially more pedestrians crossing East 161st Street; however, the proposed project would include a widening of the west crosswalk at the intersection with River Avenue and new crosswalks at Ruppert Plaza and Macomb's Dam Bridge Approach. These new and/or expanded crosswalks would not be provided under the No Action Alternative. Therefore, with the No Action Alternative, seven of the eight crosswalks at the River Avenue and East 161st Street intersection would operate at mid-LOS D or worse in the weekday pre-game period, compared with two of eight crosswalks with the proposed project. In the weekday post-game period, the No Action and proposed project would result in mid-LOS D or worse conditions for four and three of the eight crosswalks, respectively. In the weekend pre- and post-game periods, the No Action Alternative would result in mid-LOS D or worse conditions for five and six of the eight crosswalks, respectively, while the proposed project would cause mid-LOS D or worse conditions on two of the eight crosswalks during both peak periods, respectively. Generally, the proposed project would result in substandard operation of the north and east crosswalks while the No Action Alternative would result in substandard operations on the east, west, and south crosswalks. At the River Avenue intersections with West 153rd and West 157th Streets, there would be a lower concentration of pedestrian traffic on game days with the proposed project. With the No Action Alternative, there would be substandard operating levels at the River Avenue/West 153rd Street west crosswalk and at the River Avenue/West 157th Street north crosswalk during both weekday and weekend post-game peak periods—two crossings that would otherwise operate at acceptable levels with the proposed project. With the No Action Alternative, there would be no significant adverse impacts at Ruppert Place, as are predicted for the proposed project. In addition, the No Action Alternative would not require substantial widening of the north crosswalk at River Avenue and East 161st Street or closing a portion of River Avenue north of the intersection, additional reconfiguration of the new crossings at Ruppert Plaza and Macomb's Dam Bridge Approach, or replacing the existing pedestrian bridge with one that connects to Garage 8 and spans over East 157th Street. At other crosswalk locations, game-day congestion and widening requirements would be similar for the No Action Alternative and the proposed project.

AIR QUALITY

Overall, similar to the proposed project, the No Action Alternative would not result in significant adverse air quality impacts.

NOISE

Similar to the proposed project, the No Action Alternative would not result in significant adverse impacts from increased noise levels at sensitive receptors. Under the No Action Alternative, high ambient noise levels would persist in existing parks; however, since there would be no new parks, there would be no high ambient noise levels in new parks, as with the proposed project.

CONSTRUCTION

No construction would occur on the site and at all other locations in the No Action Alternative, and the impacts associated with the construction of the proposed project would not occur, including the anticipated significant adverse noise impacts. However, with the No Action

Alternative, the local area and New York City would not realize the economic benefits attributable to construction expenditures and construction jobs.

PUBLIC HEALTH

Neither the No Action Alternative nor the proposed project is expected to result in significant adverse impacts to public health.

D. WATERFRONT GARAGE ALTERNATIVE

DESCRIPTION

The EIS impact analyses have identified significant traffic and pedestrian impacts associated with the concentration of parking spaces in proposed Parking Garages A and C; and an adverse but not significant impact on the historic bridge approach was also identified. Therefore, this chapter considers an alternative that would reduce the capacity of proposed Parking Garages A and C and attempt to transfer the parking spaces to another site, specifically Parking Lots 13A and 13B on the waterfront (see Figure 22-2).

Similar to the proposed project, the Waterfront Garage Alternative would include a new stadium in Macomb's Dam Park on the north side of East 161st Street. Parking Garage B would also be constructed in John Mulally Park; however, Parking Garages A and C would be reduced in size and structured parking would be built on the waterfront in the location of Parking Lots 13A and 13B. Under the Waterfront Garage Alternative, it is estimated that 1,000 to 1,500 spaces would be removed from Parking Garages A and C as compared to the proposed project. Thus, the waterfront garage would need to accommodate the 852 spaces currently available in Parking Lots 13A and 13B as well as the spaces that would be removed from Parking Garages A and C for a total of 1,852 to 2,352 spaces.

The long, narrow shape of the waterfront site, which is confined by the Major Deegan Expressway and its ramps, the Macombs Dam Bridge, and the Oak Point rail link (which runs above the river parallel to the shoreline), would constrain the footprint of the garage and would require at least a four-story garage at this location to fully accommodate the 1,852 to 2,352 spaces. In order to make full use of the long, narrow waterfront parcel for the development of one garage, the garage would have to be built over a small inter-pier area at the southern end of the site. This would cover over approximately 0.36 acres of littoral tidal wetlands, which would likely require mitigation. Additional approvals in the form of individual permits from the U.S. Army Corps of Engineers and the New York State Department of Environmental Conservation (NYSDEC) would be necessary. These permits would require a more substantial and lengthy review from both agencies than would be required with the proposed project.

To avoid covering 0.36 acres of wetland and bridging over the Major Deegan Expressway exit ramp, two separate garages would have to be developed—a garage each on Lots 13A and 13B—separated by the Major Deegan Expressway exit ramp to Exterior Street (from Exit 5). To accommodate over 1,800 spaces, a single garage on either lot would range up to 16 stories in height; this is not considered feasible from a functional design perspective and therefore not a feasible or practicable alternative.

The special regulations relating to the waterfront area (Section 62 of the New York City Zoning Resolution) would apply to the design of these two garages. Specifically, the waterfront zoning requires (Section 62-341(7)) that the ground floor of the garage contain area that is not garage

space, such as retail or other uses. The waterfront zoning regulations (Section 62-322) also require that a 40-foot yard be maintained along the farthest inboard point of the bulkhead line—parking is prohibited in this yard area. Waterfront zoning requirements also include upland connections to adjoining streets every 600 feet and a 40-foot walkway along the shore (Section 62-40). In addition, there are height and setback requirements under the waterfront regulations. Any wall facing the shoreline above a height of 60 feet may not be more than 100 feet tall (Section 62-341(6)). An additional 30-foot setback is required along the length of the waterfront yard above a height of 60 feet and 15-foot setbacks along any upland connections above the 60-foot height (Section 62-341(a)).

To accommodate more than 1,800 spaces in two garages and comply with the waterfront zoning requirements, a garage on Lot 13B would require at least eight levels and a garage on Lots 13A would require 11 levels. These heights would substantially exceed the height of the adjacent, elevated Major Deegan Expressway.

Like the proposed project, under the Waterfront Garage Alternative, recreational facilities would be constructed atop Parking Garages A and C and a new waterfront park would be constructed south of the existing Parking Lots 13A and 13B. Furthermore, a publicly accessible ballfield would be constructed on the site of the existing Yankee Stadium. Therefore, all of the effects associated with the new stadium, reuse of portions of the existing stadium and replacement of recreational facilities would be essentially the same as with the proposed project. The discussion below concentrates only on those elements that differ from the proposed project.

ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

LAND USE, ZONING, AND PUBLIC POLICY

The New York City Zoning Resolution contains special regulations to guide development along the City's waterfront in order to, among other reasons, maintain and re-establish physical and visual public access to and along the waterfront; promote a greater mix of uses in waterfront developments in order to attract the public and enliven the waterfront; create a desirable relationship between waterfront development and the water's edge, public access areas, and adjoining upland communities; preserve historic resources along the City's waterfront; and to protect natural resources in environmentally sensitive areas along the shore.

The Waterfront Garage Alternative would not be consistent with several of the goals of the special waterfront regulations of the New York City Zoning Resolution. Parking structures at this location would not be considered a water dependent use. The Waterfront Garage Alternative would impede physical and visual public access to an approximately 1,700 linear feet portion of the Harlem River. The Waterfront Garage Alternative would block views of nearly all of the Macombs Dam Bridge camelback truss and obstruct views of the entire historic Macomb's Dam Bridge Approach from the south as well as half of the approach from the north. Development of one large garage would require covering approximately 0.36 acres of wetland and would also not be consistent with the waterfront zoning goals to be protective of natural resources. Therefore, unlike the proposed project, the Waterfront Garage Alternative would not be consistent with the New York City Zoning Resolution special waterfront regulations.

OPEN SPACE

Both the Waterfront Garage Alternative and the proposed project would result in benefits to parklands and recreational facilities. However, because the size of Parking Garage C would be

reduced with the Waterfront Garage Alternative, it would be possible to locate its rooftop recreational facility at the level of the Macomb's Dam Bridge Approach, which would improve access to this facility as compared to the proposed project. This alternative would have the same impact on open space, due to its loss of recreational facilities during construction as the proposed project.

SHADOWS

The construction of new one or two parking structures along the waterfront would create transient new shadows on the Harlem River and the Macomb's Dam Bridge Approach, which would not occur with the proposed project. However, since neither resource is considered a sun-sensitive receptor, these new shadows would not constitute a significant adverse impact.

HISTORIC RESOURCES

The construction of Parking Garages A and C and one or two waterfront parking structures under the Waterfront Garage Alternative would obstruct views of the entire historic Macomb's Dam Bridge Approach from the south as well as half of the approach from the north. It would block views of nearly all of the bridge's camelback truss. This would constitute a significant adverse impact on the historic resource that could not be fully mitigated. Such an impact was not identified for the proposed project, because although Parking Garages A and C would block views of half of the approach, the remaining half including the truss, would remain visible.

URBAN DESIGN AND VISUAL RESOURCES

As described above, the construction of one or two waterfront parking structures in combination with Parking Garages A and C would substantially obstruct views of the Macomb's Dam Bridge Approach and the bridge's camelback truss, which would result in a significant adverse impact, and would adversely affect views of the river from other locations, which would be detrimental to the visual quality of the Harlem River. These impacts on visual resources would not occur with the proposed project. These significant adverse impacts would remain unmitigated.

NEIGHBORHOOD CHARACTER

The Waterfront Garage Alternative would result in significant adverse impacts on views of the Macomb's Dam Bridge Approach and the bridge's camelback truss, that would not occur with the proposed project. However, the Waterfront Garage Alternative would reduce traffic impacts on Jerome Avenue and the Macomb's Dam Bridge Approach as compared to the proposed project. By placing a parking structure at the water's edge, the Waterfront Garage Alternative would be inconsistent with the City's Local Waterfront Revitalization Plan. Although the effects of the Waterfront Garage Alternative would differ from the proposed project, neither alternative would result in significant adverse impacts on neighborhood character.

NATURAL RESOURCES

As noted above, development of one parking garage for the Waterfront Garage Alternative would cover approximately 0.36 acres of what is now a small inter-pier basin. Like the basins along the waterfront to the south, this basin has a probable water depth of 1 to 5 feet, which would classify it as a NYSDEC littoral zone tidal wetland. Even though it would not be considered to be a high-quality wetland and the garage would deck over it rather than fill it, the permanent cover would constitute an adverse impact requiring mitigation in the form of a

replacement wetland of higher quality. This impact and mitigation requirement would not occur with the proposed project.

WATERFRONT REVITALIZATION PROGRAM

Similar to the proposed project, the Waterfront Garage Alternative would provide new parkland on the Harlem River, which would improve public access to the waterfront. However, the Waterfront Garage Alternative would significantly adversely impact views of the Macombs Dam Bridge structure and camelback truss from this new waterfront park and would block views of the river from other locations, which is detrimental to the visual quality of the Harlem River. Furthermore, although the Waterfront Garage Alternative would not change the use of this waterfront parcel, the bulk of the structure that would be needed to house the requisite number of parking spaces would result in significant new construction on the Harlem River that is inconsistent with the City's current policy for development of this waterfront area.

Specifically, the Waterfront Garage Alternative would be inconsistent with Policies 8 and 9 of the Waterfront Revitalization Program (WRP)—to provide public access along New York City's coastal waters and protect scenic resources that contribute to the visual quality of the New York City coastal area, respectively. Overall, both the proposed project and the Waterfront Garage Alternative would improve public access to the waterfront; however, the Waterfront Garage Alternative would diminish the historic and visual quality of the waterfront, would intensify a use on the waterfront that is neither water-dependent nor water-enhancing, and therefore would be inconsistent with the goals and objectives of the Waterfront Revitalization Program.

TRAFFIC AND PARKING

The Waterfront Garage Alternative might have the potential to reduce significant traffic impacts at intersections along Jerome Avenue and the Macomb's Dam Bridge Approach that would be expected to occur under the proposed project. Under this alternative, a parking structure with approximately 1,852 to 2,352 parking spaces would be built along the waterfront with access via southbound Exit 6 off the Major Deegan Expressway to "Bronx Terminal Market." Return trips to the northbound expressway would be made via a U-turn onto the ramp from Exterior Street that leads to the expressway, near East 157th Street.

Under the proposed project, a significant volume of traffic approaching the stadium via both the northbound and southbound Major Deegan Expressway would access Parking Garages A and C via either Jerome Avenue or the Macomb's Dam Bridge Approach. The resulting projected impacts at these two streets' intersections with East 161st Street would be difficult to fully mitigate by standard traffic engineering improvements (e.g., signal phasing and timing modifications, lane re-striping, on-street parking regulation modifications, and enforcement).

The Waterfront Garage Alternative would retain a higher percentage of southbound stadium traffic on the southbound Major Deegan Expressway directly to the waterfront garage and would lead exiting vehicles more directly onto the northbound Major Deegan Expressway than would the proposed project. Thus, a substantial portion of stadium traffic that would have used Jerome Avenue and Macomb's Dam Bridge Approach with the proposed project would not pass through these critical location, which would reduce volumes at these locations. Although this shift in parking may not fully mitigate the impacts of the proposed project that were identified at these locations, it would decrease the anticipated vehicle delays, and would require, at most, a less stringent mitigation package than the proposed project. However, the departure of the substantial volume of autos from the waterfront site under the Waterfront Garage Alternative post-game

would have the potential to congest traffic conditions at the northern end of Exterior Street where u-turns from the waterfront garage would conflict with northbound Exterior Street traffic also heading to the northbound Major Deegan Expressway.

TRANSIT AND PEDESTRIANS

Under the Waterfront Garage Alternative, transit service and usage would remain similar to conditions under the proposed project. However, pedestrian routes to the proposed stadium would vary. Under this Waterfront Garage Alternative, more pedestrians would need to cross over to the east side of the Metro-North Railroad tracks via the pedestrian bridge, which currently accommodates patrons traveling via the Yankee Clipper Ferry or parking at Parking Lots 13A, 13B, 13C, and 13D. With a new parking garage constructed at existing Parking Lots 13A and 13B, an estimated 4,125 additional pedestrians during game-day peak hours could be traversing this pedestrian bridge. This level of pedestrian volume increase could be accommodated by the proposed new pedestrian bridge, which would be made ADA compliant, connect with the second level of Garage 8, and span over East 157th Street onto Ruppert Plaza under the proposed project.

Under the Waterfront Garage Alternative, more pedestrians would need to travel the length of Ruppert Plaza to the southwestern corner of the existing stadium than with the proposed project. These pedestrians would also need to cross East 161st Street at Ruppert Plaza. It is expected that Ruppert Plaza would be designed to meet the increased demand. However, at the proposed at-grade East 161st Street crossing at Ruppert Plaza, peak game-day operations, which were already projected to be at congested levels under the proposed project, would be further exacerbated. At the same time, conditions at the Macomb's Dam Bridge Approach, which were also identified as a critical vehicular and pedestrian location under the proposed project, would realize a lower level of activity, with resulting improvements in both vehicular and pedestrian traffic flows as compared to the proposed project.

AIR QUALITY

Like the proposed project, the Waterfront Garage Alternative would not result in significant adverse air quality impacts.

NOISE

Like the proposed project, traffic from the Waterfront Garage Alternative would not result in significant increases in noise levels at sensitive receptors. The impact of ambient noise levels on the proposed new parkland would be the same for this alternative and the proposed project.

CONSTRUCTION

The Waterfront Garage Alternative would result in the loss of Parking Lots 13A and 13B during construction, which would temporarily reduce the supply of Yankee Stadium parking. Construction at this location may also require restricted access or lane closures on the Major Deegan Expressway and its ramps at 161st Street. Therefore, the Waterfront Garage Alternative may have greater construction period impacts on traffic circulation and parking than the proposed project. The potentially significant construction noise impacts identified with the proposed project would be the same with this alternative.

CONCLUSION

The Waterfront Garage Alternative would be inferior to the proposed project and was not selected for the following reasons:

- It would be inconsistent with the goals and objectives of the New York City Zoning Resolution Waterfront Regulations.
- It would result in significant adverse impacts on historic and visual resources that could not be mitigated.
- It would be inconsistent with the goals and objectives of the Waterfront Revitalization Program.
- It would cover a littoral zone tidal wetland if one garage were constructed, constituting a significant adverse impact requiring mitigation and requiring additional regulatory approvals.
- It would likely have greater traffic and parking impacts during construction than the proposed project.
- Although it would relieve traffic congestion on Jerome Avenue and the Macomb's Dam Bridge Approach and reduce impacts at the intersections of those two streets and East 161st Street, some mitigation would still likely be required. This benefit would not outweigh the additional unmitigated impacts and the unacceptable contravention of current City policy regarding development of this waterfront that would result from the Waterfront Garage Alternative.

E. ALTERNATIVE PARK PLAN[1]

DESCRIPTION

In response to comments on the DEIS indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street, a construction schedule that would minimize the duration of time that recreational facilities would be unavailable, and concern about the visual effect of the elevated tennis concession atop parking Garage C (in fall and winter months when a tennis bubble would be inflated), NYCDPR proposes a revised program for park development, the "Alternative Park Plan."

The Alternative Park Plan would develop three ballfields at the site of the existing Yankee Stadium and locate the tennis concession at the proposed waterfront park. The Alternative Park Plan would create a unified and contiguous 17.36-acre park area south of East 161st Street containing most of the neighborhood-oriented active recreational amenities proposed as part of the project. The Alternative Park Plan would also more closely replicate the use and function of the existing Macomb's Dam Park.

The Alternative Park Plan is reflected in a modified ULURP application for approval of a major concession (Application No. C060148(A) MCX). The Alternative Park Plan would only modify the replacement recreational facilities as proposed by the project—this alternative does not include any changes to the proposed stadium or parking facilities. Specifically, the Alternative

[1] This entire section is new to the FEIS.

Park Plan includes the following elements, which are shown on attached Figure 22-3:

- Three natural turf ballfields—a baseball field, a softball field, and a little league field—would be located in the proposed parkland at the site of the existing stadium (see Figures 22-4 and 22-5). Under the proposed project, this park area would contain only one baseball field—Heritage Field.
- The existing Yankee Stadium would be completely demolished and the field would be raised with fill to bring the area to an elevation that more closely matches Ruppert Place. Under the proposed project, the playing field, dugouts, some of the field seats (no more than 3,000 seats), and locker rooms under the field seats of the existing stadium would be retained and adapted as a public baseball field. With the Alternative Park Plan, none of these features would remain. However, the Alternative Park Plan would include opportunities to "interpret" the former Yankee Stadium, such as retaining the foul poles of the existing stadium, preserving portions of the outfield (both existing and 1923 stadium layouts), locating park entrances at the major stadium gate locations, and using informational markers to denote other elements of the former stadium (e.g., the location of home plate).
- Four basketball courts would be located in the park area west of Ruppert Place. Under the proposed project, this park area would contain two basketball courts and two tennis courts, with an additional 14 tennis courts atop proposed parking Garage C. The Alternative Park Plan would accommodate all 16 tennis courts at a tennis concession along the waterfront, making room for four basketball courts in the unified central park. The other recreational facilities proposed for this park area remain unchanged from the proposed project (a full-size soccer field, a 400-meter athletic track, a little league field, nine handball courts, and a tot-lot with climbing and play equipment).
- The tennis concession would be located at the new waterfront park. Under the proposed project, the waterfront park area would contain two artificial turf ballfields and the tennis courts would be located atop proposed Garage C. The Alternative Park Plan would include 16 tennis courts at the waterfront park, consistent with the existing number of courts, and all or a portion of the courts would be covered by a bubble during the winter months (approximately 26 weeks).
- The existing Bronx Terminal Market Building J would be preserved and adapted for park uses, including a tennis house, which would provide a comfort station, administrative space for the concession, and lockers and other amenities for the tennis players. Space not used for the concession in Building J would be utilized by NYCDPR for maintenance and operation purposes. Building J is a historic (S/NR-eligible) two-story former power house that is currently vacant. Under the proposed project, Building J would be demolished, a small comfort station would be constructed in the southern portion of the waterfront park, and surface parking would be constructed at the former location of Building J. By retaining Building J, the Alternative Park Plan would not include a separate comfort station in the southern portion of the waterfront park.
- Approximately 50 parking spaces would be available for tennis patrons during non-game times in Parking Lot 13A, which is located directly to the north of and adjacent to the proposed tennis concession. Under the proposed project, parking at this location was proposed to be available only for Yankees games.
- New passive park space and a pedestrian esplanade would surround the tennis courts along the waterfront. This is similar to the pedestrian esplanade and passive park space surrounding the ballfields proposed at the waterfront park under the proposed project.

- The height of proposed parking Garage C would be one level lower than under the proposed project since the tennis concession would no longer be located on its roof. As compared to the height of Garage C under the proposed project, this reduction would be approximately 11 feet in the summer, when the tennis courts on the roof would be open air, and approximately 50 feet in the fall through spring months when the tennis bubble would be inflated.
- By retaining and adapting Bronx Terminal Market Building J for park uses, as compared to demolishing the building and using the area for surface parking under the proposed project, the Alternative Park Plan would result in an increase of 0.4 acres of usable recreational facilities at the waterfront park. However, removing the tennis concession from the roof of Garage C would result in 2.89 fewer acres of replacement recreational facilities than the proposed project at this location so that, overall, the Alternative Park Plan would result in a net increase of 2.14 acres of recreational facilities, as compared to a net increase of 4.63 acres under the proposed project.

ALTERNATIVE COMPARED WITH THE PROPOSED PROJECT

LAND USE, ZONING AND PUBLIC POLICY

The Alternative Park Plan would develop the same amount of new parkland at the site of the existing Yankee Stadium and along the waterfront as the proposed project. Although the Alternative Park Plan would not result in new recreational facilities atop parking Garage C, this portion of Macomb's Dam Park is currently used as surface parking. Therefore, like the proposed project, the Alternative Park Plan is consistent with existing land uses in the project area and would not result in significant adverse impacts on adjacent land uses.

The Alternative Park Plan would result in the same areas to be mapped as new parkland, including the new parkland to be developed along the waterfront, and the leasing of existing mapped parkland, as the proposed project. The design and location of parking Garage D, and the requirements for special permits, would be the same for both the proposed project and the Alternative Park Plan. Under the Alternative Park Plan, the existing Yankee Stadium site would be designated as new parkland and developed with three public recreational ballfields—a public use permitted in the Yankee Stadium Urban Renewal Plan. The Alternative Park Plan would not affect any other portions of the project area located within the Amended Yankee Stadium Urban Renewal Plan. Therefore, the Alternative Park Plan, like the proposed project, is consistent with the First Amended Yankee Stadium Urban Renewal Plan.

The Alternative Park Plan would locate public tennis courts at the new waterfront park, which would be consistent with New York City Zoning Resolution special regulations to guide development along the City's waterfront, the New York City Waterfront Revitalization Program (WRP), and the Bronx Borough President's new Bronx Waterfront Plan and Yankee Stadium Neighborhood Development Plan. Like the proposed project, the Alternative Park Plan would not result in any significant adverse zoning or public policy impacts.

SOCIOECONOMIC CONDITIONS

The Alternative Park Plan, like the proposed project, would not directly displace any residential population nor any business or institutional uses. The Alternative Park Plan would relocate park and recreational facilities very close to their original location. Therefore, indirect residential displacement is not expected to occur as a result of the Alternative Park Plan. Like the proposed

project, the Alternative Park Plan would not alter existing economic patterns in the study area and so would not cause indirect displacement of businesses and institutions. The Alternative Park Plan would not significantly affect business conditions or substantially reduce employment or impair the viability of any specific industry or category of business in The Bronx or the City as a whole. Like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts to the socioeconomic character of the project's study area.

OPEN SPACE AND RECREATION

As described above, the Alternative Park Plan was developed in response to comments on the DEIS indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street and concern about the visual effect of the elevated tennis concession atop parking Garage C (in fall and winter months when a tennis bubble is inflated). The Alternative Park Plan would create a unified and contiguous 17.36-acre park area south of East 161st Street containing most of the neighborhood-oriented active recreational amenities proposed as part of the project. Like the proposed project, this new centrally located park would be larger than the total park area that would be displaced in the portions of Macomb's Dam and John Mullaly Parks located north of East 161st Street and contain new, modern facilities to replace older, and in some cases worn, facilities. By proposing three ballfields at the new park area south of East 161st Street, the Alternative Park Plan would also more closely replicate the use and function of the existing Macomb's Dam Park. The ballfields south of East 161st Street would continue to accommodate groups using multiple fields at a location simultaneously. The Alternative Park Plan would also result in a net increase of two basketball courts as compared to existing conditions.

The Alternative Park Plan would provide the same amount of new parkland as the proposed project, 15.82 acres, consisting of the current Yankee Stadium site and Ruppert Place, the waterfront park, and the new parks along River Avenue. By retaining and adapting Bronx Terminal Market Building J for park uses, as compared to demolishing the building and using the area for surface parking under the proposed project, the Alternative Park Plan would result in an increase of 0.4 acres of usable recreational facilities at the waterfront park. However, by removing the tennis concession from the roof of Garage C, the Alternative Park Plan would result in 2.89 fewer acres of active parkland use at this location. As with the proposed project, Garage C would be built on a portion of Macomb's Dam Park that is currently used for surface parking. Overall, the Alternative Park Plan would result in a net increase of 2.14 acres of open space and recreational facilities. The increased net acreage for the recreation facilities would benefit park users.

As described later under Construction Impacts the Alternative Park Plan would have a different overall construction schedule as compared to the proposed project. As a result of this construction schedule, the Alternative Park Plan would develop temporary recreational facilities to minimize, to the maximum extent practicable, the duration of time that recreational facilities would be unavailable. Like the proposed project, prior to construction of the new stadium, a temporary running course would be created around the two ballfields in the portion of Macomb's Dam Park west of Ruppert Place. This running course would be available in the spring and summer of 2006. In the fall of 2006, the area for proposed parking Garage C (existing parking Lot No. 1) would be developed with a temporary running course (suitable for walking, jogging and recreational running, but not for competitive track meets). This area would also contain a synthetic turf multi-purpose interim field. The field would be striped to accommodate a softball field and children's soccer field(s), such that either could be accommodated on a given

day, but not both at the same time. Like the proposed project, when construction displaces these temporary facilities, the esplanade surrounding the new Harlem River waterfront park would serve as a running course and would be available until the permanent track is available.

LWCF Section 6(f) Compliance

The Alternative Park Plan would result in different recreational programming at the replacement parcels associated with the requirements of Section 6(f) of the Federal Land & Water Conservation Fund Act (LWCF), as compared to the proposed project. The Alternative Park Plan would have the same proposed use for the Macomb's Dam Park conversion parcel as the proposed project, i.e., the new Yankee Stadium. As described in Chapter 4, "Open Space and Recreation," the conversion parcel (Site 1 in Table 22-1 below) currently contains a 400-meter running track with a soccer field inside the track and spectator stands at the edge of the track, a baseball field (90-foot infield), and a softball field (60-foot infield). Under the Alternative Park Plan, the waterfront replacement parcel (Site 4) would contain tennis facilities and a pedestrian promenade as compared to ballfields under the proposed project. The Alternative Park Plan would replace all the ballfields currently located on the Section 6(f) conversion parcel at the replacement parcel located south of East 161st Street and east of Ruppert Plaza (Site 2), although one 90-foot infield ballfield would be replaced by a 60-foot infield ballfied (see Table 22-1) Like the proposed project, the design of Ruppert Plaza (Site 3) would include significant landscaping, including shaded areas and passive park amenities, such as benches, resting areas, and pedestrian walkways.

Table 22-1
Alternative Park Plan Section 6(f) Parcels: Recreational Facilities

Site #[1]	Type of 6(f) Parcel	Recreational Facilities
1	Conversion	400-meter Track with Soccer Field and Spectator Stands Softball Field (60-foot infield) Baseball Field (90-foot infield)
2	Replacement	Baseball Field (60-foot infield)[2] Little League Baseball Field (90-foot infield) [2] Softball Field (60-foot infield) [2]
3	Replacement	Passive Park-Ruppert Plaza [2]
4	Replacement	Tennis Facilities (16 courts) [2]

Notes:
[1] See Figure 22-6.
[2] See Figure 22-3.
Source: NYCDPR.

All of the replacement facilities would be located within ½-mile of the converted facilities under the Alternative Park Plan. Three ballfields would be located across the street, approximately 600 feet, from the existing ballfields. Tennis facilities, not currently located on the conversion parcel, would be located at the replacement parcel along the Harlem River waterfront. Section 6(f) requires that the proposed replacement facilities are of reasonably equivalent usefulness and location as the converted property. As described above, the replacement facilities under the Alternative Park Plan—three ballfields, tennis courts, and a pedestrian promenade—would provide equal recreational usefulness to the public.

Like the proposed project, subway access to the replacement parcels under the Alternative Park Plan would generally be equivalent to that of the conversion parcel. As the replacement parcels that would contain ballfields for the Alternative Park Plan are located across the street from the

conversion parcel, they would use the same subway access at River Avenue and East 161st Street.

As described below under Construction Impacts, although all of the replacement parcels would be mapped as parkland at the outset of the project, the recreational facilities and improvements proposed by the Alternative Park Plan would be implemented over the course of the construction period, ending in 2010. By 2007, the Harlem River waterfront replacement parcel would be completed and the recreational facilities available to the public. However, during the 2009 to 2010 construction period, replacement facilities would not be available at the existing Yankee Stadium replacement parcel because the existing stadium cannot be converted as replacement ballfields under the Alternative Park Plan until the proposed stadium is completed and operational and the existing stadium can be demolished. However, as described above there would be a temporary softball field available during part of the construction period. This gap in the availability of the replacement facilities under the Alternative Park Plan would be temporary and the replacement facilities would ultimately provide reasonably equivalent recreational usefulness to the public. NYCOPR would also work with displaced baseball and softball user groups to find playing time at nearby recreational fields as close as possible to Macomb's Dam Park.

An appraisal of the fair market value of both the portion of Macomb's Dam Park that would be utilized, as well as that of the properties proposed for substitution under the Alternative Park Plan has been conducted as part of the formal conversion proposal to satisfy the Section 6(f) requirements. The remaining evaluations required under Section 6(f), as described in Chapter 4, "Open Space and Recreation," including alternatives and consistency with the Statewide Comprehensive Outdoor Recreation Plan, would be the same for the proposed project and Alternative Park Plan. Like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts to open space. The Alternative Park Plan would comply with the requirements of Section 6(f) of the LWCF and the New York State legislation authorizing the alienation of certain areas of currently mapped parkland.

SHADOWS

As proposed by the Alternative Park Plan, parking Garage C would have a lower overall height as compared to the proposed project. The existing Yankee Stadium would also be completely demolished under the Alternative Park Plan. Therefore, the incremental shadows on portions of Macomb's Dam Park would be smaller as a result of the Alternative Park Plan as compared to the proposed project. Like the proposed project, the Alternative Park Plan would not result in any significant adverse shadow impacts on open space.

HISTORIC RESOURCES

The Alternative Park Plan would result in the complete demolition of Yankee Stadium. Under the proposed project, the existing Yankee Stadium would retain certain features of the ballpark. Although Yankee Stadium has been located on its present site for more than 80 years the New York State Office of Parks, Recreation and Historic Preservation found that it has been so altered by its major renovation in 1973, that it is not eligible for listing on the State and National Registers of Historic Places, and the New York City Landmarks Preservation Commission has concurred in this conclusion. Therefore, like the proposed project, demolition of the existing Yankee Stadium under the Alternative Park Plan would not result in any significant adverse impacts to historic resources.

The Alternative Park Plan would retain and preserve Bronx Terminal Market Building J for park uses including a comfort station, administrative space for the concession, and lockers and other amenities for the tennis players. Building J is a historic (S/NR-eligible) two-story former power house that is currently vacant. Under the proposed project, Building J would be demolished, along with Bronx Terminal Market Buildings G and H (S/NR-eligible). The Alternative Park Plan would also include the demolition of Bronx Terminal Market Buildings G and H. The Alternative Park Plan, like the proposed project, would result in significant adverse impacts to historic resources due to the demolition of Bronx Terminal Market Buildings G and H, but it would preserve Building J, a benefit compared to the proposed project. An alternatives analysis, prepared and submitted to SHPO to evaluate the potential for retaining and revising Building G and H, concluded that there was no viable use for these structures under the Alternative Park Plan, since returning Bronx Terminal Building J obviated the need for any other park structures. In a letter dated February 8, 2006, (see Appendix D) SHPO concurred that there was no prudent or feasible alternative to the demolition of these structures.

The mitigation measures described in Chapter 21, "Mitigation," for demolition of Bronx Terminal Market Buildings G and H would apply to both the proposed project and the Alternative Park Plan. However, mitigation associated with the demolition of Bronx Terminal Market Building J for the proposed project would not apply to the Alternative Park Plan. Instead, NYCDPR would consult with SHPO as the design for the rehabilitation and adaptive reuse of Bronx Terminal Market J is advanced. The mitigation measures developed with the New York State Historic Preservation Officer (SHPO) would be recorded in a Memorandum of Agreement (MOA) to be entered into among the New York City Department of Parks and Recreation (NYCDPR), the National Park Service, and SHPO, and implemented to partially mitigate the effects of the Alternative Park Plan on historic resources. The MOA would also set forth the process by which NYCDPR would consult with SHPO regarding designs for the reuse of Bronx Terminal Market J and the proposed alterations to the Macomb's Dam Bridge Viaduct. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among the parties, is included in Appendix G.

URBAN DESIGN AND VISUAL RESOURCES

The Alternative Park Plan would modify the locations of the recreational facilities to be developed in the project area as compared to the proposed project. These include changing the location of the tennis courts from the roof of Garage C under the proposed project to the waterfront under the Alternative Park Plan, and changing the location of two ballfields from the waterfront under the proposed project to the existing Yankee Stadium site under the Alternative Park Plan. Since the Alternative Park Plan would create a waterfront park and provide a continuous open area of parkland south of East 161st Street, like the proposed project, this alternative would not have a significant adverse impact on the urban design of the study area.

The Alternative Park Plan would create new visual resources in the study area of a character comparable to those currently located in the area. The tennis facilities and waterfront park proposed by the Alternative Park Plan would create an active recreation space surrounded by attractive landscaping, like the proposed project, in an area that currently has no such amenities. Like the proposed project, the Alternative Park Plan would require removal of mature trees within and adjacent to the existing Macomb's Dam and John Mullaly Parks. However, since the Alternative Park Plan would completely demolish the existing Yankee Stadium structure, more trees could be planted at this proposed park area.

Like the proposed project, Parking Garages A and C under the Alternative Park Plan would reduce the visibility of the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street. Therefore, like the proposed project, the Alternative Park Plan would result in adverse—but not significant—impacts on visual resources. The most prominent and distinguished portion of the bridge—namely, its two differently configured truss structures that are west of the project area—would remain unaffected by both the Alternative Park Plan and the proposed project. It is expected that the winter tennis bubble to be erected on the waterfront, an approximately 40-foot-tall temporary structure, would not be prominently visible from the upland due to the intervening elevated Major Deegan Expressway above Exterior Street. Therefore, like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts on visual resources.

NEIGHBORHOOD CHARACTER

The Alternative Park Plan would not change the type of land uses or design and scale of development located in the study area. As described above, the Alternative Park Plan was developed in response to comments on the DEIS indicating a desire for more ballfields and contiguous park area in immediate proximity to East 161st Street and concern about the visual effect of the elevated tennis concession atop parking Garage C (in fall and winter months when a tennis bubble is inflated). Overall, the Alternative Park Plan would create a positive effect on the character of the area by creating a unified 17.36-acre park area south of East 161st Street, containing new, modern facilities to replace older, and in some cases worn, facilities. By moving two ballfields from the waterfront park to the new park area south of East 161st Street, the Alternative Park Plan would also more closely replicate the use and function of the existing Macomb's Dam Park.

The Alternative Park Plan would not change the areas to be mapped as new parkland nor the roadways to be demapped in the project area under the proposed project. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Therefore, the Alternative Park Plan would have the same peak traffic and parking, pedestrian, and noise conditions and as the proposed project. Like the proposed project, the Alternative Park Plan would not result in significant adverse impacts on neighborhood character.

NATURAL RESOURCES

The Alternative Park Plan would, like the proposed project displace the limited wildlife habitat contained in Macomb's Dam and John Mullaly Parks. Both the Alternative Park Plan and the proposed project would require the removal of mature trees within the existing Macomb's Dam and John Mullaly Parks. However, since the Alternative Park Plan would completely demolish the existing Yankee Stadium structure, more trees could be planted at this proposed park area. Therefore, like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts to terrestrial resources.

Like the proposed project, the waterfront park area proposed by the Alternative Park Plan would not result in significant adverse impacts on the floodplain, wetlands, water quality or aquatic biota of the Harlem River. The waterfront park area proposed by the Alternative Park Plan would include the same improvements to the existing shoreline stabilization as the proposed project, which would enhance the waterfront for park users and aquatic habitat where possible. The natural turf ballfields at the site of the existing stadium proposed by the Alternative Park Plan would result in a decrease of stormwater runoff as compared to Heritage Field under the

proposed project. The tennis courts at the waterfront park area proposed by the Alternative Park Plan would result in approximately the same amount of stormwater as compared to the artificial turf ballfields under the proposed project, both of which include more pervious surface and therefore result in less stormwater runoff than under existing conditions. Therefore, the Alternative Park Plan would result in a decrease of stormwater discharges during rainfall events as compared to the proposed project, and have a beneficial effect to the floodplain. Like the proposed project, potential adverse effects on water quality resulting from the discharge of stormwater during construction of the Alternative Park Plan would be minimized through implementations of a Stormwater Pollution Prevention Plan (SWPPP), which would include stormwater detention facilities. Therefore, like the proposed project, the Alternative Park Plan would not result in any significant adverse impacts on Harlem River water quality.

HAZARDOUS MATERIALS

As described in the Chapter 10, "Hazardous Materials," there are two 15,000-gallon underground storage tanks (USTs) at the existing stadium. There is an open New York State Department of Environmental Conservation (NYSDEC) Spill number (98-13424) associated with these tanks. At the time the DEIS was completed, it had not been determined whether those tanks would remain at the proposed Heritage Field. These tanks would need to be removed under the Alternative Park Plan, and removal would be conducted according to the requirements of the NYSDEC Spills program to obtain closure of Spill No. 98-13424, including preparation and approval of a Work Plan, Health and Safety Plan (HASP), and/or Remedial Action Plan (RAP), as appropriate. In accordance with these requirements, removal of the tanks under the Alternative Park Plan would not result in any significant adverse impacts with respect to hazardous materials.

Like the proposed project, all activities involving disturbance of existing soils associated with the Alternative Park Plan would be conducted in accordance with a New York City Department of Environmental Protection (NYCDEP) approved RAP, including a HASP, to protect site workers and the surrounding community from exposure to hazardous materials during construction in areas where soil excavation and/or remediation would occur. Like the proposed project, with the implementation of all State- and City-approved HASPs and RAPs, the Alternative Park Plan would not result in any significant adverse impacts with respect to hazardous materials.

WATERFRONT REVITALIZATION PROGRAM

The only component of the Alternative Park Plan that is within the coastal zone is the proposed tennis facility at the new waterfront park and retention of Bronx Terminal Market Building J. Like the proposed project, the Alternative Park Plan would create new open space and public recreational facilities along the Harlem River, establish physical and visual public access to the Harlem River waterfront, and result in waterfront uses that attract the public and enliven the waterfront as well as benefit the surrounding community. Like the proposed project, the tennis facility proposed by the Alternative Park Plan would be consistent with the City's 10 Waterfront Revitalization Program (WRP) coastal policies, and the WRP's guiding principle of maximizing benefits derived from economic development, environmental preservation, and public use of the waterfront while minimizing conflicts among these objectives. The preservation of Building J under the Alternative Park Plan, which would be demolished under the proposed project, would also be considered a benefit under the WRP. In addition, like the proposed project, the tennis facilities proposed by the Alternative Park Plan would be consistent with the Bronx Waterfront

Plan issued by the Bronx Borough President, Adolfo Carrion, Jr., and its objectives to improve existing parkland, develop pedestrian connections to the Harlem River waterfront, and redevelop the Bronx Terminal Market to include a waterfront open space. Like the proposed project, the Alternative Park Plan would be consistent with the City's WRP.

INFRASTRUCTURE

The Alternative Park Plan, like the proposed project, would require the relocation of several large water and sewer mains which are not expected to cause an interruption to water supply and sewage disposal in the area. All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. The Alternative Park Plan would have the same total amount and types of recreational facilities as the proposed project. However, Heritage Field, which would retain 3,000 field seats of the existing Yankee Stadium under the proposed project, would be eliminated under the Alternative Park Plan. Therefore, the Alternative Park Plan would have slightly smaller peak water and sewage demands as compared to the proposed project and would not result in any significant adverse impacts to the existing water supply and sewage treatment.

The natural turf ballfields at the site of the existing stadium proposed by the Alternative Park Plan would result in a decrease of stormwater runoff as compared to Heritage Field under the proposed project. The tennis courts at the waterfront park area proposed by the Alternative Park Plan would result in approximately the same amount of stormwater as compared to the artificial turf ballfields under the proposed project, both of which include more pervious surface than under existing conditions and therefore result in less stormwater runoff than the future without the proposed project. Like the proposed project, the Alternative Park Plan would install detention facilities as necessary to reduce the rate of discharge into the City sewer system and meet the flow requirements of the NYCDEP. Therefore, like the proposed project, the the Alternative Park Plan would not result in any significant adverse impacts to the existing water supply, sewage treatment, and stormwater discharge systems.

SOLID WASTE AND SANITATION SERVICES

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. The Alternative Park Plan would have the same total amount and types of recreational facilities and uses as with the proposed project except for Heritage Field. Therefore, the Alternative Park Plan would have slightly lower solid waste generation and demand on sanitary services than the proposed project. Like the proposed project, the Alternative Park Plan would not have a significant adverse impact on solid waste and sanitation services.

ENERGY

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. The Alternative Park Plan would have the same total amount and types of recreational facilities and uses as with the proposed project. Therefore, the Alternative Park Plan would have the same energy demand as the proposed project. Like the proposed project, the Alternative Park Plan would not have a significant adverse energy impact.

TRAFFIC AND PARKING

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Transportation effects from the proposed project include a trip increment

for the additional parkland. Since the Alternative Park Plan would not result in an increase of parkland over that of the proposed project, and the proposed stadium and parking garages would be in the same locations, the Alternative Park Plan would have the same overall peak traffic and parking conditions as the proposed project.

The traffic mitigation measures described in Chapter 21, "Mitigation," would be employed for both the proposed project and the Alternative Park Plan. These mitigation measures include standard traffic capacity improvements applied to individual intersections (e.g., signal retiming) combined with an overall game-day traffic management plan. However, even with these strategies in place, there would be several local intersection areas where standard traffic capacity improvements applied in tandem with a game-day traffic management plan would not be sufficient to fully mitigate impacts. These locations are: (1) River Avenue and East 161st Street; (2) Macomb's Dam Bridge Approach and East 161st Street; and (3) Jerome Avenue, Ogden Avenue, and the loop ramp to the Macomb's Dam Bridge. Like the proposed project, the Alternative Park Plan would result in significant adverse traffic impacts at these local intersections within the traffic study area.

TRANSIT AND PEDESTRIANS

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Transportation effects from the proposed project include a trip increment for the additional parkland. Since the Alternative Park Plan would not result in an increase of parkland over that of the proposed project, and the proposed stadium and parking garages would be in the same locations, the Alternative Park Plan would have the same overall peak transit and pedestrian conditions as the proposed project.

The transit and pedestrian mitigation measures described in Chapter 21, "Mitigation," would be employed for both the proposed project and Alternative Park Plan. With these measures, significant adverse stairway impacts at the 161st Street-Yankee Stadium Station would be mitigated. Significant adverse pedestrian impacts would also be mitigated for the three existing crosswalks at River Avenue and East 161st Street and at the new Ruppert Plaza crossing. Like the proposed project, the Alternative Park Plan would not result in any unmitigatable significant adverse transit and pedestrian impacts.

AIR QUALITY

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Therefore, the Alternative Park Plan would have the same peak traffic and parking conditions and as the proposed project. Like the proposed project, the Alternative Park Plan would not result in significant adverse air quality impacts due to mobile sources. The combustion source air quality effects from the Alternative Park Plan—heating, ventilation, and air conditioning (HVAC) systems at the proposed stadium and emergency generators at the proposed stadium and garages—would be the same as with the proposed project. Like the proposed project, the Alternative Park Plan would not result in significant adverse air quality impacts due to stationary sources. The Alternative Park Plan would have the same total distance between the proposed open space and existing sources of industrial emissions. Therefore, like the proposed project, the Alternative Park Plan would not result in significant adverse air quality impacts due to industrial sources. Overall, like the proposed project, the Alternative Park Plan would not have any significant adverse air quality impacts.

NOISE

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. Therefore, the Alternative Park Plan would have the same peak traffic and parking conditions and as the proposed project. Like the proposed project, noise levels within the new parks proposed at River Avenue and East 157th Street and within the new proposed Harlem River waterfront park located west of Exterior Street and the Major Deegan Expressway under the Alternative Park Plan, would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. The high noise levels at these new park locations are independent of either the proposed project or the Alternative Park Plan. Based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks. There are no practical and feasible mitigation measures that could be implemented to reduce noise levels within these parks to below the 55 dBA $L_{10(1)}$ guideline noise level. Noise barriers and/or berms would not be practicable. Noise levels in these new parks would be comparable to noise levels in a number of existing parks in New York City. However, based upon CEQR impact criteria, both the Alternative Park Plan and the proposed project would result in an unmitigated significant noise impact on users of these new parks.

CONSTRUCTION

The Alternative Park Plan would have a different overall construction schedule as compared to the proposed project. Table 22-2 provides a summary of the completion date for the major components to the project.

Table 22-2
Alternative Park Plan Estimated Construction Schedule

Description	Length of Construction	Estimated Completion Date
Temporary Running Course 1 (Macomb's Dam Park south of East 161st Street)	2 months	April 2006
Temporary Running Course 2 (future location of Garage C)	2 months	April 2007
Permanent Competitive Track	1 year	November 2008
Harlem River Waterfront Park - Tennis Courts	1 year	June 2007
Waterfront Esplanade	1½ years	April 2008
Passive Use Parklands along River Avenue	6 months	September 2008
Parking Garage A, Phase 1	1¼ years	April 2008
Parking Garage A, Phase 2	9 months	July 2009
Recreational Facilities Over Garage A, Phase 1	1 year	November 2008
Parking Garage D	1 year	December 2007
Parking Garage B	1 year	February 2009
Parking Garage C	1 year	October 2009
Yankee Stadium	3 years	March 2009
Recreational facilities Over Garage A, Phase 2	1½ years	December 2010
Heritage Park	1½ years	December 2010
Babe Ruth Plaza	2 years	December 2010

Sources: Tishman Speyer Development and NYCDPR.

The Alternative Park Plan would accelerate the construction of all the replacement recreational facilities with the exception of the ballfields (see Table 22-3), as compared to the proposed project. By moving the replacement ballfields to the site of the existing stadium in immediate proximity to East 161st Street and the surrounding community, the two ballfields that would be constructed at the waterfront under the proposed project would be completed later.

Table 22-3
Alternative Park Plan Displacement and Replacement of Recreational Facilities

Facility	New Location	Date Closed	Date Operational	Years Closed
8 tennis courts	Waterfront Park	2007 1st Q	2007 1st Q	0
8 tennis courts	Waterfront Park	2006 2nd Q	2007 1st Q	¾
Harlem River Esplanade[1]	Waterfront Park	New facility	2008 2nd Q	NA
Passive recreation[1]	River Avenue Park	New facility	2008 3rd Q	NA
Competitive Track[2]	Macomb's Dam Park atop Garage A (Phase I of Garage)	2006 2nd Q	2008 4th Q	2½
Soccer field	Macomb's Dam Park atop Garage A (Phase I of Garage)	2006 2nd Q	2008 4th Q	2½
Basketball courts (2)	Macomb's Dam Park atop Garage A (Phase I of Garage)	2007 1st Q	2008 4th Q (4)[5]	1¾
8 handball courts	Macomb's Dam Park atop Garage A (Phase I of Garage)	2006 2nd Q	2008 4th Q (9 courts)	2½
90-foot ballfield	Macomb's Dam Park atop Garage A (Phase II of Garage)	2006 2nd Q	2010 4th Q	4 ½
60-foot ballfield	Heritage Park	2006 2nd Q	2010 4th Q	4 ½
90-foot ballfield	Heritage Park	2007 1st Q	NA[3]	NA[3]
60-foot ballfield	Heritage Park	2007 1st Q	2010 4th Q	3 ¾
60-foot ballfield	Heritage Park	New facility	2010 4th Q	NA[3]
23 handball courts	None[4]	2007 1st Q	NA[4]	NA[4]

Notes:
[1] The Harlem River Esplanade and the River Avenue Parks would be new facilities.
[2] A temporary running course would be available throughout the construction period.
[3] The Alternative Park Plan would replace one 90-foot ballfield with one 60-foot ballfield.
[4] The Alternative Park Plan would not replace 23 out of 32 existing handball courts.
[5] The Alternative Park Plan would create two more basketball courts (for a total of 4) than currently contained in the parks.
One new basketball court and the soccer field/400-meter track would have spectator stands.
NA = Not Applicable.
Source: NYCDPR

Under the Alternative Park Plan, construction would begin on the waterfront parkland in the summer of 2006, with the tennis center to be located at that location to be completed in January 2007, and the surrounding waterfront esplanade to be completed in April 2008. The construction of the proposed stadium would be phased to preserve portions of the tennis facilities at John Mullaly Park north of 162nd Street for recreational use for as long as possible. Because the northern portion of the existing tennis center (8 courts) in John Mullaly Park would remain open until March 2007 (the southern portion—8 courts—would be taken out of service in May 2006), tennis facilities would likely be available throughout most of the construction period. The Alternative Park Plan would also construct parking Garage A in two phases and certain replacement recreational facilities located atop Garage A (i.e., competitive track, basketball courts, soccer field) would be completed earlier than anticipated for the proposed project.

The three ballfields proposed at Heritage Park for the Alternative Park Plan would be completed in the fourth quarter of 2010. By building Garage A in two phases, the ballfield to be constructed above Garage A in Phase 2 would also be completed in the fourth quarter of 2010. By moving the ballfields from the waterfront park (which would be completed early in the construction schedule) to the park area at the existing Yankee Stadium site (which would be completed late in the construction schedule), the ballfields under the Alternative Park Plan would be unavailable for the duration of construction. However, these ballfields would all be located in immediate proximity to East 161st Street and the location of existing ballfields, which was requested by the community. In addition, the Alternative Park Plan would also provide a temporary softball field during a part of the construction period. NYCDPR would work with displaced baseball and softball field user

groups to find playing time at nearby recreational fields as close as possible to Macomb's Dam Park.

Since the Alternative Park Plan would have a different overall construction schedule from that of the proposed project, the Alternative Park Plan would develop additional temporary recreational facilities to minimize to the maximum extent practicable, the duration of time that recreation facilities would be unavailable (see Table 22-4). Prior to the construction of the new stadium, a temporary running course would be created around the two baseball fields in the portion of Macomb's Dam Park west of Ruppert Place. This running course would be available in the spring and summer of 2006. In the fall of 2006, the area for proposed parking Garage C (existing parking Lot No. 1) would be developed with a temporary running course (suitable for walking, jogging and recreational running, but not for competitive track meets) and an area that could accommodate a softball field or children's soccer fields (this area would accommodate either use but both not at the same time) at the end of 2008. Like the proposed project, when construction displaces these temporary facilities, the esplanade surrounding the new Harlem River waterfront park would serve as a running course and would be available until the permanent track is available. Therefore, throughout the construction period, an exercise or running course would always be available until the permanent track is completed.

Table 22-4
Alternative Park Plan: Temporary Recreational Facilities

Facility	Date Open	Date Closed	Duration (Years)
Temporary Running Course 1 (Macomb's Dam Park south of East 161st Street)	2006 2nd Q	2007 1st Q	¾
Temporary Running Course 2 (future location of Garage C)	2007 1st Q	2008 4th Q	1¾
Harlem River Esplanade Temporary Running Course 3	2008 2nd Q	Permanent	N/A
Children Soccer Field(s) (future location of Garage C)	2007 1st Q	2008 4th Q	1¾
Softball Field (future location of Garage C)	2007 1st Q	2008 4th Q	1¾

Source: NYCDPR.

Finally, there are a number of parks containing recreational facilities within close proximity to the project area that would not be affected by the proposed project and would remain available to the community throughout the project's construction. These include: (i) Franz Sigel Park, 15.99 acres located 0.35 miles from the project area, which contains one little league field, one regulation-size baseball field and two basketball courts; (ii) the northern portion of John Mullaly Park, 18.5 acres located 0.35 miles from the project area, which contains two little league fields, one synthetic turf soccer field (youth size), one swimming pool, four basketball backboards, and one basketball court; (iii) Nelson Avenue Playground, 1.148 acres located 0.75 miles from the project area (i.e., from East 161st Street and the Macomb's Dam Bridge Approach), which contains two handball courts, one basketball court, and two basketball backboards; (iv) Claremont Park, 38.5 acres located 1 mile from the project area, which contains two basketball courts, two basketball backboards, two little league fields, and four handball courts; (v) St. Mary's Park, 35.3 acres located 1.3 miles from the project area, which contains four handball courts, six basketball courts, two regulation-size baseball fields, and one indoor swimming pool; and (vi) Crotona Park, 127.5 acres located 1.4 miles from the project area, which contains six basketball courts, three regulation baseball fields, 20 tennis courts, 26 handball courts, six basketball courts, and three basketball backboards.

Although the construction phasing of the Alternative Park Plan would be different than that of the proposed project, the peak trip generation of construction workers and truck delivery materials and equipment would be the same. Some additional truck trips would be generated by raising the read for the new ballfields of Heritage Park, but these truck trips would not occur during the peak construction period. The truck trips would occur after the proposed Yankee Stadium and the majority of the new recreational facilities are completed. The potential effect on air quality during construction of the Alternative Park Plan would be similar to the proposed project. Like the proposed project, there would be a significant unmitigated adverse noise impact due to construction activities at East 164th Street between Jerome Avenue and River Avenue within John Mullaly Park associated with the Alternative Park Plan.

As described above, a site-specific HASP would be prepared for the Alternative Park Plan to minimize exposure to hazardous materials by workers and the public. Removal of any USTs encountered during construction of the Alternative Park Plan would be handled in accordance with all applicable Federal, State, and local regulations. Erosion and sediment control measures, and stormwater management measures as part of the Storm Water Pollution Protection Plan (SWPP) would be implemented during construction of the proposed changes. With these measures in place, the Alternative Park Plan would not result in significant adverse impacts.

PUBLIC HEALTH

All the effects associated with the new stadium and parking facilities would be the same as with the proposed project. As described above, neither the proposed project nor the Alternative Park Plan would result in significantly adverse air quality impacts or construction-related air quality impacts. Both the proposed project and the Alternative Park Plan would comply with New York City Local Law 77 that requires the use of ultra-low sulfur diesel (ULSD) and "best available technology," for reducing emissions from non-road construction equipment. Under both the proposed project and the Alternative Park Plan, the New York Yankees and the City are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction of the proposed stadium and the New York Yankees would employee a full-time health specialist to monitor conditions thought the construction period both under the proposed project and the Alternative Park Plan. Like the proposed project, the Alternative Park Plan would not have any significant adverse public health impacts. ✷

Chapter 23: Unavoidable Significant Adverse Impacts

Unavoidable significant adverse impacts are defined as those that meet the following two criteria:

- There are no reasonably practicable mitigation measures to eliminate the impacts; and
- There are no reasonable alternatives to the proposed project that would meet the purpose and need of the action, eliminate the impact, and not cause other or similar significant adverse impacts.

As described in Chapter 21, "Mitigation," a number of the potential impacts identified for the proposed project could be mitigated. However, as described below, in some cases project impacts would not be fully mitigated.

A. HISTORIC RESOURCES

The proposed project would result in the demolition of Bronx Terminal Market Buildings G, H, and J (S/NR-eligible), resulting in significant adverse impacts on historic resources. In comments dated September 20, 2005, the New York State Historic Preservation Officer (SHPO) concurred with this finding. Therefore, measures to mitigate this impact have been developed in consultation with SHPO. The mitigation measures would include Historic American Buildings Survey (HABS)-level photographic documentation with an accompanying narrative, and interpretive design elements, such as a fence and plaques/historic markers. The mitigation measures developed with SHPO would be recorded in a Memorandum of Agreement (MOA) to be entered into among the New York City Department of Parks and Recreation (NYCDPR), the National Park Service (NPS), and SHPO, and implemented to partially mitigate the effects of the proposed project on historic resources. The Draft MOA, the terms of which have been developed in consultation with SHPO and NPS and which is anticipated to be entered into among the parties, is included in Appendix G.[1] Because the impacts would not be completely eliminated, they are considered unavoidable significant adverse impacts of the proposed project.

B. TRAFFIC

The proposed project would result in significant adverse traffic impacts at local intersections within the traffic study area and along sections of the Major Deegan Expressway near the proposed stadium site. As described in Chapter 21, "Mitigation," proposed traffic mitigation measures would be employed and would include standard traffic capacity improvements applied to individual intersections (e.g., signal retiming) combined with an overall game-day traffic

[1] As set forth in the Foreword, because the Alternative Park Plan analyzed in Chapter 22, "Alternatives," is the preferred park plan that is anticipated to be adopted and approved by NYCDPR, the draft MOA applies to that alternative program. Bronx Terminal Market Building J, rather than being demolished by the proposed project, would be retained and adaptively reused in connection with the tennis facilities to be located at the waterfront park under this alternative.

management plan that was developed and fully analyzed during the period between the DEIS and FEIS, and which has been approved by the agencies responsible for its implementation. However, even with these strategies in place, the detailed traffic impact analyses conducted as part of the FEIS have indicated that there would be three local intersection areas where standard traffic capacity improvements applied in tandem with a game-day traffic management plan would likely not be sufficient to fully mitigate impacts. These locations are: (1) River Avenue and East 161st Street; (2) Macomb's Dam Bridge Approach and East 161st Street; and (3) Jerome Avenue, Ogden Avenue, and the loop ramp to the Macomb's Dam Bridge. Impacts at these locations would be unavoidable, significant, and adverse.

C. NOISE

As discussed in Chapter 17, "Noise," the noise levels within the new parks proposed at River Avenue and at the Harlem River waterfront would result in potentially significant noise impacts on users of these new parks. Noise levels at these parks would be approximately 71.8 and 73-78 dBA, respectively, and above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. These high predicted noise levels are primarily a result of the noise generated by the elevated subway trains and vehicles on the elevated Major Deegan Expressway. These noise sources are independent of the proposed project, but based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks. As there are no practical and feasible mitigation measures that could be implemented to reduce these noise levels to below the 55 dBA $L_{10(1)}$ guideline noise level, this is an unavoidable significant adverse impact.

D. CONSTRUCTION

As described in Chapter 19, "Construction Impacts," a scenario in which construction workers would be provided with parking at one of the Yankee Stadium garages was evaluated, as well as a scenario in which construction workers would instead park in on-street parking spaces. The analysis concludes that there would be significant adverse traffic impacts under both scenarios, for which only partial mitigation has been identified at this time. Construction-worker traffic therefore constitutes an unavoidable significant adverse impact.

It is also anticipated that construction activities would result in significant adverse noise impacts at locations along 164th Street between Jerome Avenue and River Road, including in John Mullaly Park. There are no practicable measures that could be implemented to eliminate these significant adverse impacts at this location. ✷

Chapter 24: Irreversible and Irretrievable Commitment of Resources

There are a number of resources, both natural and built, that would be expended in the construction and operation of the proposed project. These resources include the materials used in construction; energy in the form of gas and electricity consumed during construction and operation; and the human effort (time and labor) required to develop, construct, and operate various components of the proposed project. They are considered irretrievably committed because their reuse for some purpose other than the proposed project would be highly unlikely. Although the proposed project would result in a net overall increase in open space and parkland, the land use changes associated with the development of the proposed project may also be considered a resource loss. The proposed project constitutes an irreversible and irretrievable commitment of the project area as a land resource, thereby rendering land use for other purposes infeasible. ✷

Chapter 25: Responses to Comments on the DEIS[1]

A. INTRODUCTION

This chapter of the FEIS summarizes and responds to the substantive oral and written comments received during the public comment period on the Draft Environmental Impact Statement (DEIS) for the Yankee Stadium Project. The public hearing on the DEIS was held concurrent with the hearing on the project's Uniform Land Use Review Procedure (ULURP) applications. Public review under ULURP began on September 26, 2005, with the certification of the applications and completion of the DEIS. Comments on the DEIS were received at the public hearing on the ULURP applications and DEIS held on January 11, 2006, at the City of New York Department of City Planning (NYCDCP), Spector Hall, 22 Reade Street. Written comments submitted to the New York City Planning Commission (CPC) were also accepted throughout the comment period, which remained open through January 23, 2006.

Section B identifies the agencies, organizations, and individuals that commented at the public hearing or in writing. Section C summarizes and responds to each substantive comment. The comments are organized by subject area. Where multiple comments were made on the same subject matter, a single comment combines and summarizes those individual comments. The summary conveys the substance of the comments made but does not quote the comments verbatim. After each comment is a list of the people who made the comment, as referenced in Section B.

B. AGENCIES, ORGANIZATIONS, AND INDIVIDUALS COMMENTING ON THE DEIS

ELECTED OFFICIALS, AGENCIES, AND COMMUNITY BOARD 4

1. Bronx Borough President Adolfo Carrión, Jr., comments made at public hearing and written recommendations dated December 22, 2005, and January 11, 2006 (BBP)
2. Metropolitan Transportation Authority, written submission dated January, 23, 2006 (MTA)
3. Community Board 4, written recommendations accompanying community board vote dated November 22, 2005 (CB4)
4. D. Lee Ezell, Community Board 4, comments made at public hearing and written submission dated January 11, 2006 (Ezell)

[1] This entire chapter is new for the FEIS.

5. Lukas Herbert, Community Board 4, comments made at public hearing and written submissions dated December 14, 2005, December 28, 2005, January 4, 2006, and January 12, 2006 (Herbert)

ORGANIZATIONS AND INDIVIDUALS

6. Bronx Voices for Equal Inclusion, written submission dated January 18, 2006 (BVEI)
7. Empire State Passengers Association, written submission by Bruce Becker dated January 23, 2006 (ESPA)
8. Friends of Yankee Stadium, comments made at public hearing by David Gratt and written submissions dated January 18, 2006 (FOYS)
9. Good Jobs New York, comments made at public hearing by Dan Steinberg and written submission dated January 23, 2006 (GJNY)
10. Hope of Israel Senior Citizens Center, comments made at public hearing by Michael Levy Trotter and written comments submitted by Jacqueline Henderson, dated January 4, 2006 (Hope of Israel)
11. New York City Park Advocates, comments made at public hearing by Geoffrey Croft and written submission dated November 22, 2005, and January 11, 2006 (NYCPA)
12. New Yorkers for Parks, comments made at public hearing by Micaela Burmingham and written submission by Christian DiPalermo dated January 11, 2006 (NY4P)
13. Sierra Club, written submission by Patrick Centolanzi dated January 18, 2006 (Sierra Club)
14. Sustainable South Bronx, comments made at public hearing by Menaka Mohan and written submission dated January 23, 2006 (SSB)
15. Tri-State Transportation Campaign, written submission by Nancy Christensen dated January 23, 2006 (TTC)
16. Gilberto Rivera, Bronx Voices for Equal Inclusion and Nos Quedamos, comments made at public hearing and written submission dated January 10, 2006 (Rivera)
17. John Rozankowski, Save Our Parks, comments made at public hearing and written submission dated January 11, 2006 (Rozankowski)
18. Gregory D. Bell, Sr., Insight for New Housing and Bronx Voices for Equal Inclusion, comments made at public hearing and written submission dated January 11, 2006 (Bell)
19. Denae Brewer, Highbridge Community Neighborhood Council and Bronx Voices for Equal Inclusion, comments made at public hearing and written submission dated January 3, 2006, and January 11, 2006 (Brewer)
20. I.C. Levenberg-Engel, Bronx Council for Environmental Quality, written submission dated January 7, 2006 (L-Engel)
21. Elder David Jenkins, Jr., Christian Federation Ministries, written submission dated January 6, 2006 (Jenkins)
22. Anthony Robinson, Project Angel, written submission dated January 6, 2006 (A. Robinson)

23. Lillian Smith, Concourse Village Stockholders Association and Bronx Voices for Equal Inclusion, comments made at public hearing and written submission dated January 10, 2006 (L. Smith)
24. Lenny Caro, Bronx Chamber of Commerce, comments made at public hearing (Caro)
25. Chauncy Young, Highbridge Community Life Center and Bronx Voices for Equal Inclusion, comments made at public hearing (Young)
26. Frances Tejada, Highbridge Community Life Center, comments made at public hearing (Tejada)
27. Susan Attzs-Mendoza, Bronx Independent Living Services, comments made at public hearing (Attzs-Mendoza)
28. Pasquale Canale, 161st Street Merchants Association, comments made at public hearing (P. Canale)
29. Bishop Timothy Birkett, Assemblies of God Churches, comments made at public hearing (Birkett)
30. Mary Blassingame, Community Board 4, written submission dated January 20, 2006 (Blassingame)
31. Walter Houston, 167th Street Business League, comments made at public hearing (Houston)
32. Kara Logan, Harlem RBI, comments made at public hearing (Logan)
33. Carlos Alicea, For a Better Bronx, comments made at public hearing (Alicea)
34. Wendell Niles, Bronx Voices for Equal Inclusion, comments made at public hearing and written submission dated January 11, 2006 (Niles)
35. Antonio Costa, comments made at public hearing and written submissions dated January 10, 2006, and January 19, 2006 (Costa)
36. Mary Susan Smith, comments made at public hearing and written submission dated January 23, 2006 (M.S. Smith)
37. Michael Bongiovi, written submission dated January 6, 2006 (Bongiovi)
38. Floyd Lapp, written submission dated January 12, 2006 (Lapp)
39. Catherine Bent, written submission dated January 6, 2006 (Bent)
40. Beverly Moore, comments made at public hearing and written submission dated November 22, 2005 (Moore)
41. Geneva Causey, comments made at public hearing and written submission dated January 19, 2006 (Causey)
42. Tulio Porrata, comments made at public hearing and written submission dated January 19, 2006 (Porrata)
43. Jeff Prant, written submission dated January 13, 2006 (Prant)
44. Steve Strauss, written submission dated January 23, 2006 (Strauss)
45. Amanda Davis, written submission dated January 23, 2006 (Davis)

46. Velvet Aisha Ross, written submission dated January 23, 2006 (Ross)
47. James Brennan, written submission dated January 11, 2006 (Brennan)
48. Emil Solis, written submission dated January 19, 2006 (Solis)
49. Catherine Cotter, written submission dated January 18, 2006 (Cotter)
50. Henry Mitchell, written submission dated January 19, 2006 (Mitchell)
51. Julio Pabon, comments made at public hearing (Pabon)
52. Michael Weinstein, comments made at public hearing (Weinstein)
53. Gary Israel, comments made at public hearing (Israel)
54. David Levy, comments made at public hearing (Levy)
55. Geneva Hester, comments made at public hearing (Hester)
56. Dilsa David, comments made at public hearing (David)
57. Erika Carter, comments made at public hearing (Carter)
58. Chris Raso, comments made at public hearing (Raso)
59. Feliz Lepore, comments made at public hearing (Lepore)
60. Sharis Windfield, comments made at public hearing (Windfield)
61. Karel Amaranth, comments made at public hearing (Amaranth)
62. Byron Hunter, comments made at public hearing (B. Hunter)
63. Angela Canale, comments made at public hearing (A. Canale)
64. Albertha Hunter, comments made at public hearing (A. Hunter)
65. Patricia Robinson, comments made at public hearing (P. Robinson)
66. Anthony Epps, comments made at public hearing (Epps)
67. Lloyd Douglas, comments made at public hearing (Douglas)
68. Cesar Bresbert, comments made at public hearing (Bresbert)
69. Henry Pelayo, Jr., comments made at public hearing (Pelayo)
70. Ed Harris, comments made at public hearing (Harris)

C. RESPONSES TO COMMENTS

GENERAL / PURPOSE AND NEED / PUBLIC REVIEW PROCESS

Comment 1: The stadium redevelopment plan was not made in consultation with the community. This process requires more public participation early on in the process. (NYCPA, Costa, Bell, Rivera, L. Smith, Alicea, Causey, P. Robinson, SSB, Tejada, P. Canale, Young, Cotter) The Yankee Stadium Project is not consistent with model planning practices, as it has not provided opportunities

for community input in the visioning process, and public participation throughout the review process has been limited. (Herbert, Blassingame, SSB, BVEI) A new planning process should be undertaken, one which includes all stakeholders in the process. (BVEI, SSB, Porrata)

Response: There have been numerous meetings with members of the community, the community board, and elected officials over the past two years regarding the Yankee Stadium Project that have informed the direction of the project. In addition, as described in Chapter 1, "Project Description," of the EIS, the project is undergoing extensive public review as part of the City's ULURP and environmental review under the City Environmental Quality Review (CEQR) procedures. Both of these processes entail public outreach to the affected communities and mandate public participation opportunities. A public scoping meeting was held for the proposed project on July 18, 2005, and a Final Scope of Work, reflecting public comments made on the Draft Scope of analysis for the EIS, was issued. The DEIS was issued in accordance with the Final Scope of Work. Following publication of the DEIS, the seven-month ULURP process for the project included multiple opportunities for public comment and input, including public hearings held by Community Board 4, the Bronx Borough President, and the CPC, as well as the public hearing to be held by the City Council following publication of the FEIS. The public was invited to review and comment on the DEIS either in writing or at the public hearing held by the CPC, and all substantive comments have become part of the CEQR record and are summarized and responded to in this FEIS.

In addition to these required opportunities for public participation, the project sponsors have met and will continue to meet with local elected officials and interested community groups to present the project and address issues. The New York City Department of Parks and Recreation (NYCDPR) will work with the local community as designs are advanced for park facilities. Also, outside the ULURP and CEQR processes, the Yankees have stated that they will set forth their commitments to the community in a community benefits agreement (CBA).

The recent changes proposed to the overall park improvement plan are reflective of this input. As described in the FEIS, a new project alternative has been developed in response to public comments that brings ballfields in immediate proximity to East 161st Street and removes and relocates the elevated tennis concession atop Parking Garage C. In addition, the Yankees have voluntarily committed to providing a health monitor during construction and are voluntarily complying with Local Law 77, which requires use of state-of-the-art construction equipment to reduce air emissions (and which would also be adhered to by all contractors to the City for the proposed project.)

Comment 2: Community Board 4 should be kept abreast of all the manifestations of this project, including the stages and any alterations of project components. (CB4)

Response: As noted in the response to the previous comment, the City and the Yankees will continue to consult with the area's elected officials and the community, including Community Board 4, as the project progresses. If the proposed project is approved, NYCDPR will undertake a community outreach program before deciding on a final plan for the new parkland and recreational facilities.

Comment 3: This project is being rushed through the land use review process at the expense of community involvement. (L. Smith, Costa)

Response: Please see the response to Comment 1. The City's Uniform ULURP is the public review process for land use projects requiring approval from the CPC. The purpose of the process, which lasts a maximum of seven months, is to provide multiple opportunities for public input before a final decision is made by the CPC and City Council on the proposed action. As described in Chapter 1 of the FEIS, the ULURP process involves public review of proposed actions at four levels: Community Board, Borough President, CPC, and City Council. The procedure sets maximum time limits for review at each stage to ensure a maximum total review time period of approximately seven months. The proposed Yankee Stadium Project is subject to ULURP, and has been proceeding through the ULURP process in accordance with the timeframes for this process.

Comment 4: The proposed project violates 1994 Presidential Executive Order 12898 by failing to overcome linguistic, cultural, and other barriers to meaningful community participation. Although the DEIS states that the project area is a low-income community with 99 percent of the total population made up of minority groups, to date, all public hearings and official city publications of the DEIS have been made in English only. (NY4P) Outreach and materials should be offered in other languages besides English. (Young)

Response: The date, time, and location of the scoping meeting were advertised in *El Diario* in Spanish on June 30, 2005, in addition to notices placed in the *City Record*, the *Environmental Notice Bulletin*, and the *New York Post*. The date, time, and location of the DEIS public hearing were advertised in Spanish in *El Diario* on December 28, 2005, in addition to notices placed in the *City Record*, the *Environmental Notice Bulletin*, and the *New York Post*. No requests were made by members of the public or through Community Board 4 for translated environmental review documents.

Comment 5: The public was included in the process. (Ezell) Many of the community's concerns were addressed. (Epps)

Response: Comment noted.

Comment 6: The City of New York should engage in sustainable urban planning—especially for overburdened communities like the South Bronx. This community already contains much of the regional infrastructure, which negatively impacts the health and quality of life of residents. The inclusion of mass transit initiatives would allow for the elimination of the proposed parking garages and the preservation of natural parkland. (SSB) This community should not bear the burden of a suburban-style, car-oriented development. (SSB, TTC) Plans to build more parking should be reconsidered, and the purpose and need should be amended to reflect a commitment to improving the community's environment. (TTC)

Response: Yankee Stadium has been located on its current site since 1923 and is surrounded by 15 different parking garages or lots used by fans attending games. The proposed project would not significantly change that relationship or result in suburban-style, car-oriented development. As described in Chapter 1 of the FEIS, Yankee Stadium would be relocated to a new site in the immediate vicinity of its existing site, and new parking garages would be added to meet the existing need for parking by Yankees' fans to reduce spillover that occurs on local streets when Yankee Stadium patrons park throughout the surrounding neighborhood.

Comment 7: The Yankees' presence has benefited the community, as they have provided tremendous support to local organizations and children's programs over the years. (Israel, Birkett, Lepore, Amaranth, Logan, Pelayo, Bresbert) The community's youth benefits from having a close relationship with the Yankees. (Israel, Logan, Douglas, Pelayo) The Yankees have engaged in a dialogue with community organizations and individuals, and have shown a commitment to the addressing the needs of the community. (Pabon, Houston, B. Hunter) The Yankees support small businesses in the community. (Houston)

Response: Comment noted.

Comment 8: The Yankees should develop a more positive and constructive relationship with the community, involving athletic programs for youth, development of a youth recreation and senior services center close to the stadium, maintenance for existing and replacement parkland, and provision of free or low-cost Yankee game tickets to Bronx organizations and community residents. (BBP)

The Yankees have generated considerable ill will over the years. Now that they are seeking to develop a massive facility in public parkland, they want to be good neighbors, increasing their commitment and involvement. If they were serious they would have increased their commitment a number of years ago. Although the Yankees indicated that they contribute over $700,000 per year to

local charitable causes, this constitutes less than ¼ of 1 percent of their total budget and is insufficient. The Yankees seem to be ignoring a number of groups in the community. (FOYS)

Response: The Yankees have been providing many of the amenities identified by the Borough President to the community for many years, including financial and other support for youth athletic and educational programs and provision of free and low-cost tickets to Bronx and other New York City organizations. Going forward, the Yankees are committed to continuing their existing community outreach programs and to enhancing their relationship and providing enhanced benefits to the community. The Yankees are further committed to making contributions toward the maintenance of parkland being created as part of the proposed project. Outside the ULURP and CEQR processes, the Yankees have stated that they will set forth their commitments to the community in a CBA.

Comment 9: There needs to be a legally binding CBA with the Yankees. (CB4, Rivera) Approval of the project must be accompanied by a legitimate CBA that is created, approved, negotiated, and signed by community groups, not elected officials. (L. Smith, Rivera, Bell) A legally binding Community Partnership Agreement must be finalized before the CPC rules on the application. (BBP)

Response: The comment does not relate to the analyses contained in the EIS. However, outside the ULURP and CEQR processes, the Yankees have stated that they will set forth their commitments to the community in a CBA.

Comment 10: In the case of this project, the foundation for a strong CBA is clearly lacking for several reasons: 1) The concept of a CBA is a way to compensate communities for uses that may negatively impact the local community but provide a positive impact for the community at large. The primary beneficiary of the proposed stadium is a private corporation, not the public, and there is no benefit to the community. 2) The project is already in the public approval process, and it is possible that the project will be approved before negotiations over benefits even begin. There is little incentive for the developer to provide any benefit or for the City to follow up. 3) The community's primary bargaining chip—access to park space on the site of the proposed stadium—was already given away by the community's elected officials. (FOYS)

Response: See the responses to Comment 9 and Comment 14.

Comment 11: Instead of evaluating the impacts properly, as directed by the New York State Environmental Quality Review Act (SEQRA) and CEQR, the DEIS instead serves as an advocacy piece for the project, which is offensive to those who are being impacted by the project and useless to those charged with making decisions. (Herbert, FOYS)

Response: The DEIS was prepared pursuant to SEQRA and CEQR in accordance with the *CEQR Technical Manual*, the guidance document used by City agencies in preparing environmental reviews under CEQR.

Comment 12: The scoping meeting for the DEIS held by NYCDPR did not allow for sufficient public participation, as the public was not properly notified of the meeting and was not given enough information to comment on the scope. The Draft Scope of Work was not distributed in sufficient quantity prior to the meeting, copies were not available at the meeting, and the Draft Scope was not posted on the Internet until after the comment period had ended. (Herbert)

Response: NYCDPR complied with all applicable laws and regulations in issuing a Draft Scope of Work for the EIS. This Draft Scope was issued on June 15, 2005, and was widely distributed to concerned citizens, public agencies, and other interested groups. The date, time, and location of the scoping meeting were advertised in the *City Record* on June 15, 2005, the *Environmental Notice Bulletin* on June 22, 2005, the *New York Post* on June 30, 2005, and in *El Diario* on June 30, 2005. In addition, copies of the Positive Declaration and notice of the scoping meeting were sent in advance to the Community Board and local area officials so that they could distribute this information to their constituents. The public notice provided for the July 18, 2005, scoping meeting was thus greater than the 15-day notice required under CEQR. Fifty copies of the Draft Scope of Work were available at the scoping meeting, and people at the scoping meeting who did not receive copies at the hearing but wished to receive a copy were sent a copy within a week of the hearing. In addition, 40 additional copies were provided to the Community Board to be made available to interested parties. The Draft Scope of Work was posted on NYCDPR's website on July 29, 2005, and comments on the Draft Scope were accepted until August 17, 2005, longer than the 10-day period required following the scoping hearing.

Comment 13: Many of my comments on the scoping document were either not addressed or complied with in a lackadaisical fashion. For instance, I was disturbed that the DEIS still refers to Yankee Stadium as "outdated" when the more appropriate term would be "c. 1923." (FOYS)

Response: The Final Scope of Work includes a summary of and response to all substantive comments received on the Draft Scope of Work during the public comment period, including those of the commenter. The specific comment referred to here was a comment that although the Draft Scope of Work stated that the existing stadium is outdated, the stadium draws 4 million fans annually and performs better than any other stadium. The response to this comment in the Final Scope of Work was that this comment is related to the purpose and need for the project, which will be addressed in the EIS. As described in Chapter 1 of the DEIS and FEIS, the Yankees believe that the stadium is outdated and is no

longer adequate to support the players, the fans, and the media. Therefore, one of goals of the project is to replace the existing stadium with a modern stadium that is large enough to support modern baseball and stadium operations.

Comment 14: The alienation of 22 acres of John Mullaly and Macomb's Dam Parks was completed in just three weeks. Usually for a project of this scale to pass the required City and State legislation it takes approximately one year, or at least one full legislative session. (NY4P, Rivera, FOYS) The fast-tracked alienation of parkland for the proposed Yankee Stadium was completed without any meaningful public hearing or public consultation. (NY4P, Rivera, Herbert, FOYS) Due diligence was never performed on this action, and a supposed fail-safe designed to protect park space from casual alienation was subverted. (FOYS) The parkland was alienated without public notice. If the community had known, we would have intervened. (Bent, Brennan)

Response: Authorization for the alienation of portions of John Mullaly and Macomb's Dam Parks is encompassed in lawfully enacted State legislation adopted in June 2005 pursuant to a Home Rule message from the City of New York. The disposition of City-owned property for the purposes set forth in the legislation is being reviewed pursuant to the City's ULURP, which involves public review at the Community Board, Borough President, CPC, and City Council levels.

Comment 15: The Bronx Borough President's public hearing on the proposed project presented several significant barriers to full community participation, including insufficient time for oral testimony, limited seating, and English-only proceedings. (NY4P, Young, Porrata) The Bronx Borough President did not responsibly hold a public hearing on this matter by not allowing everyone who wanted to testify to speak; therefore, his recommendation is based on a flawed process and should not be considered valid by the CPC. The room was packed with building trades representatives, and those in opposition to the project were not chosen to speak. (Herbert, Costa, SSB, Porrata) The Yankees are persuading organizations far from our community in the Bronx to speak out for the project. (Costa, Porrata)

Response: The Bronx Borough President's public hearing on the project, although not required in the ULURP process, was held in accordance with all applicable laws, regulations, and established procedures. Because of the large number of attendees at the meeting, comments were limited in time, which is common practice at such public hearings. Written comments were also accepted after the public hearing. The CPC is required by law to consider the Borough President's recommendations when making its own determination on the proposed actions.

Comment 16: The Yankee Stadium and Bronx Terminal Market projects are related since they are adjacent to each other, share parking, and will be developed at

approximately the same time. The EISs for both projects should be combined. (TTC, Herbert) One comprehensive plan for the two projects would allow the impacts to be properly measured and the examination of additional alternatives for stadium relocation. (Herbert) The South Bronx is facing several other large developments and is being subjected to a piecemeal planning process with no comprehensive vision. None of these projects are being considered holistically, and their cumulative impacts will be crippling to the South Bronx community. (SSB)

Response: The DEIS identifies the numerous development projects currently planned in the vicinity of Yankee Stadium and considers the project's potential for environmental impacts in the context of the presence of those other projects. These projects are incorporated into the document in the consideration of the future without the proposed project, or the "No Build" condition, so that the analysis of the proposed project considers the cumulative impacts of the project and other planned or proposed activities. The Gateway Center project proposed at the Bronx Terminal Market is one of those projects and therefore is included in the consideration of future conditions in the EIS for the Yankee Stadium Project. At the same time, the Gateway Center project was also subject to an EIS that similarly incorporated the Yankee Stadium Project into its analysis of future conditions without that project. Two separate EISs were prepared because the two projects are independent.

Comment 17: Plans for the existing stadium site (Heritage Field) change depending on who is speaking. (Bent, Brennan)

Response: As part of the proposed park plan presented in the FEIS, the existing stadium would be adapted to a public baseball field called Heritage Field, which would be available for public use. In response to community concerns and comments on the DEIS, NYCDPR has proposed an Alternative Park Plan in the FEIS, which would develop three ballfields at the site of the existing Yankee Stadium and locate the tennis concession at the proposed waterfront park.

Comment 18: Public parkland should not be replaced with a private commercial use. (NYCPA, Rivera, L. Smith, Bongiovi, Jenkins, A. Robinson, Hope of Israel, Brewer, L-Engel, Blassingame, Hester, Solis, Porrata) Allowing private development in parkland will set a dangerous precedent where public goods such as parks are at the mercy of private developers. (Blassingame, Bent, Costa, Alicea, Brennan) The proposed project would result in an inappropriate alienation of parkland that is against the interest of the community. (Herbert, Blassingame, P. Canale) The taking of parkland for parking garages is troubling. (SSB) The proposed plan violates all urban planning principles, by placing a mega-stadium with more new parking garages right in the middle of parkland in a residential area. (Costa, M.S. Smith, Brennan) We must set a precedent to

protect valuable parkland in the Bronx and throughout the City. (Jenkins, A. Robinson, Hope of Israel, Brewer, L-Engel)

Response: The State legislation authorizing the new Yankee Stadium recognizes that the development and operation of the proposed stadium and the associated facilities are park purposes permitted on dedicated parklands. Moreover, there is long-standing precedent for finding as park-appropriate uses stadiums, restaurants, and other facilities in the City's parkland. Examples of stadiums and athletic venues sited in parkland include: Icahn Stadium on Randall's Island, the USTA Tennis Facility in Flushing Meadows-Corona Park, the Mets' minor league baseball field (Keyspan Park) in Steeplechase Park, and Shea Stadium in Flushing Meadows-Corona Park. State legislation is required to grant a lease to any private entity to operate a facility on parkland, which further acts to protect lands under the public trust. In addition, the proposed project would result in the City's investment of $120 million in capital dollars over the coming years to renovate and create new parks in the immediate area. This amount represents a significant—more than 80 percent—increase in capital investment in the Bronx's park system when compared to recent years. Comprehensive capital investments of this kind in a single park are extremely uncommon and represent a substantial investment in and benefit to the neighborhood. The City is committed to implementing these park improvements concurrently with the development of the stadium and has included this commitment in its January 2006 budget. The City's capital investment would be supplemented through the commitment of the Yankees to contribute annually to the ongoing maintenance of John Mullaly and Macomb's Dam Parks, ensuring that the investment would continue to benefit the neighborhood for decades to come.

Comment 19: The proposed project brings unprecedented opportunities to the community. (Ezell). The proposed stadium will be a showcase for the Bronx. (Pelayo)

Response: Comment noted.

Comment 20: The Yankees must agree to market the 12,000 square feet of retail space proposed for Garage D primarily to small retail establishments serving local clientele, rather than oriented to Yankee fans or to a broader market, bearing in mind Garage D's proximity to the future Gateway project and a future hotel. (BBP)

Response: Garage D would be owned by the City and operated by a private operator. It is expected that the 12,000 square feet of retail space to be developed in Garage D would be marketed primarily to small-business retail establishments, such as those identified by the Borough President.

Comment 21: The proposed project should include extensive redevelopment of existing parkland in the Yankee Stadium/John Mullaly/Macomb's Dam Park area,

establishment of a physical connection to the Harlem River, development of waterfront promenades, construction of pedestrian greenway network connecting these upgraded parks and new recreational facilities with the community, and the construction of plazas to facilitate access both to the new community parks and new recreational facilities within the community. (CB4)

Response: As described in the FEIS, as part of the proposed project the City would invest $120 million in the development of high-quality replacement park facilities in the Yankees Stadium and Macomb's Dam Park areas, as well as along the Harlem River waterfront. The waterfront parkland would consist of 5.11 acres of recreational facilities and a 0.71-acre waterfront esplanade, providing physical and visual waterfront access that are currently not available in the surrounding community. As described in the response to Comment 62, the proposed park plan also promotes accessibility within the parks, by bringing Macomb's Dam Park south of East 161st Street up to the elevation of the adjoining Macombs Dam Bridge Approach/Jerome Avenue interchange, which allows easy access to the park from all street frontages.

Comment 22: The City's redevelopment plan excludes several components of the Bronx Borough President's Yankee Stadium Neighborhood Redevelopment Plan, specifically the hotel and conference center, fitness center, a High School for Sports Industry Careers, Yankee Museum and Hall of Fame, improvement of the ferry terminal with increased service during ball games, redevelopment of the existing ballpark for community residents, and construction of the planned Metro-North station. These elements have been endorsed by Community Board 4 and should be incorporated into the project. Specifically, the City must ensure that the new high school is added to the current Five-Year Capital Plan, a hotel and conference center is developed either adjacent to Yankee Stadium or at Gateway Center, and that a 30,000-square-foot parcel at the southern end of the "central park" is developed with a full-service fitness center. (BBP) The proposed project should include a new High School for Sports Industry Careers. (Lepore, Windfield)

Response: The City and Yankees are fully supportive of those elements of the Borough President's Yankee Stadium Neighborhood Redevelopment Plan that are not a part of the proposed Yankee Stadium Project, including the hotel and conference center, high school, and other elements identified above. The proposed project has been developed so as not to preclude the future development of any of those elements, and a 30,000-square-foot parcel has been specifically set aside from the site of the existing Yankee Stadium to accommodate one or more of the uses in the Borough President's plan. Planning for these uses is not sufficiently advanced at this time, however, for them to be included as part of the proposed project or evaluated as part of the No Build condition in the EIS. It should be noted that the independent Gateway Center at

Bronx Terminal Market project includes a hotel and conference center to be developed as Phase II of that project.

Expansion of the ferry terminal and expanded service are not part of the proposed project, and the existing facility is sufficient to accommodate current demand. Nonetheless, the City and Yankees would be supportive of any future expansion that may be warranted by increased ferry services to the stadium, and nothing in the proposed project would preclude such a future expansion. Similarly, although a new Metro-North station is not part of the proposed project, the City and the Yankees support the construction of the proposed Metro-North Yankee Stadium station, and the proposed project has been developed so as not to preclude the future construction of a new station.

The proposed project does include the transformation of the existing Yankee Stadium site into a public park that would be available to the community on a continuous basis. In response to comments from the Borough President and the public, this area—to be renamed Heritage Park—has been refined from the original proposal, described as the "Alternative Park Plan" in Chapter 22 of the FEIS, and is currently conceived to contain three ballfields. Together with the facilities to be accessible from at grade atop Garage A (i.e., running track, soccer field, ballfield, and handball and basketball courts), these enhanced facilities would provide a new "central park" on approximately 17.36 acres, to replace the 15.09 acres of facilities to be displaced on portions of Macomb's Dam and John Mullaly Parks north of East 161st Street.

Comment 23: The Bronx Borough President's plan recommended several additional project elements that were not included in the proposed Yankee Stadium Project, such as a hotel and conference center, fitness center, high school, and Yankee Museum and Hall of Fame. (Herbert, FOYS) Since these elements are not included in the project they should not be considered as part of the ULURP application, and it is inappropriate to parade these "project elements" at public hearings relating to the ULURP application. (Herbert, SSB) The public has been led to believe that amenities have been added that are not a part of this application. (Bell, Porrata, Causey) These additional elements have not appeared in the EIS. If these elements are constructed, how much park will be left to replace our present parks? (Bent, Costa, Ross, Brennan)

Response: As noted in response to Comment 22, planning for the uses identified in this comment is not sufficiently advanced at this time for them to be included as part of the proposed project or evaluated as part of the "no build" condition in the EIS. However, the proposed project has been developed so as not to preclude the future development of any of those elements. If the proposed project is approved, all of the replacement parcels would be mapped as parkland at the outset of the project, and it is NYCDPR's intention that the recreational resources be maintained in perpetuity in the replacement locations.

Comment 24: The way in which the project goals are listed in the DEIS indicates that the needs of the applicant are more important than the needs of the community (e.g., other goals are listed ahead of the goal to "minimize adverse impacts and improve conditions in the surrounding neighborhood"). Since the development of this project will require in excess of $450 million in public funds, and since the City already owns the existing stadium, the community needs should be more carefully considered. (FOYS) This plan does not reflect the needs of the community (Causey)

Response: The presentations of the project goals in the DEIS and FEIS do not in any way indicate that the needs of the applicant are more important than the needs of the community. Goals related to construction of the new stadium are provided first, since they define the scope of the project. Two such goals are listed: to provide a modern stadium and to design it in a way that reflects the traditional home of the Yankees. Without the first two stadium-related goals, the third goal—that of minimizing adverse impacts and improving conditions in the surrounding neighborhood—could not occur. The presence of the third goal clearly demonstrates that the project sponsors are intending to address and respond to the community's needs carefully. The statement that the project would require more than $450 million in public funds is incorrect. See the response to Comment 48 below.

Comment 25: The Yankee Stadium proposal is not the end result of a reasoned planning process, but as the remains of a process designed to salvage New York City's Olympic bid. When the proposal for an Olympic-sized stadium at the West Side collapsed, the Mayor was forced to look to Queens for a site, and came to agreements with the Mets, Yankees, and NYC2012 committee in the course of a weekend, all to save the Olympic bid. The speed and narrow scope of this process was geared solely to facilitate the Olympics, not economic development in the Bronx. (FOYS)

Response: The Yankees began exploring options for modernizing Yankee Stadium in the early 1990s. This planning was independent of the planning process for the City's NYC2012 Olympic bid.

Comment 26: Over the years, the Yankees have made several claims about Yankee Stadium that are not true: 1) One myth is that the City loses money maintaining Yankee Stadium and that the cost to maintain the stadium is prohibitive. However, between 2000 and 2004, the City netted $5.3 million per year on the stadium lease. The DEIS indicates that the existing stadium would cost the City $77 million over the next 30 years; however, this claim is not itemized and thus cannot be verified. 2) Another myth is that Yankee Stadium's current configuration is such that the Yankees are unable to capture appropriate revenue streams. However, the DEIS estimates that even with a very unlikely 25 percent

decline in attendance, the Yankees expect revenues from ticket sales alone to rise by a minimum of $40 million (36 percent) by 2009. The Yankees do not need a new stadium to remain competitive. 3) Another myth is that the building is falling down. Although, in 1998, an expansion joint fell from the bottom of the upper deck, following that event City Department of Buildings Commissioner Gaston Silva stated, "From a structural perspective, there's no reason why Yankee Stadium can't be around for another 75 years if it's maintained properly." Since that time, there have been no structural issues with the stadium. 4) There is a question of what a "modern baseball facility" is and whether it is needed. The definition of a "modern baseball facility" is constantly changing. Success or failure of a facility is better judged on performance, rather than age or amenities. (FOYS)

Response: One of the principal goals of the project is to provide a state-of-the art stadium for Yankees fans and players in the area of its historic home, goals that would be addressed by the proposed project. The serious performance deficiencies of the existing stadium, including inadequate and obsolete seat size, restrooms, passageways, and concessions, as well as facilities for management and players, are described in detail in Chapter 1, "Project Description," in the EIS. As noted in Chapter 1, Yankee Stadium cannot comfortably handle attendance greater than 35,000; at that point, the hallways are crowded, long lines form for the food concessions and bathrooms, further interfering with pedestrian flow, and the kitchens and other support facilities are inadequate to meet the demand. Given that average game attendance has exceeded 35,000 in every year since 1999, the problems of accommodating that demand have become more frequent and more difficult.

Comment 27: We do not believe that the Yankees will move from the Bronx if they do not get approval to build a new stadium. (FOYS, Brennan, Cotter)

Response: The EIS does not claim that the Yankees would move from the Bronx if they do not receive approval to build a new stadium.

Comment 28: The last 10 years have demonstrated that a winning and contending baseball team can draw record crowds in the Bronx, but getting there and staying there for dining and other related experiences has fallen short since the initial renovation was completed in 1976. The current proposal fails to address these issues. (Lapp)

Response: In addition to providing a new state-of-the-art ballpark, the proposed Yankee Stadium would include enhanced amenities, such as a restaurant located at street level at the corner of River Avenue and East 161st Street, efficient and attractive pedestrian circulation space, and new, high-quality park facilities located nearby. These elements, together with the additional parking facilities that the proposed project would provide, would help to better attract and retain visitors.

Comment 29: A rendering of the proposed replacement parkland on the existing stadium site (Heritage Field) presented by NYCDPR at the CPC's public hearing on the ULURP application showed a large number of mature trees in the park, even though the project would result in existing mature trees to be replaced with smaller, younger trees. To show mature trees in the proposed parkland provides a false image; this rendering should be left out of future presentations as well as the FEIS. (Herbert)

Response: The renderings of the project provided in the DEIS and FEIS and in the presentation at the public hearing are illustrative renderings that are not intended to depict the exact appearance of the project once completed. Rather, it is intended to convey a sense of how the park would appear at some point in the future.

Comment 30: The proposed project should include streetscape redesign along East 161st Street to complement the reconstruction of Lou Gehrig Plaza and the Grand Concourse and Boulevard. (CB4)

Response: As illustrated in the EIS graphics and described in the EIS in Chapter 7, "Urban Design and Visual Resources," the proposed project would include streetscape redesign along East 161st Street between Jerome and River Avenues. Surrounding the proposed stadium on River and Jerome Avenues and on East 161st Street would be large pedestrian gathering areas that would include decorative paving, landscaping, and other amenities, such as seating areas and sculpture.

Comment 31: The proposed stadium should provide year-round access for commercial and recreational purposes. (CB4)

Response: The proposed stadium includes an approximately 300-seat restaurant located at street level at the corner of River Avenue and East 161st Street that would provide year-round operation with direct entry from outside the stadium. It is also anticipated that the Yankees would continue to host tours of the proposed stadium, as they do now.

Comment 32: To enhance the appearance of the area, decorative lampposts with high-wattage lighting must be provided throughout the area, and trees and bushes should be planted around the new stadium, within medians on Jerome Avenue, and in front of garages. (BBP)

Response: The new, approximately 60,000-square-foot plaza that would be created in front of the new stadium would include attractive seating areas, landscaping including street trees and bushes, and decorative lighting. This area would be available for public use on a year-round basis. Other streetscape improvements in the vicinity

of the new stadium and larger project area, including lighting and tree planting, would be undertaken by the City NYCDPR.

Comment 33: The Yankees and their developer(s) must incorporate sustainable design features, including incorporating "gray water" systems within the stadium and garages, on-site electric generation for Yankee Stadium, using "zero-waste" principles with attention to waste prevention, reuse, recycling, and composting, and on-site storm water management with capture and re-use for stadium and garages. (BBP, SSB) The developer should include green building techniques with Leadership Energy and Environmental Design Standards (LEEDS) rating silver or higher throughout the project and implement Local Law 86. (SSB) Green roof construction should be encouraged for parking garages and other structures created as part of the proposed project. (CB4)

Response: The Yankees are committed to incorporating sustainable design features into the new stadium to the extent possible. For example, the Yankees are committed to minimizing energy costs within the new stadium, minimizing waste during construction, using construction materials to the extent possible from within a 500-mile radius of the site, and maintaining a recycling program to minimize waste during the baseball season. In addition, the new stadium has been designed in consultation with NYCDEP to provide for on-site stormwater retention.

Comment 34: The proposed stadium would create a ridiculous number of luxury suites and would limit the affordability of Yankee game tickets. (Hope of Israel, Weinstein)

Response: As described in the EIS, the proposed stadium would contain a variety of seats, from bleacher seats to luxury boxes. There would be a total of 60 luxury suites and 7 party suites, which is less than or comparable to most new stadiums.

LAND USE, ZONING, AND PUBLIC POLICY

Comment 35: The DEIS states that the proposed project is consistent with public policy and land use plans for the area yet ignores parts of these plans with which the stadium proposal is inconsistent. The proposed stadium site falls within the boundary of the First Amended Yankee Stadium Urban Renewal Plan (URP) approved in 1974. The main goal of this URP is parking and ramp connections to the Major Deegan Expressway. The DEIS demonstrates that the proposed project is consistent with some elements of URP (i.e., parking) and not others (i.e., stadium). (NY4P)

Response: The DEIS clearly describes that portions of the project area are located within the First Amended Yankee Stadium Urban Renewal Plan (URP), approved August 7, 1974. As discussed in Chapter 2, "Land Use, Zoning, and Public

Policy," of the DEIS, the goal of the First Amended Yankee Stadium URP is to improve the area surrounding the stadium, specifically through the provision of new redevelopment sites to be utilized for additional parking spaces and for commercial rehabilitation, and the proposed project would be consistent with that goal. The First Amended Yankee Stadium URP does not include specific provisions related to the stadium itself. The DEIS also clearly states that the proposed project would change portions of the project area that are located within the First Amended Yankee Stadium URP, including changing the existing Yankee Stadium site to a public use—designated parkland with a public recreational baseball field. As described in Chapter 2 of the FEIS, the land uses permitted in the URP include commercial uses and accessory parking to serve stadium patrons, and the proposed project would continue to carry out the development objectives as intended, as it would create additional parking areas to serve stadium patrons.

Comment 36: In the proposed plan, residential buildings would have to face the garage entrances or walls and be exposed to fumes. Structured parking should be kept away from residential streets. (BVEI)

Response: As described in the EIS in Chapter 2, "Land Use, Zoning, and Public Policy," the proposed project would not result in significant adverse changes in the types of land uses in the project area, as there would continue to be a mix of parking, parkland, and stadium uses, which are compatible with each other and consistent with the park designation of much of the project area. As described in Chapter 7, "Urban Design and Visual Resources," the development of the four garages on the site (though only three would be visible above grade) would also be in keeping with the urban design of the area, which already contains numerous parking lots and two large parking garages on River Avenue. An air quality analysis was also included in the EIS (see Chapter 17), and no potential significant adverse air quality impacts were predicted to occur as a result of the proposed garages.

SOCIOECONOMIC CONDITIONS

Comment 37: To say that this project will deliver thousands of stable, well-paying jobs to Bronx residents is a distortion of both truth and reality. (Herbert, Costa, SSB, Porrata, FOYS, Ross, Brennan, Causey) Construction jobs will last only as long as the construction period and likely would not go to community residents. (Herbert, Costa, SSB, FOYS, Tejada, Causey, Ross, Brennan) Most of the jobs in the new stadium will simply be the same jobs from the old stadium. (Herbert, SSB, Porrata) Jobs related to stadium activity are seasonal jobs in the infamously low-paying retail sector, jobs that do not lead to better-paying jobs. (Herbert, GJNY, SSB, FOYS, Brennan, Causey) By pumping up job creation

with this project, project supporters are making pawns out of the jobless to get this project built. (Herbert)

Response: The EIS does not estimate the number of project-generated jobs that would go to Bronx residents. Chapter 3, "Socioeconomic Conditions," includes an economic and fiscal benefits analysis that estimates the number of jobs generated by the proposed project in New York City and State. The analysis, based on the RIMSII and IMPLAN input-output models, finds that construction of the various project elements (including the new stadium, park space, and parking facilities) would cumulatively generate an estimated 8,468 direct full equivalent (FTE) jobs, of which 6,468 FTE jobs would be within New York City. One FTE is the equivalent of one person working full-time for one year. Construction jobs, by their very nature, last only as long as a construction period.

As described on page 3-13 of the DEIS, Economic Research Associates' (ERA) operations analysis is based on the incremental direct spending that would be generated by ticket revenues and attendee spending, i.e., the amount that would be spent over and above the baseline direct spending from existing stadium operations. Therefore, the 700 FTE stadium jobs cited in the EIS represents incremental job opportunities above those projected for the existing stadium in 2009.

The approximately 700 incremental jobs projected to be created by the proposed project could include management, sales and related positions, positions in building and grounds cleaning and maintenance, security, food preparation and serving, and office and administrative support. Some of these positions would be seasonal and game-day jobs, which is well-suited to many employees who are interested in only seasonal work, or part-time work to supplement another seasonal or part-time job.

It is outside the scope of the EIS to evaluate the hiring practices of the Yankees, either during the construction period or during operations of the new facilities. However, the Yankees are committed to using best efforts to, among other things, employ Bronx residents both in construction and long-terms jobs to be created by the new stadium and utilize local businesses to supply construction materials. In addition, outside the ULURP and CEQR processes, the Yankees have stated that they will set forth their commitments to the community in a CBA.

Comment 38: The proposed project will bring jobs, business, and visitors to the South Bronx. (Caro) The proposed project will bring much-needed jobs to the area. (Birkett, Douglas, Levy)

Response: Comment noted.

Comment 39: The discussion of costs and benefits and number of jobs created by the project must be limited to the proposed project and not include the additional project elements that the Bronx Borough President is calling for. (FOYS, SSB)

Response: As described in the responses to Comment 22 and Comment 23, while the City and Yankees are fully supportive of the elements of the Borough President's Yankee Stadium Neighborhood Redevelopment Plan, these elements are not a part of the proposed Yankee Stadium Project, and therefore the costs and benefits associated with these elements—including the new jobs that would be generated by the development of these elements—are not evaluated as part of this EIS.

Comment 40: The proposed Yankee Stadium would not bring new fans and business to the area. In order to bring the proposed 600,000 new fans indicated in the DEIS, the new facility would have to draw 4.7 million new people, an average of 58,000 per game. This is impossible in a stadium seating 53,000 people. (FOYS)

Response: The incremental attendance projections were performed by ERA and reported in the EIS. As described in Chapter 3, "Socioeconomic Conditions," based on the average annual attendance at Yankee Stadium between 1997 and 2004, ERA projects attendance at the existing stadium to be 3.3 million (70 percent occupancy) in 2009. Attendance at the new ballpark, which was based on attendance at comparable new Major League Baseball ballparks in other cities, is projected by ERA to be 3.9 million (95 percent occupancy) in its opening year, 2009, averaging approximately 48,000 people per game. The difference of 3.9 million and 3.3 million in 2009 is the source of this commenter's "600,000 new fans." The EIS and ERA make no claim of a long-term increase in attendance. The steady-state attendance estimate of 87 percent occupancy would yield 3.8 million in attendance, beginning in the sixth year of operation.

For more information on the methodology used by ERA to project future attendance, see response to Comment 45, below.

Comment 41: According to the DEIS, the proposed project would result in the creation of 1,000 permanent jobs in New York City and 300 jobs elsewhere in the State, a far cry from the "thousands" of jobs that project supporters are claiming would be created. If the total public investment exceeds $450 million, the cost to create each permanent job is $375,000 per job, a terrible public investment. Even though the Yankees will pay for the stadium themselves, this is a bad investment for the City. (FOYS)

Response: The commenter's assertion that the total public investment exceeds $450 million is incorrect. See the response to Comment 48.

The economic and fiscal benefits analysis, reported in Chapter 3, "Socioeconomic Conditions," finds that construction of the various project

elements (including the new stadium, park space, and parking facilities) would directly generate an estimated 8,468 FTE jobs, of which 6,468 FTE jobs would be within New York City. One FTE is the equivalent of one person working full-time for one year. In addition to these direct jobs, construction of the stadium would support an additional 2,000 FTE indirect and induced jobs (in industries supporting construction activities) within New York City. The construction activities' total economic output, defined as the total economic effect on a local economy or the value of final goods and services produced, is estimated to be in excess of $1.3 billion for New York City.

The proposed project also would generate new jobs and economic output during operations in excess of what is projected for the existing stadium. Operations of the new stadium are projected to directly generate 723 additional FTE jobs annually. In addition to the direct employment, the project would support 210 FTE indirect and induced jobs (in industries supporting project operations) within New York City. The project total economic output during operations is projected to be $96.3 million annually for New York City.

Comment 42: The Yankees, their developer, and all those involved in the project must commit to employ Bronx residents in the thousands of construction and long-term jobs created by the new stadium, and support Bronx-based suppliers and contractors by participating in the Buy-Bronx/Buy-New York and Bronx-at-Work campaigns. (BBP) The jobs created by the proposed project should be reserved for community residents. (Epps) The proposed project should provide permanent and good paying jobs for local residents. (CB4)

Response: The Yankees are committed to using best efforts to, among other things, employ Bronx residents both in construction and long-terms jobs to be created by the new stadium and utilize local businesses to supply construction materials. Outside the ULURP and CEQR processes, the Yankees have stated that they will set forth their commitments to the community in a CBA.

The construction of the new stadium will create 5,600 FTE jobs in New York City, including direct on-site employment and indirect and induced off-site jobs. The construction of the replacement parks and parking garages will create 4,146 full-time and part-time jobs. The operation of the new stadium will provide 900 FTE jobs on-site and off-site annually in the City. The operation of the replacement parks and garages will create 33 full-time and part-time positions annually.

Comment 43: The project will adversely affect local merchants and economic development in the area. (Blassingame, Porrata) The proposed project should rehabilitate the economic landscape of River Avenue and the surrounding areas for year-round activity (CB4) The ERA report fails to account for the potential impact that the proposed project's additional retail space would have on locally owned leisure

establishments. (GJNY) The proposed project will create a "mall" with several restaurants located inside the stadium with direct access to more garages, which will only serve to harm and isolate our businesses. (Costa) The proposed stadium would contain six times the amount of concession space than the existing stadium. This additional concession space would most likely sell food and drink, souvenirs, and sports clothing, all of which are currently available at local merchants along East 161st Street. The location of the proposed stadium will likely result in Yankee fans bypassing the existing businesses for concessions inside the new stadium. The Yankees will capture the current spending, while local merchants lose business. (FOYS)

Response: As discussed in the DEIS, the project would have no significant adverse effect on local merchants and is in fact likely to generate additional business for these retailers. The project would allow Yankee Stadium to remain in the same neighborhood as it has for more than 80 years, and the businesses relying on the presence of this institution will have the continued economic benefit of having Yankee Stadium in the Bronx. The subway stops and stairs will remain in the same location as they are today. Parking garages and lots currently located to the south of East 161st Street will remain, and a new garage located at East 151st Street between River and Gerard Avenues will bring another group of potential customers to River Avenue in the vicinity of these establishments. Moreover, by creating a new active park complex south of East 161st Street on the west side of River Avenue, there would be more people in the immediate vicinity of this retail strip on non-game days, adding to the retail viability of the businesses every day of the year.

Concessions and portable concession carts would be located at high-traffic locations throughout the concourses, as they are in the existing stadium. In-stadium concessions would be open on game days only, as they are in the existing stadium, and so would not substantially change the ability of merchants outside the stadium to market food, drink, souvenirs, and clothing to fans or others visiting the stadium area both on game days and non-game days. In addition, the proposed project would create a 300-seat year-round restaurant at street level at the corner of River Avenue and East 161st Street. Year-round public accessibility to this restaurant is likely to attract neighborhood residents and visitors to the area, including on non-game days and in the off-season, which would also increase the potential for local merchants to capture retail spending. Therefore, the food service and retail facilities in the proposed project are not expected to result in a significant loss in business to local merchants.

Comment 44: The DEIS includes findings of a study conducted by ERA at the request of NYCEDC in projecting the fiscal impacts and jobs created by the proposed project. The potential drawbacks to the report may result in exaggerated projections regarding the amount of tax revenue and jobs that would be created, yet the DEIS heavily relies on this data throughout Chapter 3. Even taken at face

value, the findings of the ERA report suggest that the Yankee Stadium Project as currently proposed does not meet the standards of an economic development investment because the costs to taxpayers would exceed projected benefits. Nevertheless, the problematic assumptions and questionable data contained in the ERA report may undermine the integrity of the DEIS. (GJNY)

Response: The purpose of a socioeconomic analysis under CEQR is to identify the potential for significant adverse impacts due to changes in the residential and commercial real estate markets. The creation of job opportunities, while a tangible economic benefit, is not used in the impact assessment in Chapter 3, "Socioeconomic Conditions." The ERA analysis referenced by the commenter in no way influences the analysis of significant adverse impacts in the EIS, nor would the provision of jobs offset potentially significant adverse impacts, were they to exist.

The commenter's critique of the assumptions and data used in the ERA study is addressed separately in the responses to Comments 45 through 48.

Comment 45: The ERA report overstates projected fiscal benefits because the employment and tax revenue forecasts are based on obsolete data. The forecasts depend upon a large increase in fan attendance. However, after the report was completed, the Yankees had a banner year in 2005, breaking the American League attendance record. Therefore the fiscal benefits projected in the report are overstated, because if the 2005 attendance is factored in the incremental attendance in 2009 due to a new stadium would be 25 percent less than the ERA report predicts. Updating the attendance figures would substantially reduce the projected benefits and jobs created, which are included in Tables 3-5, 3-6, and 3-9 of the DEIS. (GJNY, FOYS)

Response: (This comment and the succeeding ones refer to detailed analyses contained in the ERA report that were not included in the EIS. Responses to these comments therefore rely on the detailed information from the ERA report. The EIS summarizes the methodology and findings of the ERA report, but does not use ERA's analyses in determining the potential for significant adverse impacts under CEQR.)

The DEIS was completed and certified in September 2005, prior to the completion of the 2005 Major League Baseball season. The ERA report, which was completed in the summer of 2005, estimated incremental direct spending by comparing projected attendance in new stadium in 2009 with projected attendance in the existing stadium in 2009. Projected attendance in the new stadium was based on attendance at comparable new Major League Baseball parks. Projected attendance in the existing stadium was based on average annual attendance at Yankee Stadium between 1997 and 2004 (the last full season prior to the preparation of the DEIS).

Average per game attendance between 1997 and 2004 reflects a period of sustained growth for the Yankees, rising from the rank of 5th out of 14 American League teams in 1997 to 1st in 2004. In the years prior to 1997, there was no clear trend in attendance for the Yankees. For example, in the eight years prior to the analysis period (i.e., 1989 to 1996), the Yankees ranked 8th, 9th, 11th, 11th, 5th, 6th, 7th, and 7th in average attendance, respectively. Attendance in 2005 was about 8 percent higher than in 2004. In contrast, the increase in Yankee attendance between 2003 and 2004 was nearly 9 percent. Many factors can affect the team's ability to remain the top-ranked team in the American League, and there is no guarantee that the Yankees' attendance would remain first in the league. Therefore, the ERA report based its projection of incremental attendance between the new stadium and the existing stadium on a period of unparalleled sustained growth for a modern Yankees team. The data used by ERA are not obsolete, nor does the analysis significantly overstate the incremental fiscal benefits reported in the DEIS. Given the time period for the preparation of the DEIS (i.e., 2004) and the fact that the data already represent a sustained peak of Yankee attendance, the analysis is conservative. Updating the attendance would not materially reduce the projected benefits.

Comment 46: The ERA report rightfully acknowledges the fact that a substantial portion of the income from ticket sales will eventually leak out of the local economy; however, the report does not apply this rule to revenue generated by concessions and merchandise. (GJNY)

Response: ERA estimates that the incremental increase in ticket revenues from the proposed stadium (compared to the existing stadium) would be approximately $76.4 million. The ERA report indicates that a substantial portion of this ticket revenue will be used to pay the salaries of players and managers and for operations in other parts of the country and will therefore leak out of the local economy. Accordingly, the ERA report assumes that only 25 percent of the $76.4 million in new ticket revenues (or $19.1 million) would actually generate indirect benefits within the local economy, and the analysis applies the economic multipliers only to that $19.1 million. The ERA analysis does not discount the in-stadium spending (on concessions, merchandise, and parking) or out-of-stadium spending (on eating and drinking, retail goods, etc.) in the same way because those dollars would go primarily toward local businesses or franchises with employees who live in New York City or State. Indirect spending (inter-industry purchases and household spending fueled by worker salaries) from in-stadium and out-of-stadium spending would occur primarily within the local economy.

Comment 47: The ERA report claims to have "only included spending by non-City residents who visit the City primarily to see a Yankees game." However, if the report's projected $74 million a year in added ticket revenues is solely from out-of-

towners, it appears that the Yankees would need to attract far more fans than predicted in the ERA report. (GJNY)

Response: For in-stadium spending (i.e., spending on concessions, merchandise, and parking) and out-of-stadium spending (i.e., spending at restaurants, retail venues, hotels, etc.), the ERA analysis includes only those dollars that would be spent by non-City residents visiting the City primarily to see a Yankees game. Ticket revenues, however, are based on the total net increase in attendance. Net new ticket revenue is estimated by ERA to be approximately $76.4 million annually. The ERA analysis conservatively assumes that only 25 percent of the incremental ticket revenue would generate indirect benefits within the local economy.

Comment 48: The Yankees would not be required to pay rent, property taxes, mortgage, and sales taxes, would be eligible for discounted energy bills and additional grants, and would be able to issue tax-exempt bonds to finance the stadium construction. Altogether the public contribution, through direct and indirect subsidies, could exceed $400 million. The ERA report states that the cumulative tax revenue generated by the construction and operation of the stadium would be $96 million to the City, which is less than what the City will pay just to replace the parks. The report also states that the combined fiscal benefits that the proposed stadium would generate for the City and State would be $225 million, which is less than the total amount of public investment. (GJNY, FOYS)

Response: The DEIS includes an analysis of economic benefits that would accrue to the City and State of New York from the development of a new stadium. The analysis is based in large part on a study prepared by ERA for the NYCEDC in the summer of 2005 and reflects benefits over a 30-year period, including a three-year construction phase and 27-year operating phase. The analysis was updated later in the summer by NYCEDC to reflect three years of construction and 30 years of operation, a total of 33 years.

As indicated in these reports, the proposed project would generate a combined incremental fiscal and economic benefit of approximately $676 million by 2038, including about $350 million to the City, including capital savings from not having to repair and improve the existing stadium (as indicated on page 3-22 of the DEIS), and $328 million to the State. The net present value of these benefits, as indicated in NYCEDC's update of ERA's report, would be about $289 million. Of this amount, about $150 million would accrue to the City.

The commenter states that the public sector will contribute approximately $400 million to the proposed project through direct and indirect subsidies, and that this contribution will exceed the public benefits. The City has publicly stated that the combined contribution of the City and the State to the new stadium would be about $205 million, including construction of replacement parks, parking garages, infrastructure, rent credits, and operating reserves. Assuming

inflation of 3.5 percent, the public contribution could rise to about $210 million during the construction period. The commenter's estimate of $400 million in public costs incorrectly identifies certain items as costs to the City and the State, such as foregone sales tax. Such sales tax would never be generated in the future without the proposed project, and so is not foregone sales tax. The City commonly uses sales tax waivers on construction materials to encourage economic development, including for the development of the Jacob Javits Convention Center, Battery Park City, 42nd Street Redevelopment Project, and Memorial-Sloane Kettering Cancer Center, among many others.

In addition, the commenter identifies as a subsidy the benefits that the Yankees would receive from financing the new stadium with low-interest tax-exempt bonds. The bonds would provide a specified level of funding, which, with equity provided by the Yankees would constitute the construction expenditures. Any overruns during construction would be the responsibility of the Yankees. Tax-exempt bonds are a common tool used throughout the country to encourage the development of large-scale projects involving public-private partnerships. In the City, tax-exempt bonds have been used to finance the American Airlines and British Airways terminals at JFK Airport, One Bryant Park (the future headquarters of Bank of America), and 7 World Trade Center. The City and State would not lose any revenue by facilitating the use of tax-exempt financing for the new stadium.

The commenter also identifies foregone property tax revenue as a subsidy. However, the commenter fails to note that the proposed new stadium would be owned by the New York City Industrial Development Agency (IDA) and constructed on land owned by the City of New York, and like the existing stadium, which is owned by the City of New York, would be exempt from property tax. The Yankees would pay a payment in lieu of taxes (PILOT) with respect to the stadium, not to exceed full real property taxes were the new stadium not exempt from such taxes. The PILOT would be dedicated to pay the tax-exempt bonds and for operation and maintenance of the stadium and related facilities. Neither the City nor any other public agency would be obligated to repay the bonds. In other words, the use of a PILOT to repay tax-exempt bonds for the construction of the new stadium will cost the City nothing. Again, the commenter incorrectly assumes a public subsidy.

For these reasons, among others, the DEIS and associated background studies indicate that the incremental fiscal and economic benefits of the proposed project for the City and the State will exceed the public investment by more than $75 million.

Comment 49: Although the proposed project would result in an $800 million private investment, this money will not necessarily be directed into the neighborhood. (FOYS, Brennan) Approximately 50 percent of the cost of the new stadium

would go toward the procurement of raw materials, design, management, and oversight, none of which would benefit the community directly or indirectly. This spending would not be taxed, so the City and State would not even benefit from taxes on procurement. The rest of the costs would go toward labor, much of which would come from outside the neighborhood and the Bronx. (FOYS)

Response: The Yankees are committed to using best efforts to, among other things, employ Bronx residents both in construction and long-terms jobs to be created by the new stadium and utilize local businesses to supply construction materials. Outside the ULURP and CEQR processes, the Yankees have stated that they will set forth their commitments to the community in a CBA.

In addition, the input-output models used to estimate economic and fiscal benefits (i.e., RIMS and IMPLAN) project direct, indirect, and induced effects on the City of New York. Direct effects represent the initial benefits on the economy from the new investment. Indirect effects represent benefits generated by industries purchasing from other industries as a result of the direct investment; for example, indirect employment resulting from construction expenditures would include jobs in industries that provide goods and services to contractors. Induced effects represent the impacts caused by increased income in the area—for example, households of direct or indirect employees spending additional income for goods and services, such as food and drink, recreation, or medical services. The input-output models are very specific in allocating direct, indirect, and induced effects to geographic areas. For example, the private investment of $749 million to build the new stadium is projected to generate personal income of about $237 million for workers directly and indirectly employed or induced by the proposed project. Some portion of these workers will live in New York City. Personal income taxes (which represent a majority of the $13.6 million in New York City taxes shown in Table 3-6) were estimated based only on those workers who would live in New York City. Similar tax benefits exclusive to New York City from construction of the parks and garages are shown in Tables 3-7 and 3-8. So while the purchase of construction materials for the new stadium would be exempt from sales taxes, income earned directly by construction workers and indirectly by workers in support industries or induced by household spending, as well as corporate earnings directly and indirectly generated by construction of the proposed project would be taxable, and the DEIS reports the projected taxable amounts for the City.

Similar conditions will exist during annual operations, and are described in the DEIS. However, in addition to the personal income taxes and corporate and business taxes paid by the direct, indirect, and induced economic activity, the city will benefit from taxes on in-stadium and out-of-stadium spending, including sales taxes, parking taxes, and hotel occupancy taxes, among others. In total, the ERA report estimates that the City will receive a cumulative incremental fiscal benefit from these taxes of about $258 million over 30 years

of operation. These fiscal benefits will allow the City to maintain and improve its economy through expenditures for major capital projects, such as new schools, roads, and sewers throughout the five boroughs, including the Bronx.

Comment 50: The proposed project is laden with hidden public subsidies. Any large construction plan greatly underestimates these costs. Surely there are better uses—schools, parks, mass transit, better roads, and bridges—for spending public money. (Costa, Brennan) To state that the Yankees will pay for the entire stadium obscures the reality that this plan has a minimum public price tag of $450 million. (FOYS)

Response: The commenter's assertion that the proposed project is "laden with hidden public subsidies" is outside the scope of a SEQRA or CEQR analysis. Nevertheless, as noted in the response to Comment 48, the combined investment from the City and the State is expected to be about $205 million, including construction of replacement parks, parking garages, infrastructure, rent credits, and operating reserves, not $450 million, as the commenter states. Neither the City nor the State will have any obligation to pay for construction of the new stadium. Thus, there are no hidden public subsidies. As a comparison to the public investment in the proposed project, the DEIS describes incremental public tax benefits from building the proposed project that would go into the City's general revenues. These fiscal benefits could be used to improve the City's mass transit, roads, bridges, parks, and schools.

Comment 51: The proposed project is irresponsible. The development of the stadium at this site will result in the loss of parkland in the poorest congressional district in the country, while ensuring that the Yankee organization benefits financially. (NYCPA, Brewer, Herbert, FOYS, Porrata) This proposal is about making money for the Yankees and is not an appropriate use of public money. (Weinstein) The project as currently proposed does not meet the standards of a rational economic development investment. (GJNY)

Response: The need for the new stadium is explained in Chapter 1, "Project Description," of the EIS. As described there, the project is needed to replace the existing stadium—which is inadequate to meet the needs of fans, players, and the media—with a new, modern stadium. The great majority of the project's costs (approximately $750 million) will be provided by the Yankees.

Comment 52: According to NYCDPR's website, parkland restoration costs between $500,000 and $1 million per acre and $1 million per ballfield. Therefore, NYCDPR could restore the existing parks for $25 million but are instead proposing to spend between $110 million and $120 million to rebuild parkland. This is not a good investment for the Bronx because the same goals can be achieved for much less, freeing money for investment elsewhere. (FOYS)

Response: The cost of developing new parks can vary widely depending on pre-existing site conditions, the nature of the proposed program, amount of new site utilities and infrastructure that is needed, and the types of materials selected. In the case of this project, it is anticipated that the replacement parks would be highly programmed, contain a new comfort station, field houses, maintenance and operations space, playgrounds, irrigation for the planted areas, and possible night lighting for the athletic fields.

As indicated in the DEIS, capital expenditures for replacement parkland as part of the proposed project would be about $101 million and would provide a net increase in accessible recreational facilities of about 4.6 acres, for a total of 27.05 acres. The new parkland would provide similar or improved facilities for active and passive recreation, as well as new waterfront access for the community. In addition, the proposed project would turn the existing stadium into Heritage Field, a publicly accessible baseball field as recommended in Bronx Borough President's Yankee Stadium Neighborhood Development Plan. Thus, the proposed project would allow a beneficial and desired reconfiguration and expansion of existing parkland. At the same time, the replacement of parkland would allow the construction of a new stadium that would generate substantial incremental economic and fiscal benefits to the City and the State, as described in the DEIS, including about 900 new jobs in the City alone, as well as cumulative incremental fiscal and economic benefits of about $350 million for the City over 30 years.

Comment 53: The Yankee organization should be required to pay taxes on the land. (Levy)

Response: See the response to Comment 48. The proposed new stadium would be owned by the New York City Industrial Development Agency (IDA) and constructed on land owned by the City of New York, and like the existing stadium, which is owned by the City of New York, would be exempt from property tax. The Yankees would pay PILOT with respect to the stadium, not to exceed full real property taxes were the new stadium not exempt from such taxes. The PILOT would be dedicated to pay the tax-exempt bonds and for operation and maintenance of the stadium and related facilities.

Comment 54: The proposed project should include substantive goals for women, African-American, and Hispanic entrepreneurs for contracting and subcontracting. (CB4)

Response: While not a comment on the DEIS, the Yankees are committed to and are negotiating a CBA that will include provisions assuring MBE/WBE participation in the construction and operation of the stadium.

Comment 55: John Mullaly and Macomb's Dam Parks have always served as buffers between the stadium and the residential buildings that line the parks. As stated in the

DEIS, real estate values are expected to decline in the area surrounding the new stadium. As a result, long-standing residents will be inclined to move out, leaving the area blighted. (Bent, Brennan, Costa, Causey, Cotter)

Response: Chapter 3, "Socioeconomic Conditions," of the EIS includes a discussion of effects on property values so as to consider whether the project is likely to result in rising property values that could indirectly result in displacement of residential tenants, who would no longer be able to afford their rent. The chapter concludes that such an effect is not expected to occur. It identifies three buildings immediately adjacent to the site of the proposed stadium where some negative effect on property values could occur. The chapter then notes that even if the proposed project would reduce the value of these three buildings, they represent only a small number of the roughly 27,000 residential units within the ½-mile study area, and this potential change would not offset positive trends in the study area, impede efforts to attract investment to the area, or create a climate for disinvestment.

Comment 56: A recent *New York Times* op-ed article stated that this project will "help gentrify the South Bronx." When a project of this size is introduced into the community, a goal should be to offer meaningful benefits to the current residents, not to attract wealthier residents or commuters who will eventually drive the current residents out. (SSB)

Response: Please see the response to Comment 55 above. Chapter 3 of the EIS includes an analysis of the project's potential to result in gentrification that might drive the current residents out and concludes that such an effect is not expected to occur. Indirect residential displacement is not expected to occur as a result of the new stadium or proposed redistribution of open space and recreational facilities because most of the open space would still be located within close proximity to its original location.

The proposed project does not contain a residential component and therefore would not introduce a more costly type of housing to the area. The proposed project would not directly displace properties that have had a blighting effect on property values in the area. Businesses located on the west side of Exterior Street that could be perceived as blighted will be displaced by the time construction of the proposed project begins. Even though these businesses will be replaced by parkland, the residential areas south of East 157th Street have been buffered from the blighted properties by a substantial change in grade between Exterior Street and River Avenue, as well as by the Metro-North Railroad tracks. The proposed project would introduce a critical mass of non-residential uses. However, most of the new parkland in the proposed project is a replacement for existing parkland within close proximity of its original locations and would not make the area more attractive as a residential neighborhood.

Comment 57: The existing stadium is a substantial tourist draw in its current condition. A new stadium, lacking the patina of the real thing, could actually draw fewer non-game day sightseers than the existing stadium. (FOYS, Brennan)

Response: This comment does not relate to the EIS. However, there is no reason to believe that a new, modern Yankee Stadium would attract fewer visitors than the current stadium.

OPEN SPACE

Comment 58: The proposed Yankee Stadium should not be built within John Mullaly and Macomb's Dam Parks. (NYCPA, Niles, Rivera, Brewer, Jenkins, A. Robinson, Hope of Israel, Brewer, L-Engel, Weinstein, SSB, M.S. Smith, P. Robinson, David, A. Hunter, Carter, Tejada, Raso, Harris, Ross, Solis, Cotter) These parks are historic and a vital part of the community. (NYCPA, Niles, Rivera, Brewer, Jenkins, A. Robinson, Hope of Israel, Brewer, L-Engel, M.S. Smith, Alicea, David, Carter, Tejada, Harris, Ross) The community was carefully planned around the park, and the proposed project will destroy that important relationship. (Herbert, Moore, Causey)

Response: As described in the DEIS, residential development to the north and west of Jerome Avenue predates the development of Yankee Stadium. Following the stadium's construction in 1923, John Mullaly Park was developed between River and Jerome Avenues north of East 162nd Street. Although John Mullaly and Macomb's Dam Parks were not identified as historic resources, they are an important part of the community. The proposed project would preserve the northern portion of John Mullaly Park and the western portion of Macomb's Dam Park and would improve the southern portion of Macomb's Dam Park. The majority of the park facilities that would be displaced by the proposed stadium would be reconstructed across the street from the existing park facilities, south of East 161st Street.

Comment 59: The replacement parks do not provide an equivalent replacement for the current parks. The existing parkland on the site is basically a continuous swath of land; however, the replacement parkland would be fragmented, not as accessible to the community, located in various elevations, and would not feature amenities, such as mature trees and grass. Separating the recreational facilities diminishes the quality of the replacement facilities (Herbert, Costa, Brewer, Jenkins, A. Robinson, Hope of Israel, Brewer, L-Engel, Lapp, Alicea, SSB, BVEI, Solis). Despite a possible net gain in size, its location and experiential value are of diminished value to the community. (BVEI) The current plan would destroy public parkland; equivalent parkland is not being "replaced" in this proposal. (Bent, Brennan)

Response: The proposed project would create a unified 17.36-acre park area south of East 161st Street, which would be larger than the total park area (15.09 acres) that would be displaced north of East 161st Street. In response to comments on the DEIS indicating a desire for more ballfields in immediate proximity to East 161st Street and concern about the visual effect of the elevated tennis concession atop parking Garage C (in fall and winter months, when a tennis bubble would be inflated), NYCDPR is now proposing a revised scheme for park development, the "Alternative Park Plan." That plan is described in the FEIS in Chapter 22, "Alternatives." In this plan, the existing Yankee Stadium would be completely demolished and the field would be filled to bring the area to an elevation that more closely matches Ruppert Place. The alternative plan would also create a unified 17.36-acre park area south of East 161st Street, but in contrast to the proposed plan, this contiguous park area would contain most of the neighborhood-oriented active recreational amenities proposed as part of the project and would more closely replicate the use and function of the existing Macomb's Dam Park.

Comment 60: I am pleased that the City administration has incorporated my proposal to re-use the existing Yankee Stadium site as a "central park" complex for Little League and other public sports activities. This alternative, which will keep the athletic fields and running track at a site close to the residential neighborhood just opposite their current location, with sweeping views of the Harlem River valley, represents a crucial improvement to the plan. (BBP)

Response: Comment noted.

Comment 61: The replacement of 28 contiguous acres of existing parkland (the community's "Central Park") containing natural features such as mature trees and grass with "park features," such as the artificial turf playing fields to be located above the proposed parking garages, is not an equal exchange. (NYCPA, Brewer, Jenkins, FOYS, A. Robinson, Hope of Israel, Brewer, L-Engel, Moore, Costa, Niles, P. Robinson, Porrata, Tejada, Causey, Ross, Solis) The natural vegetation on the existing parkland is superior, as it provides health benefits, such as improving air quality and reducing the "heat island" effect in the summer. (Herbert) The taking of natural parkland for parking endangers the physical and mental health of the community. (SSB)

Response: Relocating parking facilities below grade as part of the project would optimize opportunities for parks while minimizing any adverse visual effect from the garage structures. There are numerous examples of parks being built atop structures of all sorts, including Riverside Park, the United Nations campus, Battery Park, Bryant Park, Union Square, Lincoln Center, Riverbank State Park, and Carl Schurz Park. The proposed project responds to the community's health concerns by adding additional high-quality parklands and open space to the area

and by planting trees throughout the neighborhood having a representative tree canopy value equal to the lost value at the time of planting. As part of the proposed park plan, three of the four replacement ballfields would use artificial turf, consistent with NYCDPR's current City-wide strategy of replacing active ballfields with artificial turf. Artificial turf fields, once considered uncomfortable and unsightly, are now being used increasingly in parks due to technological advances made in the material. The first artificial turf field used by NYCDPR was a carpet-style field in Manhattan's Chelsea Park; the second was in Riverside Park. Recent parks to receive similar artificial turf fields include the Dyker Beach Park in Brooklyn, East River Park in Manhattan, Brennan Field in Queens' Juniper Valley Park, and the Parade Grounds in Brooklyn's Prospect Park. Fields using artificial turf can be used in any weather, require less maintenance, do not result in dust as is common on grass-covered playing fields, and last much longer than playing fields with grass. The use of artificial turf would reduce expenses for maintenance, as compared with natural turf. Unlike previous turf, today's artificial turf plays and feels like real grass, but it has an advanced drainage system and requires far less maintenance. There is no evidence that replacing natural fields with artificial turf fields negatively affects the physical or mental health of park users. As part of the Alternative Park Plan, the existing Yankee Stadium would be converted to three natural turf ballfields, and one ballfield (atop Garage A) would use artificial turf. With the Alternative Park Plan, more replacement trees would be planted at the site of the existing stadium.

Comment 62: The proposed parkland would be disconnected from the residential community and would be difficult to access. (Lapp, SSB, Causey, P. Robinson, Ross, Cotter) The proposed stadium would create a "wall" separating parkland from residents, and the replacement parkland would not be as accessible. (Hope of Israel) The replacement parkland program should be centrally located and accessible to the children in the community. (CB4)

Response: As part of both the proposed and alternative park plans, the majority of the replacement parkland would be centrally located on a unified 17.36-acre park area south of East 161st Street, in the same general vicinity as the displaced facilities. The recreational facilities to be located on the waterfront parcel would be approximately ½ mile from the other recreational facilities. As described in the FEIS, the existing pedestrian bridge at East 157th Street would be reconstructed as part of the project to make it ADA-compliant and would provide year-round access to the waterfront parkland. The pedestrian bridge would also be extended to connect with the new parkland north of East 157th Street. The waterfront park would also be accessible via Exterior Street and through new pedestrian connections created within the Bronx Terminal Market retail development. As described above in response to Comment 59, the Alternative Park Plan addresses the community's concern regarding the

accessibility of the ballfields, and proposes the development of three ballfields at the site of the existing stadium. The Alternative Park Plan also promotes accessibility within the parks. Macomb's Dam Park south of East 161st Street would be brought up to the elevation of the adjoining Macomb's Dam Bridge Approach/Jerome Avenue interchange, enhancing access to this amenity from the residential neighborhoods to the north. This new and upgraded park would capitalize on the change of grades along East 161st and surrounding streets by creating a multi-level plan that allows easy access to the park from all street frontages.

Comment 63: Improvements to John Mullaly Park and other nearby parks, including upgrading of Franz Sigel ballfields, completion of Joyce Kilmer Park renovation, and installation of a running track at St. Mary's Park, should be included in the proposed project. (BBP) All of the park rehabilitation projects in Community District 4 should be fast-tracked for completion to offset the availability of park facilities. (CB4)

Response: Apart from the Yankee Stadium Project, NYCDPR is moving forward with improvements at nearby parks, including 1) a new fence around a portion of Joyce Kilmer Park to complete the park's rehabilitation, 2) a new playground at John Mullaly Park with design to begin this year, 3) ongoing rehabilitation work at the John Mullaly Recreation Center, and 4) creating new passive space and a hard court game area at Grant Park. Overall, a total of nearly $500 million will be spent in the Bronx over the next 5 years, creating new and rehabilitated passive and active recreation areas for all Bronx residents, with funding dedicated through the Croton Water Treatment Plant project, local, State, and Federal funds for the Bronx River corridor, and other regularly scheduled capital projects funded through local elected officials and the Mayor**.**

Comment 64: The community will have to wait too long—close to five years—for the replacement park facilities to be available. (BBP, NYCPA, Herbert, Jenkins, A. Robinson, Hope of Israel, Brewer, L-Engel, Costa, Ross) The DEIS offers no mitigation for this five-year net loss of parkland, and it is unclear what facilities the community will use during that time frame. (Herbert) Replacement parks and recreational facilities must be built first or concurrently with the proposed stadium. (CB4) Park facilities should not be taken away for any length of time. (Brewer) Replacement parkland will be inaccessible for three months to three years, which will cause a significant impact on a community that has high rates of asthma, obesity, and diabetes, which are exacerbated by lack of access to parks and open space. The City must provide an interim recreation plan. (NY4P)

Response: As described in the EIS, the existing stadium site cannot be developed with replacement recreational facilities until the proposed stadium is completed and operational because the Yankees would continue to play in the existing stadium

until the proposed stadium is completed. However, as part of the proposed park plan the majority of the active recreation facilities would be replaced within one to two years of their displacement. The Harlem River waterfront replacement parcel would be completed by 2007, with the recreational facilities available to the public one year after the ballfields would be displaced. The longest time of displacement caused by construction would be for the soccer field and the 400-meter track. Since these facilities would be displaced for three and a half years, a temporary running course would be created for local residents during construction.

The Alternative Park Plan described in the FEIS would have a different overall construction schedule than the proposed project, which would minimize to the maximum extent practicable the duration of time that recreational facilities would be unavailable. Like the proposed project, prior to construction of the new stadium, a temporary running course would be created around the two ballfields in the portion of Macomb's Dam Park west of Ruppert Place. This running course would be available in the spring and summer of 2006. As part of the Alternative Park Plan, the area for proposed parking Garage C (existing Parking Lot 1) would be developed with a temporary running course in the fall of 2006. This area would also contain a synthetic turf multi-purpose interim field that would be striped to accommodate a softball field and children's soccer field(s), such that either could be accommodated on a given day, but not both at the same time. In addition, the construction of the proposed stadium would be phased to preserve portions of the tennis facilities at John Mullaly Park north of East 162nd Street for recreational use for as long as possible, and tennis facilities would likely be available throughout most of the construction period.

Comment 65: The interim and, in some cases, permanent facilities must be completed before the new stadium construction begins. The City of New York must commit to immediately constructing the waterfront parkland, independent of the Yankee Stadium timetable, and immediately begin construction of permanent open space on River Avenue Lots 4 and 5. An interim track and field should be constructed on Yankee Parking Lot 1, and waterfront parking fields should be used as interim parks until permanent facilities are built. (BBP)

Response: The City and Yankees are committed to providing the community with enhanced recreational facilities to replace those being displaced to construct the new stadium and garages on the most expedited schedule possible. The vast majority of the replacement facilities would be fully operational by the time the new stadium opens in 2009, and all would be on line by the end of 2010. See also the response to Comment 64.

A construction schedule has been developed that would minimize, to the maximum extent practicable, the duration of time that recreational facilities would be unavailable, as part of the Alternative Park Plan described in Chapter

22, "Alternatives," of the FEIS. NYCDPR would begin construction on the waterfront park and on interim replacement facilities at Yankee Stadium Parking Lot 1 as early as practicable after approval of the proposed project. In addition, construction of the stadium would be phased to preserve portions of John Mullaly Park north of East 162nd Street for recreational use for as long as possible.

Comment 66: An ice and roller skating rink, with potential for other sports, should be located on top of proposed Garage C, present Parking Lot 1. The replacement parkland on the waterfront is too far from the residential community to feature ballfields; instead, it should feature the tennis concession, many of whose patrons arrive by automobile and vans. Stadium construction should be coordinated with tennis season to ensure that programs will not be interrupted. (BBP)

Response: NYCDPR's design guidelines for Garage C (at Jerome Avenue and East 161st Street) would require that the uppermost parking deck be constructed to accommodate the weight-bearing load and utilities that would be required to support an ice or roller hockey rink. However, the ability of NYCDPR to provide this program would depend on the ability of a concessionaire to set up, manage, and break down the facility on a seasonal basis. As at all other rinks around the City, the concessionaire would be allowed to charge a reasonable user fee for this service. As described in the DEIS, the replacement softball and baseball fields that would be located along the Harlem River waterfront as part of the proposed park plan would be in close proximity to existing ballfields, and accessible to community residents by a new pedestrian bridge as well as new pedestrian connections created within the Bronx Terminal Market retail development. However, a proposed Alternative Park Plan developed in response to community concerns would result in the development of three ballfields at the site of the existing Yankee Stadium and relocate the 16-court tennis concession at the proposed waterfront park. The existing Bronx Terminal Market Building J would be preserved and adapted for park uses, including a tennis house, which would provide a comfort station, administrative space for the concession, and lockers and other amenities for the tennis players. As described in the FEIS, the construction of the proposed stadium would be phased to preserve portions of the tennis facilities at John Mullaly Park north of East 162nd Street for recreational use for as long as possible. Because the northern portion of the existing tennis center (8 courts) in John Mullaly Park would remain open until March 2007 (the southern portion—8 courts—would be taken out of service in May 2006), tennis facilities would likely be available throughout most of the construction period.

Comment 67: Replacement park facilities should not be closed for any period of time on game days. (NYCPA, Bent, Brennan, Costa, P. Robinson, Ross) There are more than 80 game days per year, primarily between April and October, the season when

these parks would be most heavily utilized. (Bent, Brennan) The closure of park facilities on game days would cause a significant impact on local open space and recreational opportunities. The City should consider space within its newly expanded, state-of-the-art stadium for the New York City Police Department (NYPD) to use as a staging area. (NY4P)

Response: It is the City's intention to eliminate or limit the closure of parks for pre-game staging and security operations by the NYPD. The new stadium would include a police command center and staging area, which would provide the opportunity for the police to internalize many of their pre-game functions currently conducted in parks adjacent to the stadium, and the presence of the 60,000-square-foot plaza in front of the stadium would also facilitate keeping NYPD functions on site. NYPD would, however, retain discretion to utilize parkland for security-related operations on an as-needed basis.

Comment 68: The community has been promised parkland along the Harlem River for many years, so this project brings us nothing that we were not already led to expect. (Bent, Brennan) It is inappropriate to use a park parcel that was previously promised to the community as a replacement parcel for parkland that would now be taken away. (Herbert) The net increase in amount of park space that the proposed project would provide is accounted for by the creation of park space along the Harlem River, park space that was previously proposed by the Harlem River Greenway project, a project independent of and predating the Yankee Stadium proposal. This is not a "bonus" of the proposed project. The waterfront parcel should be developed now, irrespective of the proposed project. (FOYS)

Response: The limits of the Harlem River greenway planning process underway by NYCDPR is Macomb's Dam Park to 225th Street. NYCDPR is not aware of a commitment that the land to be occupied by the waterfront park, south of the limits of the greenway plan, was already intended to become a park. In fact, the land was part of the leasehold for the Bronx Terminal Market and was proposed for retail uses. It was only as a result of the Yankee Stadium Project that the City renegotiated its lease with the developers of the Bronx Terminal Market site to free this 5-acre parcel for development as public open space**.**

Comment 69: The proposed replacement parkland, while greater in combined acreage than the "conversion parcel" (i.e., the portion of John Mullaly and Macomb's Dam Parks located on the proposed stadium site), would not provide the same level of usefulness and location as the conversion parcel, and therefore the proposed project does not meet the criteria as specified under Section 6(f)(3) of the Federal Land and Water Conservation Fund Act of 1965 (LWCF) and Title 36, Part 59 of the U.S. Code of Federal Regulations. (Herbert, Blassingame) The proposed replacement parkland would not have the same degree of accessibility, nor would it contribute to a continuous swath of parkland or serve as a buffer

between the stadium and the residential buildings as the conversion parcel does. (Herbert)

The Ruppert Plaza replacement parcel would not achieve the same level of use as an existing open green space, as it would have to be designed for high-level pedestrian volumes (i.e., paved surfaces) and would be adjacent to a proposed parking garage with "park features" consisting mostly of artificial grass located above grade. Ruppert Plaza would also be farther away from most residential dwellings than the conversion parcel. (Herbert)

The waterfront replacement parcel would be far removed from residential areas and separated from them by an elevated expressway and commuter rail tracks. (Herbert) The existing pedestrian bridge at East 157th Street that provides access to the waterfront parcel does not meet the standards of the Americans with Disabilities Act (ADA), and the DEIS does not clearly state whether the bridge would be modified to meet these standards. Residents could also access this parcel by a more circuitous route that would require passage below an elevated expressway and along Exterior Street, which is to be re-named Gateway Center Drive and will be the main vehicular entryway for a large retail and hotel development, with high traffic volumes. Thus, access to this parcel by community residents would be limited, resulting in greatly reduced utility. In addition, the waterfront parcel would be affected by the noise and exhaust from the adjacent expressway, which is not an appropriate replacement for the existing park facilities. (Herbert)

Response: As described in the DEIS and FEIS in Chapter 4, "Open Space and Recreation," with respect to Section 6(f)(3) of the Federal Land and Water Conservation Fund Act of 1965 (LWCF), the replacement facilities would be of reasonably equivalent usefulness and location as the converted property. The replacement facilities would be an improvement over the existing park facilities in terms of size, amenity, and quality. As part of the proposed park plan, the Heritage Field and Ruppert Place replacement parcels would be located across the street from the conversion parcel, and one baseball field would be located across the street from the existing baseball field. A softball field would be replaced on the Harlem River waterfront parcel approximately 2,100 feet from the existing facility, and an additional Little League field would be located on the waterfront parcel in close proximity to existing fields. As described in the FEIS, pedestrian access to the Harlem River waterfront parcel would be available through the existing pedestrian bridge from East 157th Street, which would be improved and made ADA-compliant by the proposed project. The pedestrian bridge would also be extended to connect with the new parkland north of East 157th Street. The waterfront park would also be accessible via Exterior Street and through new pedestrian connections created within the Bronx Terminal Market retail development. This new waterfront park would be in proximity to open space being proposed as part of the Bronx Terminal Market project and would open up

a portion of the Harlem River Waterfront to Highbridge and Concourse Village residents for the first time.

The Alternative Park Plan described in the FEIS would also create a unified 17.36-acre park area south of East 161st Street. By locating the tennis concession on the waterfront parcel and converting the existing Yankee Stadium site into three natural turf ballfields, the Alternative Park Plan would replace all the ballfields currently located on the Section 6(f) conversion parcel at the replacement parcels. In addition, most of the neighborhood-oriented active recreational amenities proposed as part of the project would be replaced across the street from their current location. Like the proposed project, the Alternative Park Plan would provide equal recreational usefulness to the public as that of the conversion parcel.

Comment 70: The DEIS does not adequately explain how the fair market value of the conversion and replacement parcels would be established. The details of this appraisal should be made available for public review, since this must be done to fulfill the legal requirements for the conversion of the LWCF-funded parkland. (Herbert, Blassingame, TTC)

Response: The appraisals of the fair market value of the conversion and replacement parcels are not required for and were not conducted as part of the SEQRA or CEQR process. The appraisals were prepared in accordance with the requirements of LWCF Section 6(f) and its implementing regulations, and submitted to the New York State Office of Parks and Recreation (OPRHP) for review and transmittal to the National Park Service in support of NYCDPR's conversion request. The appraisals are public documents that are available upon request.

Comment 71: The DEIS does not state that the existing Yankee Stadium is currently mapped as parkland, although it is owned and maintained by NYCDPR. How can land that the City already counts as NYCDPR parkland be used as replacement parkland as part of the LWCF parkland conversion equation? (Herbert)

Response: Although NYCDPR administers the lease for Yankee Stadium, the site is not currently mapped as parkland. As a result of the proposed project, the existing Yankee Stadium would be mapped as City parkland, consisting of 8.9 acres of publicly accessible park space.

Comment 72: The proposed parkland conversion is not in compliance with the following elements of the Statewide Comprehensive Outdoor Recreation Plan (SCORP) prepared by the NYSOPRHP dated November 20, 2002:

1) The SCORP suggests that "parks be integrated into the community in which they are located. The means to accomplish this include community involvement

(and) linking buildings to the park around it" (pg. 2-19 of the SCORP). The replacement parkland would not accomplish these aims because it would be farther away from residential buildings than the existing parkland, and the local community has not been given the opportunity to fully participate in the planning and review of this project.

2) According to Section 2 of the SCORP, in terms of recreational needs, Bronx County is one of the neediest counties in the State. Therefore, it goes against reason to substitute a contiguous parcel of parkland that is adjacent to a residential community with three separate parcels that are farther away from residents, and to leave the community without a park replacement for almost five years.

3) Section 3 of the SCORP states the following goal: "Improve the level of access to parks, historic sites, and open space areas to persons with disabilities." By locating one of the replacement parkland parcels on the waterfront, where it can only be accessed by a pedestrian bridge that is not ADA-compliant or by a highly circuitous route along high-traffic streets, the proposed parkland conversion will effectively reduce the level of access for persons with disabilities, not improve it.

4) The SCORP describes how recreation and open space are "important elements in maintaining and improving the quality of life an area can offer. … This is also the case for areas that have maintained the historic integrity of their communities. Property values increase in areas that possess these values" (pg. 3-102 of the SCORP). The proposed project would negatively affect quality of life by replacing a continuous parkland parcel with separate parcels that do not have the same qualities as the existing parcel, by placing a new stadium structure adjacent to a residential community, which could effectively blight the area, and by destroying the historic integrity of the local parks and their relationship to the community. (Herbert)

Response: Chapter 4, "Open Space and Recreation," in the DEIS demonstrates that the proposed parkland conversion is in compliance with the SCORP. It should be noted that only a portion of Macomb's Dam Park would be "converted" under Section 6(f). All of the replacement program from this portion of Macomb's Dam Park (soccer field, track, and two ballfields) would be replaced in the parkland south of East 161st Street under the Alternative Park Plan.

1) As described above in response to Comment 69, NYCDPR would construct replacement park facilities of equal or greater value in close proximity to the existing facilities that would be affected. The new waterfront park would be in proximity to open space being proposed as part of the Bronx Terminal Market project and would open up a portion of the Harlem River waterfront to Highbridge and Concourse Village residents for the first time. As described in the response to Comment 1, there have been numerous meetings with members of the community, the Community Board, and elected officials over the past two

years, which have informed the direction of the project. If the proposed project is approved, NYCDPR would undertake a broad community outreach program before deciding on a final plan for the new parkland and recreational facilities.

2) Consistent with the SCORP, the recreational usefulness of the replacement facilities would be of equivalent or greater usefulness to the existing facilities. Although all three replacement parcels are not adjacent to each other, as part of both the proposed and alternative park plans, a unified 17.36-acre park area would be created south of East 161st Street, one block south of the existing facilities. The Alternative Park Plan would replace all the ballfields currently located on the Section 6(f) conversion parcel at the replacement parcels. Although the existing stadium site cannot be developed with replacement recreational facilities until the proposed stadium is completed and operational, under both the proposed and alternative park plans the majority of recreational facilities would be replaced within two to three years of displacement, and interim facilities would be provided.

3) As described in the FEIS, pedestrian access to the Harlem River waterfront parcel would be available through the existing pedestrian bridge from East 157th Street, which would be improved and made ADA-compliant by the proposed project. The pedestrian bridge would also be extended to connect with the new parkland north of East 157th Street.

4) Yankee Stadium has been part of the neighborhood for more than 80 years, and this project would allow the Yankees to remain a part of the neighborhood for decades to come. As a result of the proposed project, the City would invest $120 million to create high-quality parks in the neighborhood. With respect to the comment regarding quality of life concerns, please see the response to Comment 86.

Comment 73: The proposed "waterfront park space" is bounded on one side by the Bronx Terminal Market development and on the other by the Oak Point Rail link. This park parcel would face the elevated rail trestle and would not provide the same benefit as an unobstructed shoreline. (FOYS)

Response: With the provision of 5.82 acres of new waterfront open space (including 5.11 acres of new parkland and a 0.71-acre esplanade), there would be increased visual and physical access to the Harlem River waterfront, which is; not available today. Note that the Oak Point rail link is not elevated; rather, it is close to the water level. Moreover, because the Oak Point Link runs along the Harlem River waterfront, no unobstructed shoreline is available for a waterfront park in any case.

Comment 74: The proposal to locate the tennis courts along the waterfront would fully remove these facilities from the community. (Bent, Brennan)

Response: The proposed park plan would develop two ballfields on the Harlem River waterfront. However, in response to comments on the DEIS indicating a desire for more ballfields in immediate proximity to East 161st Street and concern about the visual effect of the elevated tennis concession atop parking Garage C, NYCDPR has developed a new scheme for park development that is presented in Chapter 22 of the FEIS. The Alternative Park Plan would develop three ballfields at the site of the existing Yankee Stadium and locate the tennis concession at the proposed waterfront park. As described in the FEIS, the existing pedestrian bridge at East 157th Street would be improved as part of the project to make it ADA-compliant and would provide year-round access to the waterfront parkland. The pedestrian bridge would also be extended to connect with the new parkland north of East 157th Street. The waterfront park would also be accessible via Exterior Street and through new pedestrian connections created within the Bronx Terminal Market retail development.

Comment 75: The proposed project would destroy an important public work done by John Mullaly, the namesake of the park who was a pioneer in park development at a critical time in the City's social and open space history, and was known as the "father" of Bronx parks. (Herbert) The proposed project would destroy the much-used and historic Joseph J. Yancey, Jr., track. (P. Robinson, Porrata) In 1936, Joseph James Yancey, Jr., co-founded the New York Pioneers Track and Field Club. This interracial track team was the first of its kind in the United States and has developed many Olympic athletes. The history and legacy of Joseph Yancey would be destroyed along with the park if the proposed project is approved. (Ross)

Response: Please note that although John Mullaly Park and the Joseph J. Yancey, Jr., track in Macomb's Dam Park are important features within the community, these open space resources are not historic resources recognized by the State Historic Preservation Officer (SHPO) or the New York City Landmarks Preservation Commission (LPC). Although the proposed project would result in the replacement of a number of recreational facilities—including the track—located within these two parks, all of John Mullaly Park north of East 164th Street would be preserved and available for use, both during and following construction. The preserved area includes the Mullaly Recreation Center, skateboard park, and playground. The track would be replaced and located across the street to the south of East 161st Street, serving the same community. It is NYCDPR's intention to name the new track to be developed by the proposed project "Joseph J. Yancey, Jr., Track," as it is currently named.

Comment 76: The DEIS states that the replacement parkland will be of "new and improved quality," yet repairs and improvements are already scheduled for the existing parks without the proposed project, with funds from the NYCDEP water

filtration plant project. The City should demonstrate where funds for these park improvements will be spent if the proposed project is built. (NY4P)

Response: The City originally earmarked $6 million from funding associated with the Croton filtration plant for capital improvements to Macomb's Dam Park north of East 161st Street. However, because this is the site of the proposed stadium and because the resulting replacement parks would be funded out of a separate City capital allocation, the Croton funds would be re-programmed. NYCDPR would recommend that all or a portion of these funds be used within the same general area, but is committed to working with the community and Bronx elected officials on a specific plan.

SHADOWS

Comment 77: The remaining parkland on Jerome Avenue between East 164th and 165th Street will receive three to four hours of extra shadow each day, affecting the quality of this open space. (Blassingame)

Response: The DEIS includes an analysis of the project's effects on shadows in Chapter 5, "Shadows." That analysis demonstrates that overall, no significant adverse shadow impacts would occur as a result of the project, as the duration and coverage of shadows are not long enough or large enough to affect vegetation or park usage. Portions of the parks that would be in shadow contain mostly active recreation uses, which are less affected by shadow than passive uses. In addition, several other portions of these parks are available for recreational use during the times the incremental shadows from the proposed project would occur.

Comment 78: The proposed stadium would cast immense shadows on the nearby residences, negatively affecting the desirability of these residential buildings. (Herbert)

Response: According to the *CEQR Technical Manual*, shadows on buildings—with the exception of historic resources with sunlight-dependent features—are not considered significantly adverse. As described in the DEIS, there are no historic resources with sunlight-dependent features within the shadow sweep, and no significant adverse shadow impacts would occur as a result of the proposed project.

HISTORIC RESOURCES

Comment 79: The proposed stadium would create a 14-story "wall" in front of historic Art Deco buildings, including Park Plaza Apartments at 1005 Jerome Avenue. (Costa) The proposed stadium would block several landmarked buildings. (SSB) The new proposed stadium and garages would have a blighting effect on the

nearby buildings, including several historically relevant buildings and at least one New York City Landmark (NYCL). (Herbert, Costa)

Response: Though the context of the project area between East 164th Street and East 161st Street would change from one containing parks and recreational facilities to one that contains a new stadium, garage, and new open spaces, the significance of the Park Plaza Apartments lies primarily in its Art Deco design. Views of the building's primary façade would remain available and unobstructed along Jerome Avenue, an approximately 100-foot-wide avenue. In addition, the park-like setting of the Park Plaza Apartments would be maintained through the retention of portions of John Mullaly Park and Macomb's Dam Park—most specifically, the portion of John Mullaly Park north of East 164th Street directly across from the Park Plaza Apartments and the triangular portion of Macomb's Dam Park south of Jerome Avenue, as well as through the addition of new parkland in the project area. The majority of the Park Plaza Apartments is located north of East 164th Street, across from John Mullaly Park and the Mullaly Recreation Center, neither of which would be altered by the proposed project. The portion of John Mullaly Park south of East 164th Street across Jerome Avenue from the Park Plaza Apartments is currently occupied by 16 paved tennis courts surrounded by chain link fencing. The tennis courts are enclosed in inflatable structures in the winter and bounded by a few small one-story brick buildings to the west. This portion of the project area would be developed with a parking garage (four stories above grade) and landscaping along Jerome Avenue and East 164th Street. The most prominent views to and from the Park Plaza Apartment would remain largely unchanged. Therefore, as stated in the DEIS, the proposed project is not expected to have any significant adverse contextual impacts on the Park Plaza Apartments. The proposed project would not obstruct views to or from the American Female Guardian Society and Home for the Friendless Woody Crest Home or the Bronx County Building, the other two NYCLs in the study area.

Comment 80: The DEIS is incorrect when it concludes that Yankee Stadium has no historical value. Yankee Stadium is as iconic in the New York City landscape as the Empire State Building and Brooklyn Bridge and was constructed with the intention of being "a skyscraper among baseball parks." Yankee Stadium does have some architectural significance, including the exterior wall that still has decorative tile work and cast limestone ornamentation. When it was built in 1923, it began a new era in the history of sports stadia as the largest sports arena in the world since the Roman Coliseum, it was the first triple-decked ballpark, and the first to be called a stadium. When it was renovated in 1974-1975, a new chapter in its history began, with the use of a revolutionary cantilevered cable system to preserve the upper deck's proximity to the playing field. (Davis, FOYS) In addition to architectural features, historic preservationists also consider historic and cultural value when deeming sites significant. (Davis)

Yankee Stadium has become an integral part of the collective memory of New Yorkers and baseball fans worldwide. It was custom-built for the sports megastar Babe Ruth and was the site of notable baseball moments as well as other famous sporting events as well as two papal visits. (Davis, FOYS, Raso, Brennan)

Response: As described in the DEIS, although the existing Yankee Stadium is fondly still known as the "House that Ruth Built," extensive renovations to the structure have resulted in the loss of stadium's original design and architectural integrity. Integrity, as defined in *National Register Bulletin 15, How to Apply the National Register Criteria for Evaluation (*U.S. Department of the Interior/National Park Service, 1995), is an integral part of determining significance and consists of "the ability of a property to convey its significance." In applying the National Register criteria, the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) concluded that "Yankee Stadium does not meet the criteria for listing to the National Register of Historic Places due to its lack of integrity" (OPRHP letter dated July 15, 2005). In a comment letter dated April 25, 2005, LPC also concluded that the existing Yankee Stadium is not eligible for NYCL designation.

VISUAL RESOURCES

Comment 81: The DEIS does not adequately address mitigation measures for the loss of views of John Mullaly and Macomb's Dam Parks from Jerome Avenue. The DEIS states that although the proposed project would remove green areas in these parks, this change is not expected to result in significant adverse impacts because the proposed project would create new visual resources in the project area. The EIS should clarify what "visual resources" would be visible from the vantage of the residential community, as it is likely that those on waterfront sites and behind the new stadium would be blocked from view, and therefore would not mitigate the significant loss of green views of John Mullaly and Macomb's Dam Parks. (NY4P)

Response: The existing stadium blocks views of portions of John Mullaly and Macomb's Dam Parks (those portions east of Jerome Avenue) in views north from areas south of East 157th Street. It is expected that the new stadium would block views of the proposed open space south of East 161st Street from Jerome Avenue north of East 164th Street. However, from East 164th Street, views north would continue to include views of John Mullaly Park. In addition, just south of East 162nd Street, Jerome Avenue curves to the west, and views of the proposed new parkland south of East 161st Street would be available. Therefore, it is not expected that the proposed project would have a significant adverse effect on views from Jerome Avenue, since in the future with the proposed project there would be views of parkland north of East 164th Street and south of

East 161st Street from Jerome Avenue. Since there would be no significant adverse impacts, no mitigation measures are required.

Comment 82: The proposed Garage D would be five stories tall and would bridge over East 151st Street. This structure would be a hulking, massive intrusion into the community and would not be compatible across the street from the street-level retail that may be included in the Gateway Center at Bronx Terminal Market. (Herbert)

Response: As described in the DEIS, the parking garages proposed as part of the Yankee Stadium Project would be of a similar scale as those presently located in the area and smaller than the parking garage proposed as part of the Gateway Center project. The garage, which would be four stories above grade plus rooftop parking, would also include ground-floor retail, which would complement the proposed Gateway Center development. The garage would have a footprint that would be roughly comparable in size to the other large structures in the area, including the former Bronx House of Detention, the Bronx County Courthouse, and Building C of the Bronx Terminal Market, located north of East 150th Street between Cromwell and River Avenues. Also, its presence as a bridge-like structure would not be out of context in the area. As described in the DEIS, this portion of the Bronx has a number of viaduct and bridge structures, including the Major Deegan Expressway above Exterior Street, the subway above River Avenue, and the pedestrian footbridge spanning above East 153rd Street from the parking garage east of it to the parking fields located along the Harlem River.

Comment 83: Garage B must feature innovative architecture with exterior design to not look like a parking structure. In addition, the Yankees must construct a landscaped plaza in front of Garage B to visually integrate this garage with John Mullaly Park. (BBP)

Response: Design guidelines would be established by NYCDPR for Garage B that would require that the structure's architectural treatments complement those of the new stadium, and the final design of the garage by the future developer would be subject to NYCDPR approval. NYCDPR is committed to a design that is also sympathetic to views from John Mullaly Park and the surrounding community. In addition, the exterior of Garage B would be located behind a row of preserved mature trees along the south side of East 164th Street, minimizing its visibility from the street and adjacent park. These trees will form an allee of green along the front of Garage B that would further soften its appearance.

NEIGHBORHOOD CHARACTER

Comment 84: The proposed facility will be moving into what is now a "buffer zone" that separates the existing stadium—with its bright lights, noise, and heavy pedestrian traffic—from the residential buildings to the north, east, and west. (Rivera, Niles, Moore, Causey, Moore)

Response: As described in Chapter 7, "Urban Design and Visual Resources," the proposed stadium would minimize lights and noise to surrounding residential areas. The principal entrances would remain on East 161st Street as is presently the case, with queuing and plaza areas concentrated along this frontage. (Secondary entrances would be located on Jerome and River Avenues.) The entrance at East 161st Street and River Avenue, adjacent to the subway, would continue to be the principal point of entry for the stadium. The configuration of the stands and in particular the upper seating levels would shield stadium lighting and noise from the residential area along Jerome Avenue, and the openings to the stadium along the Jerome Avenue frontage would be glazed, attenuating noise from the stadium concourse levels. As described in Chapter 18, "Noise," the proposed stadium would not result in significant adverse noise impacts on nearby residences, and noise conditions in the neighborhood are not expected to be appreciably different than on game days with the existing stadium.

Comment 85: The proposed stadium would place a massive 14-story concrete "wall" directly in front of residential buildings (Moore, Causey, P. Canale, BVEI). The proposed stadium should be designed so that Jerome Avenue residents do not face a blank "wall." (BBP) The proposed stadium does not flow with the surrounding landscape. (M.S. Smith) The proposed stadium will impose an industrial feel to the existing green neighborhood. (Cotter)

Response: The new stadium is being designed in a manner that will ensure that the stadium facade does not present a blank wall to the three residential buildings located across Jerome Avenue. The stadium façade would incorporate a rich variety of materials and would be articulated with vertical pilasters and large glazed opening to provide visual interest. The stadium wall would also be pulled back from the Jerome Avenue frontage to provide plaza area for pedestrians and to preserve the existing stand of mature oaks located along this street. The architecture of the stadium and its interplay with the plaza and street trees would create an attractive urban montage to passersby and the occupants of nearby buildings.

Comment 86: Has there been any analysis on the effect the stadium will have on quality of life for nearby residents on Jerome Avenue? (Moore) The proposed project would negatively impact the quality of life of those residing near the proposed stadium.

(Blassingame, M.S. Smith, Causey, Hester, Moore, Porrata) Fans are unruly and disrespectful to the community. (A. Hunter)

Response: Chapter 8, "Neighborhood Character," of the EIS includes an analysis of a combination of factors that help define a community, including land use, scale and type of development, historic features, patterns and volumes of traffic, noise levels, and other physical or social characteristics. That chapter concludes that overall the proposed project would not result in significant adverse impacts to neighborhood character in the surrounding area.

Comment 87: Parking, crowds, and trash will restrict access to people's homes. (M.S. Smith) Steps must be taken to minimize noise, litter, traffic, and crowd management. (CB4)

Response: As described in Chapter 8, "Neighborhood Character," although the proposed project would result in a significant shift of vehicular traffic from some currently used traffic routes to others, with the proposed game-day traffic management plan, the proposed project would not have a significant adverse traffic-related impact on neighborhood character. The proposed project would provide thousands of new parking spaces, resulting in decreased traffic circulation on local streets in search of available parking spaces and less parking on the local streets themselves, which would provide a benefit to the local community.

It is expected that the proposed mitigation measures along with game-day management strategies, including deploying NYPD traffic enforcement agents (TEAs) to help reduce vehicle-pedestrian conflicts and maintain crowd control, would provide safe and efficient pedestrian flows to the proposed stadium, and the proposed project would not have a significant adverse pedestrian-related impact on neighborhood character. The stadium would also include an approximately 60,000-square-foot plaza along East 161st Street that would facilitate pedestrian movement into the stadium on game days and would be a public amenity at other times. In addition to reducing game-day demand for local parking, the proposed project would also have other positive effects on the character of the area, as described in the EIS, including new streetscape elements that would enhance the vitality of the surrounding streets. With respect to noise, see the response to Comment 131.

Comment 88: The current plan would cut off the Highbridge/Concourse neighborhood from the retail and transportation center of East 161st Street, which could have a serious detrimental effect on those residents. (Bent, Herbert, SSB, Brennan) This project would drive an out-of-scale wedge between the Highbridge and Concourse communities. (BVEI) The proposed stadium would destroy the cohesiveness of our neighborhood. (Solis)

Response: The proposed project would include pedestrian improvements and landscaping on East 161st Street between Jerome and River Avenues, making that route more attractive, and also providing a connection between the Highbridge neighborhood and the retail and transportation center on East 161st Street, as well as between the Highbridge and Concourse neighborhoods. Pedestrian access to areas east would continue to be available on East 164th Street. The height of the proposed stadium would be similar to the existing stadium.

NATURAL RESOURCES

Comment 89: The current plan would destroy more than 350 mature oak trees. (Bent, Brennan, Cotter) The proposed project must attempt to protect the existing tree canopy, both for their aesthetic and environmental benefit. (CB4) The DEIS does not adequately address the impact relating to the loss of 373 mature trees. The DEIS states that it is impossible to plant the number of trees required to replace basal area of the 373 mature trees within the affected area, and that replacement trees would be planted within the vicinity of the project area or as nearby as possible. However, the proposed mitigation does not address the impact if the trees are to be replaced in other neighborhoods. Although the DEIS states that the replacement trees would result in a significantly expanded tree canopy, and therefore the loss of trees would not be significantly adverse, this expanded canopy would not exist until new trees have had 10-15 years to mature. (NY4P)

Response: As discussed in Chapter 9, "Natural Resources," of the EIS, the existing shade trees do provide benefits in terms of shade, soil stabilization, and aesthetics, and would be preserved where possible. One hundred and sixty-five mature trees would be retained within the project area, primarily along Jerome Avenue and East 164th Street. These trees would continue to provide benefits and aesthetic value during and following construction of the proposed project. To minimize potential adverse impacts resulting from the trees that would be lost, NYCDPR would require the replanting of trees in accordance with the NYCDPR basal area tree replacement formula. The basal area of the trees removed would be replaced with trees of a size totaling an equal basal area, which would result in the replacement of between 8,356 trees of a 3½-inch caliper and 29,248 trees of a 2-inch caliper.

Comment 90: The EIS should consider the cumulative impact on the borough of the Bronx caused by both the proposed project and the Cortlandt Park filtration plant that also resulted in the removal of hundreds of mature trees. (NY4P)

Response: Both the proposed project and the Cortlandt Park filtration plant project will use NYCDPR's basal area tree replacement formula, which is described in the response to Comment 89. Both projects would retain a number of existing trees within their project areas.

TRAFFIC AND PARKING

Comment 91: The amount of parking that the proposed project would provide is highly excessive. (Strauss, Bongiovi, Cotter) Rather than constructing more parking facilities, this project should include improvements to the mass transit infrastructure. (TTC, SSB, Costa, Rozankowski, Young, Ross)

Response: The amount of parking provided would accommodate the vast majority of the stadium's parking needs and would not be excessive. By doing so, it would substantially reduce the excessive circulation of vehicular traffic that cannot currently be accommodated by the stadium's parking lots and garages, and which therefore parks on neighborhood streets and illegally on the service road of the northbound Major Deegan Expressway as well as illegally on sidewalks and at curbside. The proposed project does not preclude the provision of mass transit infrastructure improvements and would, in fact, support such improvements. Mass transit improvements, however, would not diminish the need for the amount of parking being proposed.

Comment 92: Building more garages will only encourage more fans to drive, inducing more traffic. (Costa, Rozankowski, Bent, Moore, Brennan, Sierra Club, FOYS, SSB, Niles) Since street parking is free, if parking spaces on local streets really did clear up it would actually present an additional reservoir of new spaces available for stadium-related traffic. (FOYS) The DEIS's complete failure to study parking-induced travel that will occur due to the addition of thousands of parking spaces in the vicinity of the proposed stadium is a serious flaw in the DEIS that affects other sections in the EIS, such as air quality and noise. It is not the number of seats in the stadium but the availability and price of parking that influences how many people will drive. The construction of four new parking garages with many more spaces will generate additional peak hour vehicle trips than those already coming to the existing stadium. In order to get a truly conservative estimate of induced traffic impacts, the DEIS should have assumed that parking facilities will be filled on game days and that cars will still spill over into the surrounding neighborhood to find free parking.

The DEIS failed to address the comments and concerns raised regarding this issue in response to the draft and final scoping documents. Instead of addressing the impacts of parking-induced auto trips, the DEIS makes the assertion that there will be no increase in auto-related trips, based on the theory that additional paid parking spaces will draw the people that currently park for free on local streets, thereby reducing congestion, and now claims that the project will result in fewer parking spaces than the scoping document originally predicted. (TTC)

Response: The proposed project would not result in an increase in vehicular traffic, and the DEIS provides the information that supports this under "Travel Demand Projections" in Chapter 15, "Traffic and Parking." There are several factors

supporting this. The stadium's reduction of approximately 3,000 seats means a reduction of about 5 percent in fans and trip generation for sellout game conditions analyzed in the EIS, so the reduction in seats does produce reduction in auto traffic. Next, the modal split of fan arrivals and departures—what travel mode they use to go to the stadium—used in the analyses is appropriate and reasonable. The auto shares for Yankee Stadium—63 percent for weeknight games and 68 percent for weekend games—are higher than for other sports venues in New York City, higher than for Mets games at Shea Stadium, and higher than for the U.S. Open at Flushing Meadows Corona Park, where nearly twice as many parking spaces are available (between both sites) than at Yankee Stadium, yet where the auto shares are lower. Therefore, it is not true that more parking spaces mean that more people would drive to games. Travel time and traffic conditions on routes leading to the venue are also significant factors. For travel to Yankee Stadium by car, most fans must use the Major Deegan Expressway, the George Washington Bridge, the Cross Bronx Expressway, or combinations of these facilities, all of which are well known to be congested. This is a significant factor also influencing mode choice. Travel surveys also indicate that more fans are coming from Manhattan and, as a result, auto use has been declining. Considering these factors, as well as the up to 15 percent "no shows" even at announced sellout games, the EIS's projections of the volume of autos in the peak pre-game and post-game hours are not only reasonable but conservative.

Comment 93: The Final Scope of Work states that "the DEIS will address the issues of modal split and induced demand." However, the induced demand discussion was not included in the DEIS. (Herbert)

Response: As noted in the response to Comment 92 above, the EIS clearly addresses the issues of modal split and induced demand. The survey data and assumptions underlying modal split determination are documented within "Travel Demand Projections" in Chapter 15, "Traffic and Parking," and the EIS states that the number of cars arriving at and departing from the stadium area is not expected to change because of all the factors described in this section of the EIS. These issues have been addressed and reported in the EIS.

Comment 94: The increase in parking capacity will cause a congestion nightmare, with many intersections suffering a significant increase in traffic, and backups on the Major Deegan Expressway. (Sierra Club) The proposed garages will adversely affect traffic patterns and cause massive traffic congestion in the adjoining neighborhoods. (Blassingame, M.S. Smith, Hester, ESPA Strauss, Cotter, Mitchell) Cars entering or leaving garages will be at a standstill along Jerome Avenue. (Blassingame, Causey) East 162nd Street should not be closed. (Cotter)

Response: The increase in parking capacity would not increase the total volume of vehicular traffic in the area, Instead, it would cause some shifts in traffic patterns as vehicles exiting the Major Deegan Expressway heading to the stadium before games, for example, use highway exits and routes closer to newly proposed garages. The DEIS documents those streets and intersections where traffic volumes are expected to increase, where traffic volumes are expected to decrease, and where significant adverse traffic impacts requiring mitigation are anticipated. At nearly all locations analyzed, any potential significant adverse impacts can be fully mitigated by standard traffic capacity improvements, such as intersection channelization and lane re-striping, signal phasing and timing modifications, installing traffic signals at several intersections that are currently unsignalized, on-street parking regulation changes, and enforcement.

The DEIS also reports under "Game Day Traffic Management Plan" in Chapter 21, "Mitigation," that additional game day traffic management plan strategies can provide additional mitigation based on analyses conducted at several key locations. These strategies were more fully developed and evaluated between DEIS and FEIS, including the following: turn prohibitions at key locations, the placement of variable-message signs to advise motorists of alternate routes with increased available capacity, and the closure of River Avenue (post-game only) to vehicular traffic between East 161st and East 162nd Streets to promote improved pedestrian conditions. The proposed project would not generate massive new traffic congestion that could not be mitigated. The FEIS analyses addressed a larger traffic study area including additional intersections along routes that could be used by diverted traffic. Of the 44 intersections analyzed in the FEIS, only the following number of intersections could not be fully mitigated during the analysis periods: two during the weeknight pre-game peak hour; one during the weeknight post-game peak hour; three during the weekend pre-game peak hour; and one during the weekend post-game peak hour.

Significant impacts on the Major Deegan Expressway would also be fully mitigated with one exception: impacts on the southbound Major Deegan Expressway would only be partially mitigated in the weeknight pre-game peak hour. As noted in both the DEIS and FEIS, these analyses were conducted for sellout game conditions, for which existing conditions on the Major Deegan Expressway and the adjacent street network are congested.

Many of the mitigation measures proposed are specifically aimed at reducing or eliminating potential congestion along Jerome Avenue, including the use of variable message signs to direct traffic to alternate routes away from potentially congested intersections. Some neighborhood streets would have less traffic since stadium-generated traffic that cannot find parking in stadium lots and garages under existing conditions and must circulate on numerous local streets in search of hard-to-find parking spaces and ultimately park on local streets,

would increasingly be able to park directly after exiting the highway within new parking garages being built as part of the proposed project.

Comment 95: In order to reduce congestion impacts on the neighborhood, traffic and parking on local streets should be limited to local residents wherever possible, with the use of resident permits, as utilized in Boston and other cities, and turning controls should be imposed on River Avenue during game days, so that Yankee patrons will not monopolize street parking and inconvenience the community. (BBP)

Response: Traffic impacts have been mitigated to the maximum extent practicable, and the provision of new off-street parking spaces under the proposed project would reduce the magnitude of traffic circulation and Yankees fans parking on neighborhood streets. The proposed project would thus provide a substantial net increase in off-street parking available for Yankees fans very close to the new stadium, thus supporting the Borough President's goal of reducing fan parking on residential streets. The mitigation plan described and evaluated in the EIS includes the closure of River Avenue postgame between East 161st and 162nd Streets to facilitate pedestrian movements through this area en route to subway station entrances, much as it is done today for the existing stadium along River Avenue south of East 161st Street. The EIS does not identify significant adverse parking impacts on- or off-street.

Comment 96: Lack of parking law enforcement has exacerbated the impact of Yankee Stadium, and it must not continue. The City must increase enforcement and traffic control agent staffing levels during game days. The DEIS states that the provision of additional parking spaces would reduce illegal parking on local streets. We know from decades of experience that illegal parking represents people seeking to avoid paying parking fess, and not from a dearth of parking spaces, and that increased parking spaces will not deter fans from illegally parking on streets, sidewalks, and parkland. Serious enforcement is the key to alleviating the neighborhood burden of Yankee fans circulating and parking on local streets. (BBP) Community residents cannot find parking during Yankee games. (Hester) Traffic and parking rules must be enforced with zero tolerance to further discourage people from driving to games. The feasibility of a congestion pricing mechanism that excludes community residents should be explored (once mass transit options become available). (Rozankowski)

Response: The Yankees and NYCDPR agree that a strong commitment to enforcing parking laws is needed, and it is anticipated that at least the same level of enforcement as is in place today, or more, will be committed for the new stadium on game days. However, the EIS concludes that the addition of some 3,000 new parking spaces in parking garages situated adjacent to or near the new stadium would be a major benefit in reducing on-street parking. The

insufficient amount of off-street parking available today is the major cause of fans circulating excessively on-street in search of spaces that are extremely hard to find. This results in illegal parking by Yankees fans on the service road of the northbound Major Deegan Expressway, within the roadway widths of Exterior Street, and behind the existing (and soon-to-be-replaced) Bronx Terminal Market along the waterfront, as well as illegally on residential blocks, on sidewalks, and wherever space can be found, legally or illegally.

As noted in the response to Comment 95, traffic impacts have been mitigated to the maximum extent practicable. The feasibility of congestion pricing has not been considered for this project since it would not be practicable for game day-only conditions. Further, implementation of a congestion pricing program poses Citywide implications that are beyond the scope of this EIS.

Comment 97: The City and the Yankees must make year-round parking available to local residents and public daily parking on non-game days. (BBP, CB4, Porrata) The current lease between the City of New York and the Yankees organization provides that parking garages remain closed 280-plus days a year, opening only at game time. This arrangement damages the community and the civic center, leaving empty hulks along River Avenue while local residents, and those employees and jurors who do not reside near mass transit, face a deficit of parking spaces. (BBP, CB4) Community parking needs could be satisfied with the existing configuration. (FOYS)

Response: The existing and proposed parking garages associated with Yankee Stadium will be owned by the City and operated by a private operator. Both the City and Yankees are committed to making parking available to the public on a year-round basis to the extent possible. The City and Yankees have committed to making Yankee Stadium garages available to the public during the off-season and on non-game days during the baseball season.

Comment 98: Unless Metro-North service is available, the increase in parking will still fall short of demand given recent attendance trends, the modal share for autos, and the generally acceptable standards for vehicle occupancy. (Lapp)

Response: The proposed parking garages would provide the vast majority, but not all, of the parking capacity needed to serve sellout crowds at the stadium. This would reduce the amount of traffic circulating and parking on local streets. The addition of a Metro-North station and service at the stadium would further improve conditions.

Comment 99: The number of parking spaces in proposed Parking Garage B is excessive and should be reduced. (CB4)

Response: The amount of parking spaces proposed for Garage B is part of an overall plan to provide the stadium area with sufficient parking capacity, balanced to the

degree possible on several sites along the various traffic routes to the stadium. Parking projections show that capacity at Garage B would be fully utilized, so it is not excessive from a parking demand perspective. Provision of fewer spaces at this location would impair the project's goal of reducing on-street traffic circulation and legal and illegal parking on local streets.

Comment 100: At the Grand Concourse and East 161st Street, the proposed mitigation is to re-stripe the existing 48-foot-wide roadway on the eastbound East 161st Street approach into three 16-foot-wide moving lanes. However, the New York City Department of Transportation (NYCDOT) has plans to narrow this approach to approximately 37 feet wide as part of a safety improvement (Contract HWXP136R), precluding this mitigation. Please coordinate with this existing project to make sure that the mitigation is feasible. (MTA)

Response: All traffic analyses have been coordinated with NYCDOT plans for this location, and traffic mitigation measures have been determined to be feasible.

Comment 101: Background traffic assumptions in the DEIS are not conservative. Both the Future No Build and the Future with the Proposed Action traffic volumes were developed by applying a background traffic growth of 0.5 percent per year as stipulated in the *CEQR Technical Manual.* However, studies show that the amount of background traffic in the Bronx is increasing at a higher rate. According to the NYCDOT, daily volume on the eight bridges in the Bronx increased 3.2 percent per year from 1994 to 2004. (TTC)

Response: According to NYCDOT report data for the 10-year period 1994-2004, traffic on the nine toll-free Harlem River bridges increased 0.6 percent per year. The growth rate referred to in the comment (3.2 percent per year) is clearly stated in the NYCDOT report information for such facilities as the Hutchinson River Parkway Bridge, the Eastern Boulevard Bridge, and the Unionport Bridge, which are not located near the stadium. Additionally, these volumes are likely referring to daily traffic and not peak hour traffic. The C*EQR Technical Manual*'s stipulated rate of 0.5 percent per year is appropriate here since it applies to peak traffic analysis hour conditions, not total 24-hour volumes. The 0.5 percent per year background growth rate used in the EIS is also conservative because it includes growth of all background traffic, including stadium traffic, which, for sellout conditions, would not increase further.

Comment 102: Attention must be given to other transportation infrastructure, including arterial highways. (CB4)

Response: Other transportation system infrastructure needs have been addressed in studies recently completed by State agencies having jurisdiction over those transportation systems. These include the New York State Department of Transportation's (NYSDOT) Bronx and Northern Manhattan Arterials Study,

which addressed needs of the Major Deegan Expressway, and Metro-North Railroad's preliminary engineering studies for a proposed station and intermodal facility at Yankee Stadium. The Yankees and NYCDPR support these transportation infrastructure improvement projects.

Comment 103: A traffic flow analysis for the Macombs Dam Bridge both during construction and after construction is complete should be prepared. (CB4)

Response: The traffic impact analyses of future conditions with the proposed stadium and the proposed parking garages contained in the EIS included the critical intersections on both sides of the bridge—Macomb's Dam Bridge Approach at Exit 5 of the southbound Major Deegan Expressway on the Bronx side of the bridge, and Macombs Place/Macombs Dam Bridge/West 155th Street on the Manhattan side of the bridge—since it is the capacity utilization characteristics of intersections that dictate levels of service and traffic flow. The EIS provides all peak hour traffic volume data, volume-to-capacity ratios, average vehicle delays, and levels of service for the weeknight and weekend pre-game and post-game traffic peak hours. For potential impacts during construction, the EIS included a detailed analysis of the Macomb's Dam Bridge Approach at Exit 5 of the Major Deegan Expressway, one of the most critical locations in the area, and presents impact findings for the peak construction activity hour.

Comment 104: According to the NYSDOT's Bronx Arterial Needs Major Investment Study, when there is a Yankees game, significant congestion already occurs on the Major Deegan Expressway, the local streets, the bridges crossing into the Bronx, and the FDR and Harlem River Drives. On the weekdays, most games overlap with the evening peak commute traffic. As a result of stadium-related congestion, commuter traffic that would have used the Major Deegan Expressway may use alternate routes, such as the Bronx River Parkway and Henry Hudson Parkway. The DEIS should have studied the impact of diverted commuter traffic, and the study area should extend beyond the ¼-mile study area to include these potential impacts. (TTC, SSB)

Response: Traffic volumes on the major routes leading to the vicinity of the stadium would remain unchanged, so there would be no changes in volumes on such highways as the Bronx River Parkway and the Henry Hudson Parkway. As noted in the EIS, there would be some shifts in traffic patterns from the Major Deegan Expressway to proposed garages, affecting conditions at entrance and exit ramps near the stadium and at nearby intersections, which are fully addressed in the EIS. For strategies that would divert stadium traffic to different nearby routes, specifically to Edward Grant Highway or to Jerome Avenue just north of the stadium area, additional analysis locations were added in the FEIS. These analyses indicated that any significant impacts at these locations could also be

fully mitigated by the same types of standard traffic capacity improvements described in the DEIS.

Comment 105: The DEIS states that traffic impacts on the Macombs Dam Bridge and Major Deegan Expressway cannot be mitigated. Additional traffic experts should be consulted, as part of project planning, to explore ways to reduce traffic congestion and to mitigate their environmental impacts. For example, traffic consultants should explore the potential for utilizing variable-message signs (VMSs) on the Major Deegan Expressway and Macombs Dam Bridge Approach on game days to advise motorists of conditions and direct them toward the available spaces in the various garages. I further recommend that one-way traffic be instituted on the Macombs Dam Bridge at game times, eastbound pre-games and westbound post-games, to expedite traffic movement in and out of the area. (BBP)

Response: The traffic mitigation measures described in the DEIS have been augmented with other measures, including VMSs, as well as with left-turn and right-turn prohibitions along the Macombs Dam Bridge Approach corridor leading to and from the Macombs Dam Bridge and the Major Deegan Expressway. These additional measures were developed through consultation and meetings with the NYCDOT and NYSDOT, fulfilling the wishes of the Borough President. The intent of the VMSs is exactly as stated by the Borough President: to advise and direct motorists to alternate routes to stadium garages that would minimize potential impacts at key intersection locations, such as those near the Macombs Dam Bridge and along the Macombs Dam Bridge Approach. These measures have been approved by NYCDOT and NYSDOT.

Consideration has not been given to making the Macombs Dam Bridge one-way eastbound (i.e., toward the stadium) pre-game and one-way westbound (i.e., away from the stadium) post-game because it would adversely affect background traffic between upper Manhattan and the Bronx along this vital traffic route; the diversion of non-stadium background traffic could have regional-level impacts to roadways outside of the area. The nearest alternate crossings over the Harlem River are the 145th Street Bridge (about 0.6 miles to the south) and Washington Bridge (about 1.3 miles to the north). The connecting roadways (i.e., in Manhattan or north of the stadium study area in the Bronx) may not be able to accommodate diverted traffic if lanes on the Macombs Dam Bridge and the Macombs Dam Bridge viaduct would be converted to one way during game-day peak periods and would likely create significant adverse impacts at other locations throughout the Bronx and upper Manhattan. The one-way conversion would also disrupt regular Bx6 bus service between the Bronx and Manhattan, which uses the Macombs Dam Bridge to travel between the two boroughs. Diverting it to parallel crossings would add substantial travel time to its route.

Comment 106: DOT must prepare a comprehensive traffic flow plan for the Civic Center covering the changes during and after construction. (CB4, BBP)

Response: The FEIS presents a game day traffic management plan to address traffic flow related to the proposed project throughout the entire Civic Center area. The plan includes two parts. It includes a wide range of standard traffic capacity improvements, such as new traffic signal installations, signal phasing and timing modifications, parking prohibitions and enforcement of existing parking prohibitions, and lane striping and reconfiguration, including offsetting street centerlines to provide additional traffic lanes in peak flow directions. It also includes other measures aimed at diverting traffic as is needed to improve both vehicular and pedestrian flows, including the closure of River Avenue to vehicular traffic between East 161st and 162nd Streets during post-game peak periods, left-turn and right-turn restrictions where needed to minimize vehicular and pedestrian conflicts, and use of VMSs to direct traffic to alternate routes that avoid expected problem locations and which would advise motorists of the best routes to use en route to and from the stadium. The mitigation measures also include improvements away from the immediate environs of the stadium, such as along the Grand Concourse near East 161st and 165th Streets, as part of the plan to accommodate traffic flow throughout the entire Civic Center area. Consistent with the Borough President's request, the mitigation plan has been developed in consultation with both the NYCDOT and NYSDOT, and both have approved the traffic flow improvement strategies and measures as part of the EIS process. For the construction period, a detailed maintenance and protection of traffic plan will be filed with the NYCDOT, including signage plans, and any parking or traffic restrictions that would be needed to adequately maintain traffic flow during the period of construction.

Comment 107: The City must coordinate traffic planning for the new Yankee Stadium and the Gateway Center at Bronx Terminal Market. Although the two are separate projects, they are inextricably linked and must be coordinated. Serious consideration must be given to shared parking to reduce the total number of parking garages. Shuttle service must be provided between Gateway Center and the stadium to connect fans coming from Garage D and the shopping mall with the stadium. (BBP) Parking Garage D should be available for Gateway Center shoppers when there are no ballgames, allowing that development to use more of their space for non-parking uses. (Herbert)

Response: The EIS prepared for the Yankee Stadium Project has fully accounted for the Gateway Center development in its background, or No Build, conditions (and vice versa). The traffic and parking demands generated by Gateway Center in the peak pre-game and post-game conditions are included within the overall traffic volumes analyzed for the new stadium and are coordinated. Shared parking cannot be considered as a "given" in their everyday availability. Each project must be able to provide parking to its respective patrons independent of

the other. Should Gateway Center's garage spaces be available and used by Yankees fans on game days, a shuttle to the new stadium would not be needed because the two facilities are within walking distance of the new stadium, no more distant than new Garage D.

Comment 108: It is difficult to ascertain the cumulative traffic and parking impacts of the Yankee Stadium and Gateway Center projects. There is a discrepancy between the two studies in the amount of parking that actually exists. One thing is clear—the amount of parking will increase. Study after study shows that the availability of parking greatly influences a traveler's mode of choice. Parking at Gateway Center will be available for Yankees fans, and the combined parking that the two projects would provide will generate additional peak hour trips than those already coming to the stadium for the existing stadium, yet there is no attempt to account for this increase in trips in the DEIS. (TTC, SSB)

Response: The cumulative impacts of the two projects are accounted for in the EIS, including traffic ascribed to each project and the amount of parking added as well as displaced by each project. Effects of the Gateway Center project are fully accounted for in the Yankee Stadium Project's No Build, or background, condition. Differences in parking data are reconciled in both projects' FEISs. As stated in the EIS and in the responses to other comments above, additional parking would not generate additional peak hour trips to the stadium. No studies of major sports stadiums in New York City where the addition of parking has caused a significant percentage of fans to shift their travel mode have been identified. As noted previously, Shea Stadium, with substantially more off-street parking, has a lower auto share than Yankee Stadium, as does the USTA National Tennis Center at Flushing Meadows Corona Park.

Comment 109: The DEIS derived its mode share for the new stadium entirely from surveys of Yankee fans. However, surveys are susceptible to a variety of biases and error. The DEIS does not contain the survey instruments used (nor the margins of error for the surveys) despite TTC's comment with respect to this issue on the DEIS, and as a result the public has not had the opportunity to review these instruments for biases or other errors. These documents must be included in the FEIS.

Further, the data derived from these surveys has been misapplied. Surveys of current stadium patrons on their current mode of travel do not capture the willingness or likelihood of patrons to drive in the future when thousands of additional parking spaces will be provided. A truly conservative mode share would account for parking-induced trips. (TTC)

Response: Survey instruments do not need to be contained within an EIS, nor are they typically included in EISs. Mode split surveys were conducted appropriately and were compared to mode split data for other sport venues in New York City—

Shea Stadium and the USTA National Tennis Center at Flushing Meadows Corona Park—and the findings of the surveys at Yankee Stadium indicated that its auto use was higher than for other sports venues in the City. When the Yankee Stadium mode splits were applied within the trip generation projection process, the results were considered conservative for the several reasons cited in response to previous comments. The traffic volume projections do not take a trip reduction credit for the new stadium's smaller capacity—there is no trip reduction credit for 3,000 fewer fans on a sellout game day. The EIS's traffic volume projections also did not assume a trip reduction credit for "no shows" on game days, which can be up to 15 percent, according to available stadium data. The EIS's traffic analyses do not take a trip reduction credit for the thousands of cars that currently circulate throughout the study area because there aren't enough spaces available in Yankee Stadium lots and garages. The EIS's analyses could have reasonably assumed traffic volume reduction credits for all three of these factors and could have shown lesser impacts than have been shown in the EIS, but they did not.

Comment 110: Instead of utilizing planning methods that would discourage auto trips, this project would greatly increase the amount of parking, giving patrons a greater incentive to drive. Other baseball organizations, such as the Chicago Cubs, are implementing procedures to reduce auto trips, including promoting mass transit and implementing residential permit systems. (TTC)

Response: As noted in response to previous comments, this project is not expected to increase the number of fans driving to games, but would accommodate them within parking garages near adjacent access routes and reduce excessive traffic circulation and parking on local streets.

Comment 111: Numerous development projects are currently planned for Community Board 4. A community liaison must be assigned for this project to assist with a smooth transition, and an "All Agency Coordinator" should be assigned to ensure that the traffic, transportation, and congestion issues involving all of these projects are addressed. (Ezell, CB4)

Response: The EIS identifies the numerous development projects currently planned in the vicinity of Yankee Stadium and considers the project's potential for environmental impacts in the context of the presence of those other projects. These projects are incorporated into the document in the consideration of the future without the proposed project, or the No Build condition. The NYCDOT has an Office of Construction Management and Coordination, which has responsibility for coordinating, any traffic, transportation, and congestion issues for projects affecting City streets. The Yankees would hire a community liaison to serve as a point of contact for the community throughout the construction period.

TRANSIT AND PEDESTRIANS

Comment 112: The proposed project should expand the current mass transit options in the area. (Rozankowski, Bongiovi, Costa, Bent, Brennan, CB4, SSB, Strauss, Levy) The current plan does nothing to increase mass transit use by stadium spectators, and in fact makes subway use less attractive, as subway riders will no longer have a direct connection from the station to the stadium and will have to cross streets to access the stadium. (Sierra Club, Strauss) The proposed project puts the need for parking ahead of the need for parks, and does not place enough focus on encouraging mass transit. (NY4P, SSB) The addition of four new parking garages would continue to discourage suburban fans from considering public transportation options when traveling to games. (ESPA)

Response: The Yankees and NYCDPR support potential initiatives to increase transit use or improve mass transit service and have not included anything in the proposed project that would preclude transit improvements that are currently being considered or may be considered in the future by other public agencies. In recognition of anticipated changes in travel patterns and pedestrian movements in the area, the proposed project has incorporated pedestrian amenities in its basic plan and mitigation recommendations—the new at-grade crossing at Ruppert Plaza and East 161st Street and game-day extension of the west crosswalk at River Avenue and East 161st Street along with TEA control—that would accommodate projected demand to the extent possible. Furthermore, as discussed above under the "Traffic and Parking" section of this chapter, the new parking garages would provide much needed spaces to accommodate existing demand that overflows onto nearby residential streets or parks illegally at numerous locations in the area. Nor would the new garages discourage suburban fans from considering public transportation options when traveling to games.

Comment 113: The project's long-term goal must be to reduce automobile use and pollutants and encourage the use of mass transit. (BBP)

Response: The City and Yankees are supportive of the construction of the proposed Metro-North Yankee Stadium station and any other measures that would encourage the use of mass transit.

Comment 114: The proposed project should expand Metro-North service. (Costa, Bent, Brennan) The plan should include the long-promised Metro-North station for the proposed Yankee Stadium. (Sierra Club, ESPA) Instead of having additional parking at the stadium, the proposed project should be revised to include a new Metro-North station (Herbert, Prant, SSB, Strauss, FOYS). The Yankees should be required to work with Metro-North to tie ticket sales to train trips and develop price incentives for people traveling to and from games, which should be applied at a new Hudson Line station at the stadium site as well as at the

Melrose station on the Harlem and New Haven lines. (Herbert, SSB, Rozankowski, FOYS) It should be advertised, have more frequent service, and a shuttle bus to the stadium should be provided. Park and ride facilities could be provided around stations in Westchester. (Rozankowski) The failure to provide Metro-North service is crucial since it penetrates the major market for these baseball games, including the Hudson Valley, New Jersey, and Connecticut. (Lapp, FOYS)

The Yankee organization needs to be a strong advocate for the Yankee Stadium Metro-North station. (CB4) New York City must ensure that New York State builds the Metro-North station just west of the old stadium, for which design funds have been allocated in the State budget, and further insist that Metro-North provide service via all three commuter lines. (BBP)

The NYSDOT Bronx Arterial Needs study found that many people who usually take Metro-North drive to Yankee Stadium so they don't have to return to Grand Central or 125th Street for a train. The project should invest in building a permanent train station rather than investing in building new parking garages. (Bent, Brennan)

The DEIS does not propose a new Metro-North commuter rail station to serve the new Yankee Stadium. However, the planning of any project elements in the vicinity of the Metro-North right-of-way should be coordinated with the Metropolitan Transportation Authority (MTA) Metro-North Railroad to ensure that a future station option is not precluded. (MTA)

Response: Although a new Metro-North station is not a part of the proposed project, the Yankees and NYCDPR support the construction of the proposed Metro-North Yankee Stadium station, and the proposed project has been developed so as to not preclude the future construction of a new station.

Comment 115: The DEIS proposed not to undertake any mitigation of the eight significantly impacted subway station stairways of the 161st Street-Yankee Stadium station since "the added capacity would simply be taken up by [previously diverted] subway riders circulating back to meet the most direct route to the new stadium." (p. 21-17) We disagree with this reasoning and believe that a more comprehensive approach to pedestrian circulation in the vicinity of the new stadium is necessary to minimize subway station congestion and potential interference between pedestrians and vehicles (including buses) on game days. The significant impacts to subway station elements are a direct result of relocating the stadium one block to the north, away from the existing high volume special events control areas that directly serve the existing stadium. Consequently, the non-special events control areas will become overloaded, and large surges of pedestrians must cross either East 161st Street, River Avenue, or both, to travel to or from the new stadium.

We suggest that the EIS should evaluate at least three improvements to mitigate the impacts on the 161st Street-Yankee Stadium station stairways: 1) closing East 161st Street and River Avenue to vehicular traffic except for buses, 2) constructing an overhead pedestrian walkway spanning East 161st Street on the west side of River Avenue, and 3) constructing of a special events control area to the north of East 161st Street to replicate the function of the existing one to the south end of the station. (MTA)

Response: As stated in the FEIS, the overall station capacity is adequate to achieve NYCT guideline operations and would be in the future as well with the new stadium in place. However, as projected for future conditions, numerous station elements currently operate at unacceptable levels. This condition is attributed to conventional behavior of people choosing the most direct route whenever possible. The analysis undertaken for the FEIS follows this approach and was conservative in that, to the extent possible, riders were assigned to the most direct route. The deployment of TEAs to disperse subway riders to less congested stairways would mitigate the projected impacts as indicated in the FEIS.

The FEIS also addresses the three suggested measures and provides the reasons why they were rejected from further consideration, as explained below.

1) Maintaining bus movements is being addressed below in the response to Comment 120. Closing the entire River Avenue and East 161st Street intersection to vehicular traffic would be extremely detrimental to traffic flow in the area. However, the traffic analysis did anticipate the pedestrian flow issues across the north side of East 161st Street as well as to and from the station entrances within East 161st Street's medians and conservatively accounted for pedestrian overflows. To address this condition and prevent queuing of station egress, an exclusive pedestrian phase and a substantial game-day extension of the intersection's west crosswalk (100 feet) along with TEA control were incorporated into the basic game-day traffic management plan.

2) The overhead pedestrian walkway was considered but was deemed infeasible due to a variety of reasons, including constructability, space requirements, subsurface disturbance, and cost. The subway tunnel servicing the B and D lines is located only a few feet below East 161st Street, directly below the proposed new plaza in front of the new Yankee Stadium. Unless the abutments were located within the roadbed, further restricting the right-of-way, they would need to be located on the plaza. Since the northernmost abutments for the bridge would need to be directly above the subway tunnel or in the immediate area of influence surrounding it, the construction of the bridge abutments for the overhead pedestrian walkway would be extremely difficult and costly. For the same reason, depressing East 161st Street was also deemed infeasible. Because of the

necessary clearance for traffic, connection to the stadium podium while providing adequate space for security checks is also problematic. This clearance would need to be adequate to accommodate large vehicles, as East 161st Street is a New York City designated truck route and serves the Bx6 and Bx13 buses. To achieve this, the span over East 161st Street would need to be considerably elevated. As this bridge would need to comply with all applicable codes, including the Americans with Disabilities Act Accessibility Guidelines (ADAAG), Local Law 58 and the ADA, the span would need to extend a much greater distance into the new park to the south of East 161st Street, thereby decreasing the acreage available for the new parkland and effectively bisecting the site. In addition to the above constructability issues, the cost of this structure would be quite expensive and take up space that could otherwise be used for general and parkland circulation. Considering that the new at-grade pedestrian crossings along with game-day traffic management measures would serve the same purpose, the overhead pedestrian walkway was eliminated from further consideration.

3) As stated above and in the DEIS, the overall station capacity is adequate to process existing and future demand. Enhanced crossing amenities incorporated as part of the proposed project would prevent queuing on the subway stairways. Further, the deployment of TEAs to manage pedestrian movements at the station and to redistribute subway patrons to those station elements with excess capacity was added to the FEIS as a mitigation measure. The City and the Yankees would coordinate with the MTA to ensure the effectiveness of the described measures, and, if necessary based on actual operations, would provide such additional practicable mitigation measures as may be warranted.

The responses to this comment and others by the MTA have been discussed with and deemed satisfactory by the MTA.

Comment 116: The DEIS does not adequately analyze potential impacts on New York City Transit (NYCT) bus operations by the new parking garages and stadium-generated traffic. The DEIS presumes that the Bx13 will be rerouted onto East 164th Street between Jerome and River Avenues due to the proposed demapping of East 162nd Street. The DEIS also mentions a planned black car pick-up and drop-off area on East 164th Street. The text should state whether this pick-up area is to be located off-street or curbside. The latter could interfere with bus operations, and, therefore, potential impacts on bus operations and mitigation measures should be described. (MTA)

Response: There are no plans to locate the black car pick-up and drop-off activities off-street. However, because most patrons transported by black cars would be destined for the Stadium Club, the entrance to which is located on Jerome

Avenue near East 162nd Street, it is expected that these activities would occur near the western end of East 164th Street. In addition, based on the projection of black car volumes, the amount of curb space required for these activities would be limited to a nominal distance (approximately 100 feet) toward the western end of East 164th Street between Jerome and River Avenues, which is 600 to 650 feet in length. It is expected that a relocated bus stop for the Bx13 route could be constructed near the River Avenue end of the block to avoid conflicts with other vehicles and that NYPD or TEAs would monitor and manage traffic conditions along this street to ensure that bus movements would not be impeded. A discussion of the above was added to the FEIS.

Comment 117: Three of the four proposed new garages will have vehicle access adjacent to the Bx6 and Bx13 routes. Together, these three garages will accommodate 4,305 cars. Traffic entering and exiting the garages will create more congestion on the bus routes than there currently is on game days, as the traffic analysis indicates. Both routes are uniquely important:

- The Bx6 carries 21,000 customers on an average weekday and brings workers to the Hunts Point Markets 24 hours a day. Thus, it is critical that the Bx6 be able to travel unimpeded through the Yankee Stadium area in the late evening up to midnight.
- The Bx13 carries 10,000 customers on an average weekday and is a key subway feeder route. For most of the geographically isolated High Bridge neighborhood, it is the only transit service available. It is critical that the evening commute home for these Bx13 customers not be disrupted when the new stadium is in use. It is a growing market, and it is a route NYCT is considering expanding the hours of service.

The DEIS states that because ridership on the Bx6 and Bx13 "represents a small percentage of the overall game-related trips, and since no changes in bus travel are anticipated with the proposed stadium, a quantified bus analysis was not performed and the proposed project is not expected to result in any significant adverse bus impacts." However, as stated above, these bus routes provide essential access to the surrounding neighborhoods and the DEIS predicts significant traffic impacts, which would lead to potentially significant delays in these routes. The EIS should include an analysis of these bus delays. (MTA)

Response: Queuing analyses of operations at the new garages were conducted. The results show that there would not be spillback to/from the garages. However, traffic congestion and significant traffic impacts were identified at several locations, some of which are situated along the Bx6 and Bx13 travel routes. An estimate of increased delays to bus travel under Build and Build with mitigation conditions was developed and incorporated in the FEIS. Although the game-day traffic management strategies presented in the DEIS and further explored for the FEIS, along with TEAs, would improve traffic flow and provide priority to bus movements, thereby resulting in a nominal average travel time increase of

approximately 5 percent for the Bx6 and Bx13 routes during game-day peak periods, it is expected that one or two additional buses may still be needed during pre-game and post-game peak periods to maintain the current headways and service schedules. NYCT will evaluate the above findings and determine whether to adjust its existing bus schedules. A discussion of the above was added to the FEIS.

Comment 118: A mitigation option for game-day impacts proposed in the DEIS is the construction of a pedestrian walkway along the west side of the Macombs Dam Bridge Approach viaduct to serve pedestrians walking between one of the new garages and the new stadium. There is no assurance that this walkway will be built along with the new stadium, yet it is a key measure in reducing the traffic impacts at the intersection of East 161st Street and the Bridge Approach, which would remain at level of service E or F with only normal mitigations. This level of delay would significantly impact Bx6 and Bx13 bus service. The EIS should discuss the likelihood of this bridge being constructed and alternative mitigations if it is not built. (MTA)

Response: After the DEIS was published, it was determined that widening this west walkway would adversely impact the landmarked bridge. Hence, this pedestrian walkway was eliminated from further consideration. However, the proposed widening on the east side of the viaduct has been coordinated with NYCDOT and agreement reached on its design and construction. As part of the additional traffic management diversion strategies explored since the publication of the DEIS, additional measures, including turn prohibitions and traffic diversions, were evaluated. With these additional measures in place, traffic delays at the Macomb's Dam Bridge Approach intersections with East 161st Street would be substantially lower than those presented in the DEIS. These analysis results were discussed in the FEIS and their effects were also accounted for in the bus delay calculations presented above in the response to Comment 117.

Comment 119: Pedestrian access to the project sites remains limited. Improvements to River Avenue and Exterior Street must be made to render the project more pedestrian-friendly. (SSB) The proximity of Gateway Center to the stadium (in its current location) allows for their being connected by short, well thought-out, and well-designed pedestrian circulation systems. (BVEI)

Response: The proposed project has incorporated numerous pedestrian amenities along its perimeters, including a stadium plaza on the north side of East 161st Street, a new crossing at Ruppert Plaza and East 161st Street, and, most significantly, a grand pedestrian circulation area that involves demapping the existing Ruppert Place to create Ruppert Plaza. This plaza would also serve as improved connection to the south and to the waterfront, which would also be enhanced by a new pedestrian bridge over the Metro-North Railroad tracks. With regard to

additional improvements along River Avenue and Exterior Street, they are not necessary from an operational perspective since parking destinations would have been centralized farther north and the associated pedestrian volumes south of East 157th Street are expected to decrease slightly. Nevertheless, the proposed project has not incorporated anything that would preclude potential future improvements along these corridors.

Comment 120: The game-day plan proposed as a traffic mitigation measure includes the closure of River Avenue between East 161st and 162nd Streets. This would block the current and proposed Bx13 route, requiring a detour via a parallel street, such as the Grand Concourse, three blocks away. (MTA)

Response: The closure of River Avenue between East 161st and East 162nd Streets was recommended as traffic mitigation only for the post-game peak conditions. While the traffic analysis conservatively assumed that all traffic would be diverted elsewhere, it is feasible to maintain the Bx13 route through this area with the assistance of TEAs who would already be present to facilitate crowd control across River Avenue. The FEIS reflects this post-game measure. In addition, the current Bx13 bus stop and layover area within this segment would need to be relocated (possibly northwards along River Avenue). Coordination with NYCT will be undertaken to make the appropriate determination and implementation on the relocation of these areas. A discussion of this latter issue was also added to the FEIS.

Comment 121: Traffic mitigation measures in the DEIS include the use of traffic probes ("footed delineator") on River Avenue at East 161st and 164th Streets, along the path of the Bx13 route, to physically create two 9.5-foot-wide lanes in each direction. This physically narrowed lane width would be too narrow to safely operate NYCT buses (which have 8.5-foot-wide bodies, 9.5-foot-wide including mirrors), making the lane width unacceptable. The minimum acceptable width is 11 feet. (MTA)

Response: The footed delineators are intended to channelize traffic into separate lanes near intersection approaches where additional capacity is needed during critical game-day travel periods. These devices are movable and would not rise substantially above the pavement. Where these devices would be in place, TEAs are also expected to be present to ensure safety. In the vicinity of the River Avenue and East 161st Street intersection, footed delineators would not be needed (contrary to what was stated in the DEIS) because as part of the Gateway Center at Bronx Terminal Market project's mitigation (approved after issuance of the DEIS), River Avenue's northbound and southbound approaches to East 161st Street would be restriped to provide 11-foot lanes. This mitigation was incorporated into the Yankee Stadium FEIS. Farther north along River Avenue (i.e., at East 164th Street), the delineation of traffic lanes that would

reduce lane widths to 9.5 feet would only occur during the weekend post-game period in the northbound direction, where the Bx13 does not traverse.

Comment 122: The proposed project would create worse access to virtually all modes of transportation, including vehicles traveling on the Major Deegan Expressway, ferry pier, and the long-standing proposal for a Metro-North station. All of these locations, as related to the proposed Yankee Stadium, defy generally acceptable walking distances. (Lapp)

Response: The comment is incorrect. More parking spaces would be constructed closer to the new stadium. For vehicles traveling on the Major Deegan Expressway, new parking options would replace illegal parking, existing neighborhood parking, and on-street parking at or near Bronx Terminal Market that will no longer be available. While walking distance to the ferry pier and the potential future Metro-North station would be marginally longer (across East 161st Street to the north), new and more pleasant connections would be provided as part of the proposed project, including the pedestrian-only Ruppert Plaza and a new pedestrian bridge to the waterfront.

Comment 123: The EIS should more thoroughly examine how subway service could be expanded, such as establishing new service on the A line or extending the 3 line to provide a connection with the 4 line at 162nd Street. (Rozankowski)

Response: These suggestions, entailing significant capital expenditures and planning efforts, are not warranted because they would not address the projected impacts identified in the EIS.

Comment 124: The proposed project should improve the ferry terminal and provide increased service during ball games. (BBP) The EIS should consider expanded ferry service and express buses. (Rozankowski) The proposed project should include construction of a new ferry terminal that will provide year-round service for the community. (CB4)

Response: Expansion of the ferry terminal and expanded service are not part of the proposed project. The existing facility is sufficient to accommodate current demand. Nonetheless, the City and Yankees would be supportive of any future expansion that may be warranted. Similarly, the provision of express bus service would be supported.

AIR QUALITY

Comment 125: The additional exhaust caused by increased traffic, including traffic caused by the construction of the four new parking garages, will impact air quality and pose an added public health risk to a neighborhood that has one of the highest

asthma rates in the nation, which is two and a half times greater than the City average (Sierra Club, Bent, Costa, Moore, Brennan, Blassingame, SSB, M.S. Smith, Attzs-Mendoza, David, Young, FOYS, Ross, NYCPA, Brewer, Alicea, Cotter, Mitchell). Low-speed, congested driving conditions result in greater emissions from carbon monoxide (CO) and volatile organic compounds (VOCs), as well as more toxic pollutants, such as benzene. (TTC) The DEIS is wrong to state that there would be no adverse impacts on air quality from the project. (Sierra Club)

Response: The EIS analyzes the potential air quality impacts of the proposed project, including the potential to affect asthma rates in the area. The analysis demonstrates that the project would not result in any significant adverse air quality impacts on residents and visitors.

Comment 126: The air quality analysis must be redone to account for the dramatic increase in parking and parking-induced auto trips that are likely to occur as a result. (TTC)

Response: The air quality analysis presented in the EIS evaluated the potential impacts from the operation of the proposed project's parking garages and the traffic around the proposed stadium on game days. The analysis clearly shows that emissions from mobile source sources would not cause any significant air quality impacts.

Comment 127: The loss of mature trees will negatively affect air quality in the area. (Bent, Brennan, Attzs-Mendoza)

Response: The proposed project would provide additional parklands and open space to the area. Further, as described in Chapter 9, "Natural Resources," there would be a tree replacement program with a tree canopy value equal to the lost value at the time of planting.

Comment 128: The users of the parks to be built above parking garages and adjacent to the Major Deegan Expressway will be exposed to noxious fumes emitted by cars and trucks. (Rivera, Brewer)

Response: The air quality analysis evaluated worst-case exposures associated with the proposed project. For parking garages, receptors were modeled adjacent to the garages during post-game conditions to simulate maximum pollutant exposures to individuals (maximum emissions occur during the initial operation of a vehicle after starting the engine after a prolonged period of inactivity, i.e., a cold start). Furthermore, impacts from Garages A and C were added together since they would be located opposite each other. Receptors were modeled at sidewalk locations to assess the maximum concentrations that the public could be exposed to. These locations, which are closer to vehicle tailpipe emissions than

the proposed parks, were found to be in compliance with ambient air quality standards and CEQR de minimis criteria.

Comment 129: Cars entering and leaving the proposed parking garages will idle on Jerome Avenue, producing fumes and pollutants that would impact the nearby residences and children that attend P.S. 114 on Jerome Avenue and East 167th Street. The area is already known as "Asthma Alley." The removal of 300 mature trees will only exacerbate the problem. (Blassingame, Niles)

Response: The air quality analysis evaluated potential impacts at several worst-case intersections. Cumulative impacts from on-street traffic and the proposed parking garages were also evaluated. The results of the analysis demonstrate that the proposed project would not result in any significant air quality impacts.

Comment 130: Particulate emissions at the $PM_{2.5}$ level must be monitored, close to the ground, prior to and after construction. (BBP) Air quality should be monitored prior to and after completion of the project. (CB4)

Response: Chapter 20, "Public Health," in the EIS concludes that the proposed project would not result in significant adverse effects related to $PM_{2.5}$, either during or after construction. For measures to be implemented during construction, see the response to Comment 132 and Comment 142 below.

NOISE

Comment 131: The proposed project will impose higher noise limits on the community. (Blassingame, Cotter, Mitchell). Residents on Jerome Avenue will have to deal with an incredible increase in noise. (Moore, Hester, Rivera) The increase in noise will affect local schools. (Niles)

Response: As described in the EIS, increases in noise levels at all locations would be less than 3.0 dBA when compared with noise levels in the future without the proposed project. Change of this magnitude would be barely perceptible, and, based on CEQR impact criteria, would not be significant. While changes in noise levels at the new parks proposed at River Avenue and East 157th Street and at the Harlem River waterfront would result in potentially significant noise impacts on users, noise levels at these new parks would be comparable to noise levels at existing New York City parks, including the existing Macomb's Dam and John Mullaly Parks, portions of Central Park, Hudson River Park, Riverside Park, and Van Cortlandt Park and Pelham Bay Park.

CONSTRUCTION IMPACTS

Comment 132: Community residents are very concerned about the environmental and health issues regarding the proposed construction. (Niles, Bell, Carter) The

construction of the proposed stadium will generate dust, pollution, and noise close to a public school, negatively affecting schoolchildren and the elderly. (Niles, Bent, Young, A. Canale, Brennan)

Response: The City and the Yankees understand the neighborhood's health concerns and are committed to undertaking the construction of the project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. The City and the Yankees would comply with Local Law 77, which requires City construction projects to use ultra-low-sulfur diesel fuel and best available emissions controls. As described below in the response to Comment 137, all construction work for the proposed project will be conducted utilizing best construction practices to minimize fugitive dust, such as the use of mats and/or tents during demolition activities and dust covers for trucks, in addition to other measures. Prior to construction, a Health and Safety Plan (HASP) would be prepared that would include health and safety procedures to minimize any potential adverse environmental impacts during construction. With respect to noise, P.S. 73 and P.S. 114, the schools closest to the proposed construction, are located more 300 feet and ¼-mile from the project area, respectively, and while—particularly at P.S. 73—noise from construction would be discernable and would be intrusive for limited periods of time, the increases in noise levels at these schools would not be significant noise impacts according to CEQR criteria. Air quality conditions would be monitored throughout the construction period, and a full-time health specialist would be employed by the Yankees to monitor conditions throughout the construction period. In addition, the Yankees would also hire a community liaison to serve as a point of contact for the community throughout the construction period.

Comment 133: The construction of the proposed stadium in the middle of a residential neighborhood will create difficulties for the elderly, who will have to navigate around a construction site to reach home. (Bent, Brennan)

Response: The EIS analyzes the effects of construction of the proposed project in Chapter 19, "Construction Impacts." That chapter includes an evaluation of impacts to pedestrian conditions and concludes that construction activities associated with the proposed project would not be expected to result in significant adverse impacts to pedestrian circulation. Efforts would be made to minimize adverse effects from potential sidewalk closures on pedestrian circulation. There would be requirements for street crossing and entrance barriers, protective scaffolding, and strict compliance with all applicable construction safety measures. In addition, builders would be required to plan and carry out noise and dust control measures during construction.

Comment 134: The construction of the proposed stadium will result in traffic congestion. (Carter)

Response: The NYCDOT has an Office of Construction Management and Coordinations, which has responsibility for coordinating any traffic, transportation, and congestion issues for projects affecting City streets. The Yankees would also hire a community liaison to serve as a point of contact for the community throughout the construction period.

Comment 135: The MTA must present the community with routing and re-routing plans for trains and buses during the construction periods. (CB4)

Response: Comment noted.

Comment 136: The Yankees must appoint a project coordinator, in consultation with the Bronx Borough President, to provide communication with the community and help mitigate construction impacts. (BBP) An office of construction coordination and mitigation must be set up in the Civic Center area prior to the construction of this project and remain open until the full completion of any major project. (CB4)

Response: The Yankees would appoint a project coordinator who would serve as an ombudsman to address local community concerns and would, among other things, interact with and respond to the community throughout the construction period.

Comment 137: Demolition areas must be enclosed with a mat or tent to protect the community from blown debris and dust, with particular attention to demolition of the old Polo Ground elevated subway spur, which may have asbestos and other contaminants. (BBP)

Response: All construction work for the proposed project would be conducted utilizing best construction practices to minimize fugitive dust. Measures to control fugitive dust would include, but not be limited to, watering exposed areas, using of mats and/or tents during demolition activities, and using dust covers for trucks. In addition, all necessary measures would be implemented to ensure that the New York City Air Pollution Control Code regulating construction-related dust emissions would be followed. Likewise, appropriate preventive measures will be undertaken to protect the safety of the public, community residents, and construction workers in any areas where construction activities have the potential to encounter hazardous materials. In addition, as mentioned in the response to Comment 132, a HASP would be prepared prior to construction.

Comment 138: Developers should employ environmentally sound design construction practices, using high-quality materials. (BBP) Construction practices for the proposed

stadium and garages must utilize the most advanced technology for emissions control, including low-sulfur emissions on-road vehicles and electric vehicles on-site, and compliance with Local Law 77, which requires City construction projects to use ultra-low-sulfur diesel fuel and best available emissions controls. (BBP, SSB)

Response: The City and the Yankees are committed to using high-quality construction materials and complying with the standards set forth in Local Law 77.

Comment 139: Community Board 4 should receive updated reports from the NYCDEP on any environmental concerns associated with this project. (CB4) Independent community monitoring of environmental impacts during construction and post construction must be facilitated. Developers must fully engage the community and respond to their concerns, particularly with respect to construction impacts on Jerome Avenue residents. (BBP)

Response: As stated above, the Yankees would appoint a project coordinator who would serve as an ombudsman to address local community concerns and would, among other things, interact with and respond to the community throughout the construction period.

Comment 140: There should be traffic agents set up for the area during construction. (CB4)

Response: See the response to Comment 134.

Comment 141: Construction will bring rodents to the neighborhood. (Hester, Carter)

Response: As described in Chapter 20, "Public Health," construction contracts for the proposed project would include provisions for a rodent (mouse and rat) control program. Prior to the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During the construction phase, as necessary, the contractor would carry out a maintenance program. Coordination would be maintained with appropriate public agencies.

Comment 142: Air quality should be monitored during construction. (CB4) Particulate emissions at the $PM_{2.5}$ level must be monitored, close to the ground, during construction. (BBP)

Response: The City and Yankees are committed to monitoring $PM_{2.5}$ levels during construction. Both the City and the Yankees are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction of the proposed stadium, and a full-time health

specialist would be employed by the New York Yankees to monitor conditions throughout the construction period.

PUBLIC HEALTH

Comment 143: Groups and individuals of all ages use John Mullaly and Macomb's Dam Parks not just for recreation but for health reasons as well. (Rivera, Brewer) The proposed project will cause health hazards for the community and will affect quality of life for residents. (Blassingame, M.S. Smith, Attzs-Mendoza, Cotter, Mitchell)

Response: See the response to Comment 61.

Comment 144: The DEIS concludes that the construction resulting in increased particulate and diesel fuel emissions will not adversely impact public health, but does not examine the impacts that the loss of tree canopy and grassy park surfaces, and limited access to parkland will have on local asthma and diabetes rates, which are presently near epidemic proportions. (NY4P) Asthma is a disability and is prevalent in the Bronx. The proposed project should be shaped to ensure that it will not increase the asthma rate in the community. (Attzs-Mendoza)

Response: See responses to Comments 126 and 128.

ALTERNATIVES

Comment 145: The analysis of the practical alternatives in the DEIS is woefully inadequate and does not meet the criteria to justify the conversion of parkland, as required under Title 36, Part 59 of the U.S. Code of Federal Regulations. Considering that the renovation or the reconstruction of the current stadium in its current location will eliminate or significantly reduce the negative impacts associated with the LWCF-funded parkland conversion, as would building on adjacent land to the west and south, these alternatives should receive a more in-depth analysis. The DEIS is overly dismissive of the alternatives, stating why they would not work for the Yankees. Instead, the EIS should address how these alternatives could be used to meet the criteria of the LWCF program and to reduce the negative impacts that the "preferred alternative" would impose on the community. (Herbert) A more careful examination of the alternatives should be provided. (FOYS)

Response: Chapter 22 of the EIS considers several alternatives to the proposed project, including the renovation of the existing stadium, as well as the reconstruction of the stadium on the current site and on several other sites both within and outside the neighborhood. The EIS demonstrates that each of these options is either not feasible or would not meet the goals and objectives of the proposed project. Renovation of the existing stadium would fail to meet the goals and objectives

of the project, because it would involve limited, primarily cosmetic changes and would not change the basic size, shape, or layout of the stadium. At the same time, this alternative would still involve creation of new parking garages, similar to those proposed for the project, and therefore would continue to require the use of parkland for that purpose. Reconstruction of the stadium on the existing site would require the use of Ruppert Place and a portion of Macomb's Dam Park adjacent to Ruppert Place, but would not provide the opportunity for new parkland and replacement recreational facilities. Moreover, Garage A could not be built in its proposed location, and therefore this alternative would either fail to provide adequate off-street parking, which is one of the stated goals of the project, or the required parking would have to be built on other parkland or on the waterfront, where it would result in unmitigable impacts that would not occur with the project. Locating non-essential program elements in nearby satellite buildings would not address the need to expand the patron and player areas in the existing stadium.

Comment 146: The DEIS is unprofessionally dismissive of a proposed renovation alternative and seeks to lead decision-makers in the belief that this option is not a practical alternative to the current proposal (FOYS, Costa). In order to provide a reasonable assessment of a renovation alternative, the EIS should review current and recently completed renovation projects of other Major League Baseball facilities (i.e., Boston, Chicago, and Los Angeles) to determine their scope of work, duration of work, and timing of work for comparison with the Yankee Stadium Project. Proposed and actual job creation, and economic and fiscal impacts need to be considered to determine the costs and benefits of each project to its host communities. With respect to the renovation alternative, the EIS should consider the same impacts considered for the Build scenario, such as noise, construction, asthma and air quality, open space, etc. The renovation alternative could possibly result in more construction jobs than the Build scenario, and the decision-makers deserve to know this. The renovation alternative should account for the fact that there are many configurations for the "modern baseball facility," such as locating non game-essential program elements in nearby satellite buildings. Aspects of the existing proposal, such as park restoration and creation of waterfront park space, and reduced components of the proposed parking could be included in the renovation alternative. If a renovation alternative is ultimately discarded, the reasons for doing so need to be explained in detail. (FOYS)

Several other baseball organizations around the country are currently renovating their stadiums in ways that have not disrupted seasonal operations. (FOYS, Bent, Brennan) Although the DEIS does not address the cost of renovating the existing stadium, experiences elsewhere indicate that it would be much cheaper to renovate than to build a new stadium. (FOYS) The DEIS does not adequately explain why the Yankees can't renovate the existing stadium, except to say that

not enough revenue would be generated for the Yankees. (Bent, SSB, Young, Brennan) This reason is highly insufficient and does not address the concerns of the community. (SSB, Young) During the CPC's public hearing, the architect of the proposed Yankee Stadium stated that if a similar stadium to the one proposed were to be developed south of East 161st Street, it would extend into Ruppert Place, East 157th Street, and River Avenue. This does not address a renovation alternative at all, but merely indicates that the new building his firm designed would not fit at the current site. (FOYS)

Response: As required under CEQR and SEQRA, the EIS includes an evaluation of alternatives to the proposed project to identify any alternatives that might meet the project's purpose and need while potentially reducing any significant adverse impacts. This evaluation is provided in Chapter 22, "Alternatives." As described in response to the previous comment, the EIS demonstrates that the alternatives of renovating the stadium or reconstructing it at its current site are either not feasible or would not meet the goals and objectives of the proposed project. The renovation alternative was determined to be infeasible because there is insufficient space within the existing stadium site to accommodate the extensive needs and requirements for transforming it into a modern-day facility (see the response to Comment 148).

While it is true that other baseball stadiums have recently completed or are currently involved in renovation projects, the scope and objectives of each of the projects are distinctly different from those of the proposed project and do not provide adequate comparisons to a Yankee Stadium renovation alternative. For example, Fenway Park in Boston has undergone several smaller incremental renovation projects, including the addition of the .406 club with 606 seats above the grandstand in 1988-89 and the construction of a new seating section in 2003. After the 2005 season, work began on a project to remove the glass that encloses the .406 club and split the large area into two levels to add more seats. Significant renovations of the scale that would be required to meet the proposed project's objectives were not undertaken.

Comiskey Park in Chicago was a state-of-the-art facility when it was constructed in 1991. Ten years later, the stadium underwent a capital improvement plan that included reducing its capacity by approximately 4,000 seats and creating a new color scheme and brand for the ballpark. Similar to the proposed Fenway Park renovation, significant renovations of the scale that would be required to meet the proposed project's objectives were not undertaken.

The Angels Stadium renovation in Los Angeles resulted in the conversion of an approximately 65,000-seat stadium to an approximately 45,000-seat baseball-only stadium. The original Angels Stadium was a relatively large, modern facility (31 years old when renovations began in 1996) with split concourses, which, along with the availability of adjacent parking areas for expansion,

enabled the stadium's conversion to a state-of-the-art facility. The purpose of the Busch Stadium renovation in St. Louis, which took place between 1995 and 2000, was to convert a multi-purpose stadium into a stadium that could exclusively accommodate baseball. However, this renovation did not address the long-term needs of the Cardinals, as they subsequently undertook the design and construction of a new facility adjacent to the recently renovated stadium.

The current Yankee Stadium site is just under 10 acres, compared to the more than 13.0 acres that a state-of-the-art facility requires. By comparison, the average acreage for the sites of the most recently constructed (since 2000) new stadiums (i.e., Petco Park in San Diego, Great American Ball Park in Cincinnati, PNC Park in Pittsburgh, Minute Maid Park in Houston, and SBC Park in San Francisco) is over 15.5 acres.

Comment 147: Why should Yankee Stadium—the premier example of sports Americana—be destroyed while older stadiums in Boston, Chicago, and Los Angeles are being renovated? (Costa) The Yankees are ignoring modern construction technology that is being used by other baseball organizations to rebuild their stadiums without shutting them down. (Costa, FOYS, Brennan)

Response: See the response to Comment 146.

Comment 148: The EIS should include an alternative of relocating the new stadium to the south of the existing stadium or to the waterfront. This would eliminate the need to replace heavily used parkland. (Herbert, Brewer) Practical alternatives to the proposal have been ignored. (Causey) The Yankee organization should either renovate the existing stadium, rebuild in the current location, or relocate south and west of the current location. (Brewer, Niles, Bent, Harris, Brennan, Porrata) The Yankees should renovate the existing stadium or rebuild in the current location. (Carter) If the proposed parking garages are removed from the project, the stadium could be built to the south and west of the existing stadium, allowing John Mullaly and Macomb's Dam Parks to remain. (Rozankowski) Only stadium alternatives that would preserve the existing John Mullaly and Macomb's Dam Parks should be considered. (Tejada)

Response: As discussed in Chapter 22 of the EIS, a variety of sites south of East 161st Street were examined as potential sites for Yankee Stadium, including the existing site. The principal problem with each of the sites is that none provides a large enough footprint to accommodate a state-of-the-art stadium. See the responses to Comment 146 and Comment 147 above regarding renovation and reconstruction alternatives and the size required for the new stadium.

Other sites south of East 161st Street pose similar footprint constraints as the current site and would require that existing or proposed parking facilities be replaced by the stadium structure, further exacerbating the present parking

shortage. These physical and operational limitations, along with the cost and difficulty associated in locating and coordinating an alternate playing field for the duration of any construction activity, make locating the new stadium on the present site or another site south of East 161st Street infeasible.

Comment 149: Why can't the Yankees play in Shea Stadium while the existing stadium is renovated or rebuilt on its current site? (Bongiovi)

Response: As described in Chapter 22 of the EIS, having the Yankees play at Shea Stadium is not a feasible option for several reasons. Most importantly, the Mets are poised to build a new stadium next to the existing facility, and the existing stadium's use by two teams would greatly exacerbate the parking and open space impacts of the Shea Stadium project during its construction. Moreover, as discussed in response to previous comments, renovation or reconstruction on the current site would not provide enough space for the stadium to meet the purpose and need of the project.

Comment 150: The Borough President claims that the alternative plan will create a "Central Park" in the Bronx, but this plan would replace the existing parks that already function as a "Central Park." Many aspects of this "Central Park" would be far-flung, while the central portion, which would be bisected by the proposed stadium, would also cut off the Highbridge neighborhood from the neighborhoods to the east. (FOYS, Brennan)

Response: See the responses to Comment 59 and Comment 88.

Comment 151: The alternatives section of the EIS should consider Bronx Borough President Fernando Ferrer's 1998 stadium renovation plan that would cost $189 million ($225 million in 2005 dollars). (FOYS, Costa)

Response: The former Bronx Borough President Fernando Ferrer's 1998 stadium renovation plan focuses primarily on improvements for the area surrounding Yankee Stadium and does not identify the specific components of the stadium renovation. This plan therefore lacks sufficient detail to permit a reasoned analysis as an alternative to the proposed project in the EIS. A renovation alternative was included in the EIS, which is addressed in the response to Comment 146 above.

Comment 152: Building upon our Bronx Center Plan of 1993, a large-scale plan for a 300-block area that includes Melrose Commons, the HUB, and the Yankee Stadium/Waterfront Triangle, we endorse a 1998 report "Safe at Home," which includes a more detailed, community-based plan for the stadium as an alternative to the proposed project. Our plan would consist of renovation or reconstruction of Yankee Stadium in its current location. Parking structures

would be dispersed around the stadium, away from the residential streets so that no residential building would have to face garage entrances or walls or be exposed to fumes. The garages would be accessed as dedicated facilities depending on the origin and destination of car trips generated by the stadium. Traffic would be monitored and controlled by advanced electronic information systems. Garages would be shared among the retail complex at Gateway Center and the stadium. In our plan, the surrounding neighborhoods will not be disrupted during or after construction, no costly and questionable interim park solution will be necessary, there may be less need for extensive changes to the street infrastructure, and there would be no out-of-scale wedge driven between the Highbridge and Concourse communities. (BVEI)

Response: As detailed in Chapter 22 of the EIS and noted above in the responses to Comments 145 and 146, renovation or reconstruction of the stadium in its current location would not meet the purpose and needs for the project.

MITIGATION

Comment 153: Any mitigation measures based on faulty traffic, air quality, and noise impacts will not be sufficient unless they account for the induced traffic caused by the construction of the four new parking garages and should be revised. (TTC)

Response: As described in the responses to Comments 92 and 126, the traffic, air quality, and noise analyses conducted for the project were not faulty. The new parking garages are needed to meet existing parking demands and would not be expected to induce new traffic.

ENVIRONMENTAL JUSTICE

Comment 154: The proposed project violates 1994 Presidential Executive Order 12898 by failing to address its disproportionately high and adverse human and environmental effects on the minority and low-income population in the project area. The DEIS does not acknowledge the disproportionately high rates of asthma, diabetes, and obesity that already exist in the project area largely due to past urban planning decisions that were blatant instances of environmental injustice. (NY4P)

Response: The DEIS and FEIS address the potential for disproportionately high and adverse human and environmental effects on minority and low-income populations, as required by Executive Order 12898. This analysis is provided in Appendix F, "Environmental Justice." The analysis in Appendix F concludes that the study area is a minority and low-income community but that the project would not result in disproportionate significant adverse impacts to that community. With respect to public health, the analysis concludes that the project would not have significant adverse effects on public health, including possible

increases in asthma events. As described in Chapter 20, "Public Health," the project sponsors are sensitive to the community's concerns with respect to the incidence of asthma among the local population and are working with and will continue to work with the community to develop measures to address those concerns. Both the Yankees and the City are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction period, and a full-time health specialist would be employed by the Yankees to monitor conditions throughout the construction period.

Comment 155: The South Bronx is a low-income and minority community with a disproportionate number of waste transfer stations and high levels of diesel traffic. The impacts of this project will be adverse and will be borne by a predominantly low-income minority community. (TTC, Mitchell) The DEIS should have addressed the cumulative impacts of the proposed project and other sources of air emissions and addressed the health impacts on an environmental justice community. (TTC)

Response: As described in response to Comment 154, the DEIS includes an analysis of environmental justice in Appendix F. That analysis considers the project's effects, as evaluated for the DEIS, on the surrounding community, which is a low-income and minority community. The DEIS analysis of air quality is described in more detail in Chapter 17, "Air Quality." That analysis included consideration of the cumulative effects of the project with other sources of air emissions in the study area, by first considering the existing conditions in the surrounding study area as well as any changes that might occur due to other proposed projects, and then considering the project's effects on that baseline. The analysis concluded that the proposed project would not result in any significant adverse air quality impacts. Using this information, the environmental justice analysis in Appendix F concluded that the project would not result in disproportionate significant adverse impacts on the nearby low-income and minority population. ✷

APPENDIX A

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM CONSISTENCY ASSESSMENT FORM (CAF)

8-11-05
SECOND DRAFT

For Internal Use Only:	WRP no.
Date Received:	DOS no.

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM
Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP, or other local, State or Federal discretionary review procedures, and that are within New York City's designated coastal zone, must be reviewed and assessed for their consistency with the *New York City Waterfront Revitalization Program* (WRP). The WRP was adopted as a 197-a Plan by the Council of the City of New York on October 13, 1999, and approved by the New York State Department of State with the concurrence of the United States Department of Commerce pursuant to applicable State and Federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act. As a result of these approvals, State and Federal discretionary actions within the City's coastal zone must be consistent to the maximum extent practicable with the WRP policies and the City must be given the opportunity to comment on all State and Federal projects within its coastal zone.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, State, or Federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, other State agencies or the New York City Department of City Planning in their review of the applicant's certification of consistency.

A. APPLICANT

1. Name: **New York City Department of Parks and Recreation**
2. Address: **The Arsenal, Central Park; 830 Fifth Avenue, Room 403; New York, NY 10021**
3. Telephone: **212-360-3402** Fax: **212-360-3453** E-mail: **joshua.laird@parks.nyc.gov**
4. Project Site Owner: **New York City**

B. PROPOSED ACTIVITY

1. Brief description of activity: **The New York City Department of Parks and Recreation (DPR) proposes to allow for the development of a new Yankee Stadium by the New York Yankees on portions of Macomb's Dam and John Mullaly Parks adjacent to the existing stadium site, located at East 161st Street and River Avenue in The Bronx (see Figure 1). The new, open-air stadium with a capacity for 54,000 spectators (53,000 seats and 1,000 standing spaces) would replace the existing, approximately 56,928-seat, outdated 82-year-old Yankee Stadium with one that can effectively accommodate a modern baseball team and provide greatly improved spectator and parking facilities. Although the interior of the new stadium would contain state-of-the art facilities for players and spectators, the design would evoke both the 1923 and the existing stadiums, incorporating elements of both. The proposed project also includes the following:**

- **Construction of four parking garages;**
- **Street-level, non-destination retail in one of the four garages;**
- **Development of recreational facilities within a portion of Macomb's Dam Park as part of the replacement of recreational facilities that would be displaced;**
- **Creation of new parkland and development of recreational facilities on the site of the existing stadium, on existing parking lots along River Avenue at East 157th Street and the Harlem River waterfront at the site of three warehouse buildings (Buildings G, H, and J) and extending to the waterfront along Exterior Street within the Bronx Terminal Market. These recreational facilities would also be developed as part of the replacement of recreational facilities that would be displaced within portions of Macomb's Dam and John Mullaly Parks.**
- **Resurfacing and restriping existing Yankee Stadium Parking Lots 13A and 13B located north of Bronx Terminal Market along the waterfront.**
- **Extension of existing Yankee Stadium Parking Lot 13A to the south of Pier 1 for new surface parking.**

The only elements of the proposed project that are within the coastal zone are the proposed Harlem River waterfront park, the esplanade connecting the proposed waterfront park to the existing ferry landing, and existing Yankee Stadium Parking Lots 13A and 13B that would be repaved, restriped, and extended to the south. Therefore, only these elements are assessed for consistency with the WRP. The existing ferry landing and service would be maintained at its current location and capacity.

2. Purpose of activity: **To allow for the development of a new Yankee Stadium by the New York Yankees on portions of Macomb's Dam and John Mullaly Parks adjacent to the existing stadium site, located at East 161st Street and River Avenue in The Bronx, alleviate the shortfall of available parking on game days, provide access to the Harlem River waterfront that is currently not available to the community, and provide a net increase of approximately 4.63 acres of open space in The Bronx.**

3. Location of activity (street address/borough or site description): **The project area is located in The Bronx and generally bounded by Jerome Avenue and the Harlem River to the west, 164th Street to the north, East 150th Street to the south, and River Avenue to the east. Project elements that are located within the coastal zone are bounded by the Harlem River to the west, Macombs Dam Bridge to the north, and the Major Deegan Expressway to the east.**

4. If a federal or state permit or license was issued or is required for the proposed activity, identify the permit type(s), the authorizing agency and provide the application or permit number(s), if known: **Permits or approvals that may be required for the proposed project include: authorization under the State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity Permit Number GP-02-01, a Tidal Wetlands permit, a Protection of Waters permit, and water quality certification from the New York State Department of Environmental Conservation (NYSDEC), and a permit from the U.S. Army Corps of Engineers (USACOE) for in- or above-water construction activities.**

5. Is federal or state funding being used to finance the project? If so, please identify the funding source(s).
New York City funding for the new parkland and New York State funding for the new parking garages.

6. Will the proposed project result in any large physical change to a site within the coastal area that will require the preparation of an environmental impact statement?
Yes **X** No _____ If yes, identify Lead Agency: **New York City Department of Parks and Recreation**

7. Identify **City** discretionary actions, such as a zoning amendment or adoption of an urban renewal plan, required for the proposed project. City discretionary actions that may be required for the project elements within the coastal zone include: **City discretionary actions for project elements outside the coastal zone include disposition of City-owned property and amendments to the City map, and possible New York City Department of Environmental Protection (NYCDEP) permits for de-watering activities associated with construction.**

C. COASTAL ASSESSMENT

Location Questions:	**Yes**	**No**
1. Is the project site on the waterfront or at the water's edge?	**X**	
2. Does the proposed project require a waterfront use?	**X**	
3. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land underwater, or coastal waters?	**X**	

Policy Questions	**Yes**	**No**

The following questions represent, in a broad sense, the policies of the WRP. Numbers in parentheses after each question indicate the policy or policies addressed by the question. The new Waterfront Revitalization Program offers detailed explanations of the policies, including criteria for consistency determinations.

Check either "Yes" or "No" for each of the following questions. For all "yes" responses, provide an attachment assessing the effects of the proposed activity on the relevant policies or standards. Explain how the action would be consistent with the goals of those policies and standards.

4. Will the proposed project result in revitalization or redevelopment of a deteriorated or under-used waterfront site? (1) **The proposed project would result in waterfront uses that attract the public and enliven the waterfront as well as benefit the surrounding community. The waterfront park and esplanade would provide waterfront access and recreational opportunities that are currently not available within the vicinity of the project area. In addition, it would result in an increase in active recreational resources for the community.**	**X**	

Policy Questions cont'd	Yes	No
5. Is the project site appropriate for residential or commercial development? (1.1) **The portion of the proposed project within the coastal zone would be developed as a waterfront park, esplanade, and the repaved and restriped Yankee Stadium Parking Lots 13A and 13B and would not be a commercial or residential development.**	**X**	
6. Will the action result in a change in scale or character of a neighborhood? (1.2)		**X**
7. Will the proposed activity require provision of new public services or infrastructure in undeveloped or sparsely populated sections of the coastal area? (1.3)		**X**
8. Is the action located in one of the designated Significant Marine and Industrial Areas (SMIA): South Bronx, Newtown Creek, Brooklyn Navy Yard, Red Hook, Sunset Park, or Staten Island? (2)		**X**
9. Are there any waterfront structures, such as piers, docks, bulkheads or wharves, located on the project sites? (2) **The project area includes bulkheads along the Harlem River shoreline, Pier 1 and the combined Piers 2 and 3. The combined Piers 2 and 3 proposed as the location for the waterfront park, the small portion of Pier 1 proposed for the esplanade, and the area south of Pier 1 proposed for surface parking are not suitable for working waterfront uses.**	**X**	
10. Would the action involve the siting or construction of a facility essential to the generation or transmission of energy, or a natural gas facility, or would it develop new energy resources? (2.1)		**X**
11. Does the action involve the siting of a working waterfront use outside of a SMIA? (2.2)		**X**
12. Does the proposed project involve infrastructure improvement, such as construction or repair of piers, docks, or bulkheads? (2.3, 3.2) **The proposed project includes the repair/replacement of bulkheads for the development of the proposed waterfront park. The proposed project does not include working waterfront uses and would not provide facilities for recreational or commercial vessels.**	**X**	
13. Would the action involve mining, dredging, or dredge disposal, or placement of dredged or fill materials in coastal waters? (2.3, 3.1, 4, 5.3, 6.3)		**X**
14. Would the action be located in a commercial or recreational boating center, such as City Island, Sheepshead Bay or Great Kills or an area devoted to water-dependent transportation? (3)		**X**
15. Would the proposed project have an adverse effect upon the land or water uses within a commercial or recreation boating center or water-dependent transportation center? (3.1)		**X**
16. Would the proposed project create any conflicts between commercial and recreational boating? (3.2)		**X**
17. Does the proposed project involve any boating activity that would have an impact on the aquatic environment or surrounding land and water uses? (3.3)		**X**
18. Is the action located in one of the designated Special Natural Waterfront Areas (SNWA): Long Island Sound-East River, Jamaica Bay, or Northwest Staten Island? (4 and 9.2)		**X**
19. Is the project site in or adjacent to a Significant Coastal Fish and Wildlife Habitat? (4.1)		**X**
20. Is the site located within or adjacent to a Recognized Ecological Complex: South Shore of Staten Island or Riverdale Natural Area District? (4.1 and 9.2)		**X**
21. Would the action involve any activity in or near a tidal or freshwater wetland? (4.2) **The western portion of the project area comprises a portion of the Harlem River shoreline which contains two interpier areas which the NYSDEC has confirmed contain littoral zone tidal wetlands. NYSDEC has confirmed that the landward extent of tidal wetlands is the seaward face of the existing shoreline engineering structures with the exception of three locations (along the northern edge of Pier 2 within the north cove, within the former interpier area between Piers 2 and 3, and along the shoreline of the southern cove between Piers 3 and 4) where the tidal wetland boundary line extends to the is the Mean High Water (MHW) elevation. Elements of the shoreline stabilization as part of the Harlem River waterfront park design, such as replacement of existing timber crib bulkhead with a softer shoreline stabilization structure (e.g., gabion wall system) that would permit the development of an intertidal area and the establishment of tidal wetland vegetation at the shoreward portion of the coves would improve wetland resources within the project area. Measures would be implemented to minimize potential impacts to tidal wetlands during construction of the shoreline improvements.**	**X**	

Policy Questions cont'd	**Yes**	**No**
22. Does the project site contain a rare ecological community or would the proposed project affect a vulnerable plant, fish, or wildlife species? (4.3) **No Federally listed or proposed endangered or threatened species under the jurisdiction of the US Fish and Wildlife Service (USFWS) are known to be in the project area. The New York Natural Heritage Program (NYNHP) has no record of known occurrences of rare or state-listed species, natural communities or other significant habitats on or in the immediate vicinity of the project area. No endangered or threatened species under the jurisdiction of the NMFS are known to occur within the project area, although the Federally- and NY State-listed endangered shortnose sturgeon (*Acipenser brevirostrum)* has been identified as a possible (rare) transient species in the Harlem River. Use of the Harlem River channel located to the west of the project site by shortnose sturgeon would be rare. Construction and operation of the waterfront park as part of the proposed project would not be expected to affect possible transient use of the Harlem River by this species.**	**X**	
23. Would the action have any effects on commercial or recreational use of fish resources? (4.4)		**X**
24. Would the proposed project in any way effect the water quality classification of nearby waters or be unable to be consistent with that classification? (5)		**X**
25. Would the action result in any direct or indirect discharges, including toxins, hazardous substances, or other pollutants, effluent, or waste, into any waterbody? (5.1)		**X**
26. Would the action result in the draining of stormwater runoff or sewer overflows into coastal waters? (5.1) **The construction and operation of the proposed waterfront park would result in the discharge of stormwater to the Harlem River. The management of stormwater generated within the Harlem River waterfront park in accordance with a SWPPP, retention of stormwater from portions of the waterfront park that would discharge to the combined sewer system, and the implementation of an Integrated Pest Management (IPM) strategy, would minimize potential adverse effects to water quality of the Harlem River.**	**X**	
27. Will any activity associated with the project generate nonpoint source pollution? (5.2)		**X**
28. Would the action cause violations of the National or State air quality standards? (5.2)		**X**
29. Would the action result in significant amounts of acid rain precursors (nitrates and sulfates)? (5.2C)		**X**
30. Will the project involve the excavation or placing of fill in or near navigable waters, marshes, estuaries, tidal marshes or other wetlands? **The proposed project includes the stabilization and improvement of riprap along the Harlem River shoreline, the replacement of concrete bulkhead in kind, and the replacement of timber crib bulkhead with a gabion shoreline stabilization structure. These improvements would not result in significant adverse impacts to NYSDEC littoral zone tidal wetlands or to Harlem River water quality.**	**X**	
31. Would the proposed action have any effects on surface or ground water supplies? (5.4)		**X**
32. Would the action result in any activities within a Federally designated flood hazard area or State designated erosion hazards area? (6) **The proposed waterfront park is within the 100-year flood boundary. The proposed improvements to the existing shoreline stabilization structures within the proposed waterfront park would protect the shoreline from erosion and would not affect erosion or flooding of neighboring areas.**	**X**	
33. Would the action result in any construction activities that would lead to erosion? (6)		**X**
34. Would the action involve construction or reconstruction of flood or erosion control structure? (6.1) **The proposed project includes the repair/replacement of bulkheads to protect the shoreline from erosion that would not affect erosion or flooding of neighboring areas.**	**X**	
35. Would the action involve any new or increased activity on or near any beach, dune, barrier island, or bluff? (6.1)		**X**
36. Does the proposed project involve use of public funds for flood prevention or erosion control? (6.2)		**X**

Policy Questions cont'd	Yes	No
37. Would the proposed project affect a non-renewable source of sand? (6.3)		X
38. Would the action result in shipping, handling, or storing of solid wastes; hazardous materials, or other pollutants? (7)		X
39. Would the action affect any sites that have been used as landfills? (7.1)		X
40. Would the action result in development of a site that may contain contamination or has history of underground fuel tanks, oil spills, or other form of petroleum use or storage? (7.2) **Areas of petroleum-contaminated soils have been identified within the area of the proposed waterfront park. In the event that soil containing petroleum is discovered during excavation activities, such soil would be segregated and disposed in accordance with all applicable Federal, State and local regulations and guidelines. A possible underground storage tank identified within the proposed waterfront park would be removed and disposed of in accordance with Federal, State and local regulations.**	X	
41. Will the proposed activity result in any transport, storage, treatment, or disposal of solid wastes or hazardous materials, or the siting of a solid or hazardous waste facility? (7.3)		X
42. Would the action result in a reduction of existing or required access to or along coastal waters, public access areas, or public parks or open spaces? (8)		X
43. Will the proposed project affect or be located in, on, or adjacent to any federal, state, or city park or other land in public ownership protected for open space preservation? (8**) The proposed waterfront park and esplanade would be developed on City- and State-owned property in an area where public access to the waterfront is absent. The proposed project would re-establish physical and visual public access to the Harlem River waterfront and result in waterfront uses that attract the public, enliven the waterfront, and benefit the surrounding community. The proposed waterfront park and esplanade would provide waterfront access and recreational opportunities that are currently not available within the vicinity of the project area.**	X	
44. Would the action result in the provision of open space without the provision for its maintenance? (8.1)		X
45. Would the action result in any development along the shoreline but NOT include new water-enhanced or water-dependent recreational space? (8.2)		X
46. Will the proposed project impede visual access to coastal lands, waters and open space? (8.3)		X
47. Does the proposed project involve publicly owned or acquired land that could accommodate waterfront open space or recreation? (8.4) **The proposed project is located on property owned by the City and State of New York and the proposed project would include the creation of public parkland and esplanade.**	X	
48. Does the project site involve lands or waters held in public trust by the state or city? (8.5). **The proposed project is located on City- and State-owned land. With the development of the waterfront park and esplanade, the proposed project would preserve the public interest in and use of lands and waters held in public trust by the City.**	X	
49. Would the action affect natural or built resources that contribute to the scenic quality of a coastal area? (9) **The proposed project would enhance the scenic quality of the Harlem River waterfront by replacing the existing vacant or underutilized structures that have a neglected quality with a waterfront park that would enhance the community and the scenic quality of the coastal area.**	X	
50. Does the site currently include elements that degrade the area's scenic quality or block views to the water? (9.1) **The proposed project would replace the existing vacant or underutilized structures along the Harlem River within the project area with a waterfront park that will provide new views of the Harlem River from the waterfront.**	X	

Policy Questions cont'd	Yes	No
51. Would the proposed action have a significant adverse impact on historic, archaeological, or cultural resources? (10) **Three buildings in the project area, Buildings G, H, and J of the Bronx Terminal Market, are eligible for listing on the State and National Registers of Historic Places. Because these structures would be demolished by the proposed project for development of the Harlem River waterfront park, the proposed project would undertake mitigation measures in consultation with the New York Historic Preservation Officer (SHPO) to mitigate any significant adverse effects on architectural resources. However, the Alternative Park Plan as described in Chapter 22, "Alternatives," of the FEIS is the preferred park plan and it is anticipated to be adopted and approved. Under the Alternative Park Plan, Bronx Terminal Market Building J would not be demolished. The mitigation measures to be implemented are set forth in a Memorandum of Agreement to be entered into among NYCDPR, the National Park Service, and SHPO.**	**X**	
52. Will the proposed activity affect or be located in, on, or adjacent to an historic resource listed on the National or State Register of Historic Places, or designated as a landmark by the City of New York? (10) **Three buildings in the project area, Buildings G, H, and J of the Bronx Terminal Market, are eligible for listing on the State and National Registers of Historic Places. Because these structures would be demolished by the proposed project for development of the Harlem River waterfront park, the proposed project would undertake mitigation measures in consultation with SHPO to mitigate any significant adverse effects on architectural resources. However, the Alternative Park Plan as described in Chapter 22, "Alternatives," of the FEIS is the preferred park plan and it is anticipated to be adopted and approved. Under the Alternative Park Plan, Bronx Terminal Market Building J would not be demolished. The mitigation measures to be implemented are set forth in a Memorandum of Agreement to be entered into among NYCDPR, the National Park Service, and SHPO.**	**X**	

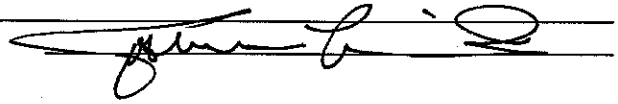
D. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's Waterfront Revitalization Program, pursuant to the New York State Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If the certification can be made, complete this section.

"The proposed activity complies with New York State's Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent Name: **Joshua Laird, Director of Planning, New York City Department of Parks and Recreation**

Address: **The Arsenal, Central Park, 830 Fifth Avenue Room 403, New York, NY 10021**

Applicant/Agent Signature: 

Telephone **212-360-3402**

Date 2/8/06

APPENDIX B
TRAFFIC: LEVELS OF SERVICE TABLES

TABLE B - 1
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
EXISTING TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	SIGNALIZED									
	GRAND CONCOURSE									
23	**Grand Concourse at E.165th Street**									
	Grand Concourse (Main)	NB	L	0.28	12.9	B	L	0.11	10.5	B
			T	0.66	26.5	C	T	0.25	19.2	B
		SB	L	0.22	14.7	B	L	0.06	10.3	B
			T	0.39	21.0	C	T	0.16	18.1	B
	Grand Concourse (Service)	NB	TR	0.77	33.6	C	TR	0.33	20.8	C
		SB	TR	0.26	19.2	B	TR	0.14	17.9	B
	E. 165th Street	EB	LTR	0.46	31.9	C	LTR	0.25	28.4	C
		WB	LTR	0.53	33.3	C	LTR	0.21	27.8	C
		Overall Intersection	-	**0.67**	**26.9**	**C**	-	**0.31**	**21.1**	**C**
8	**Grand Concourse at E. 161st Street**									
	Grand Concourse	NB	LT	1.04	57.5	E	LT	0.76	17.3	B
			R	0.18	11.5	B	R	0.27	10.2	B
	Grand Concourse (Main)	SB	L	0.50	45.0	D	L	0.48	28.0	C
			T	0.41	46.6	D	T	0.41	44.1	D
	Grand Concourse (Service)	SB	T	0.34	19.5	B	T	0.43	17.5	B
			R	0.74	42.6	D	R	0.62	29.1	C
	E. 161st Street	EB	DefL	0.94	83.6	F	-	-	-	-
			TR	0.89	60.3	E	LTR	1.05	96.6	F
		WB	LTR	0.78	46.0	D	LTR	0.89	62.9	E
		Overall Intersection	-	**1.00**	**52.0**	**D**	-	**0.83**	**44.4**	**D**
	RIVER AVENUE									
21	**River Avenue at E. 165th Street**									
	River Avenue	NB	LTR	0.35	11.6	B	LTR	0.52	13.9	B
		SB	LTR	0.32	11.3	B	LTR	0.13	9.4	A
	E. 165th Street	EB	LTR	0.73	34.3	C	LTR	0.42	24.0	C
		WB	LTR	0.75	35.2	D	LTR	0.37	23.2	C
		Overall Intersection	-	**0.51**	**23.8**	**C**	-	**0.48**	**17.1**	**B**
19	**River Avenue at E. 164th Street**									
	River Avenue	NB	LT	0.31	11.1	B	LT	0.60	11.9	B
		SB	TR	0.29	10.8	B	TR	0.07	6.4	A
	E. 164th Street	EB	LR	0.26	21.9	C	LR	0.17	14.7	B
		WB	LTR	0.15	19.7	B	LTR	0.40	17.0	B
		Overall Intersection	-	**0.29**	**13.0**	**B**	-	**0.52**	**12.8**	**B**
15	**River Avenue at E. 162nd Street (North)**									
	River Avenue	NB	LT	0.42	12.6	B	LT	0.39	12.2	B
		SB	TR	0.19	9.9	A	TR	0.20	10.1	B
	E. 162nd Street	EB	LR	0.47	24.9	C	LR	0.17	19.9	B
		Overall Intersection	-	**0.44**	**15.7**	**B**	-	**0.30**	**12.8**	**B**
7	**River Avenue at E. 161st Street**									
	River Avenue	NB	LTR	0.70	28.5	C	LTR	0.86	48.5	D
		SB	LTR	0.96	56.6	E	R	0.91	109.3	F
	E. 161st Street Main Road	EB	T	0.21	14.0	B	T	0.90	88.8	F
		WB	T	0.44	16.5	B	T	0.39	10.7	B
	E. 161st Street Service Road	EB	T	0.30	14.9	B	T	0.10	8.5	A
			R	0.66	24.0	C	R	0.05	8.4	A
		WB	TR	0.47	17.3	B	TR	0.93	37.6	D
		Overall Intersection	-	**0.80**	**23.7**	**C**	-	**0.90**	**48.6**	**D**
6	**River Avenue at E. 157th Street**									
	River Avenue	NB	TR	0.36	12.0	B	TR	1.05	107.8	F
		SB	LT	0.76	22.2	C	LT	CLOSED	See Note (6)	
	E. 157th Street	WB	LR	0.11	19.4	B	LR	0.47	27.2	C
		Overall Intersection	-	**0.50**	**18.8**	**B**	-	**0.83**	**83.2**	**F**

TABLE B - 1
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
EXISTING TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
					Control				Control	
	INTERSECTION & APPROACH		Mvt.	V/C	Delay	LOS	Mvt.	V/C	Delay	LOS
5	**River Avenue at E. 153rd Street**									
	River Avenue	NB	LTR	0.94	42.9	D	LTR	0.89	43.2	D
		SB	LTR	0.79	26.1	C	LTR	0.93	47.4	D
	E. 153rd Street	EB	LTR	0.43	23.3	C	LTR	0.44	23.4	C
		WB	LTR	0.43	24.7	C	LTR	0.28	22.7	C
	Overall Intersection		-	**0.74**	**31.5**	**C**	-	**0.74**	**37.7**	**D**
1	**River Avenue and Exterior Street at E. 149th Street**									
	Major Deegan Expressway NB Off Ramp	NB	LTR	1.00	120.0+	F*	LTR	0.41	40.3	D
	River Avenue	SB	LTR	0.44	41.5	D	LTR	1.05	120.0+	F*
	Exterior Street	NB	LTR	0.75	57.4	E	LTR	0.34	41.5	D
		SB	DefL	0.57	52.8	D	DefL	0.53	51.3	D
			TR	0.30	39.0	D	TR	0.32	39.3	D
	E. 149th Street	EB	DefL	0.97	120.0+	F*	LTR	1.04	81.2	F
			TR	1.03	98.5	F	-	-	-	-
		WB	LTR	0.96	59.7	E	LTR	0.96	67.2	E
	Overall Intersection		-	**0.95**	**103.9**	**F**	-	**0.89**	**91.5**	**F**
	JEROME AVENUE									
20	**Jerome Avenue at E. 165th Street**									
	Jerome Avenue	NB	TR	0.49	12.8	B	TR	0.45	12.3	B
		SB	LT	0.66	16.4	B	LT	0.30	10.8	B
	E. 165th Street	WB	LR	0.76	35.8	D	LR	0.46	25.4	C
	Overall Intersection		-	**0.70**	**18.7**	**B**	-	**0.46**	**13.8**	**B**
18	**Jerome Avenue at E. 164th Street**									
	Jerome Avenue	NB	TR	0.47	12.6	B	TR	0.35	11.1	B
		SB	LT	0.65	15.8	B	LT	0.34	11.1	B
	E. 164th Street	WB	LR	0.16	19.8	B	LR	0.60	28.0	C
	Overall Intersection		-	**0.45**	**14.6**	**B**	-	**0.45**	**15.0**	**B**
17	**Jerome Avenue at E. 162nd Street**									
	Jerome Avenue	NB	LTR	0.57	13.6	B	LTR	0.36	10.8	B
		SB	LTR	0.84	22.8	C	LTR	0.50	12.6	B
	E. 162nd Street	WB	LTR	0.22	21.4	C	LTR	0.34	23.2	C
	Overall Intersection		-	**0.60**	**18.5**	**B**	-	**0.44**	**13.0**	**B**
9	**Jerome Avenue at E. 161st Street**									
	Jerome Avenue	NB	L	0.78	51.7	D	L	0.57	46.6	D
			TR	0.97	52.4	D	TR	0.83	43.0	D
		SB	L	0.70	48.9	D	L	0.41	30.1	C
			TR	0.71	32.2	C	TR	0.94	65.0	E
	E. 161st Street	WB	L	0.63	19.8	B	L	0.99	52.5	D
			LT	0.12	42.7	D	LT	0.17	53.6	D
	Overall Intersection		-	**0.78**	**39.5**	**D**	-	**0.86**	**52.5**	**D**
13	**Jerome Avenue at Ogden Avenue and Macombs Dam Bridge Service Road**									
	Ogden Avenue	SB	LR	0.54	26.4	C	LR	0.75	40.6	D
	Jerome Avenue	EB	T	0.60	15.3	B	T	0.18	9.3	A
		WB	TR	0.38	10.9	B	TR	0.94	34.8	C
	Overall Intersection		-	**0.58**	**15.8**	**B**	-	**0.87**	**32.8**	**C**
	MACOMBS DAM BRIDGE CORRIDOR									
14a	**Macomb's Dam Bridge Approach at E.161st Street (North)**									
	Macomb's Dam Bridge Approach	NB	T	0.88	32.7	C	T	0.33	11.4	B
		SB	T	0.34	11.0	B	T	0.80	24.0	C
	E. 161st Street	WB	LR	0.92	47.9	D	LR	0.97	58.2	E
	Overall Intersection		-	**0.89**	**30.5**	**C**	-	**0.87**	**34.4**	**C**
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**									
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	1.01	89.5	F	LTR	1.02	62.9	E
	Macombs Dam Bridge	EB	TR	1.01	50.5	D	TR	0.98	50.3	D
		WB	L	0.98	65.7	E	L	0.80	28.2	C
			T	1.02	120.0+	F*	T	0.45	13.7	B
	Overall Intersection		-	**1.02**	**81.5**	**F**	-	**1.01**	**41.4**	**D**

TABLE B - 1
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
EXISTING TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
3	**Macombs Place at W. 155th Street**									
	Macombs Place	NB	L	0.83	67.0	E	L	0.45	46.5	D
			T	0.29	23.4	C	T	0.23	14.2	B
		SB	T	0.82	49.5	D	T	0.91	60.2	E
			R	0.90	38.9	D	R	0.65	25.5	C
	W. 155th Street	EB	L	1.04	120.0+	F*	L	0.55	36.7	D
			R	0.09	15.0	B	R	0.05	14.5	B
	Overall Intersection		-	**0.86**	**69.5**	**E**	-	**0.62**	**33.9**	**C**
	OTHER									
12	**Walton Avenue at E 161st Street**									
	Walton Avenue	NB	LR	0.68	45.0	D	LR	0.63	36.1	D
		SB	LTR	0.94	56.6	E	LTR	0.80	40.4	D
	E. 161st Street	EB	LTR	0.87	29.2	C	LTR	0.89	34.5	C
		WB	LT	0.87	30.5	C	DefL	0.88	66.2	E
			-	-	-	-	T	0.62	18.2	B
	Overall Intersection		-	**0.90**	**37.2**	**D**	-	**0.86**	**34.7**	**C**
22	**Gerard Avenue at E. 165th Street**									
	Gerard Avenue	NB	LTR	0.53	18.8	B	LTR	0.65	21.9	C
	E. 165th Street	EB	LT	0.63	13.0	B	LT	0.46	9.8	A
		WB	TR	0.60	12.1	B	TR	0.28	7.7	A
	Overall Intersection		-	**0.59**	**14.0**	**B**	-	**0.53**	**14.0**	**B**
4	**E. 157th Street at Major Deegan Expressway NB Ramp**									
	Major Deegan Expressway NB Service Road	NB	T	0.52	27.1	C	T	1.05	120.0+	F*
	Major Deegan Expressway NB Off Ramp	NB	T	0.98	59.3	E	T	CLOSED	See Note (7)	
	E. 157th Street	WB	R	0.57	32.1	C	R	1.05	120.0+	F*
	Overall Intersection		-	**0.69**	**41.5**	**D**	-	**1.05**	**120.0+**	**F***
2	**Lenox Avenue at W. 145th Street**									
	Lenox Avenue	NB	L	0.73	37.2	D	L	0.37	23.7	C
			LT	0.73	35.6	D	LT	0.37	23.3	C
			R	0.66	20.9	C	R	0.25	12.7	B
		SB	LTR	0.37	23.3	C	LTR	0.25	21.1	C
	W. 145th Street	EB	LTR	0.78	27.9	C	LTR	0.52	21.4	C
		WB	L	0.66	19.0	B	L	0.37	12.2	B
			TR	0.51	13.6	B	TR	0.46	12.8	B
	Overall Intersection		-	**0.79**	**24.3**	**C**	-	**0.52**	**17.7**	**B**
	UNSIGNALIZED									
16	**River Avenue at E.162nd Street (South)**									
	E. 162nd Street	WB	L	-	24.5	C	L	-	18.7	C
			R	-	29.9	D	R	-	25.0	C
	Overall Intersection		-	-	**28.2**	**D**	-	-	**24.1**	**C**
14b	**Macomb's Dam Bridge Approach at E.161st Street (South)**									
	Macomb's Dam Bridge Approach Street	SB	LT	-	12.9	B	LT	-	9.1	A
	Overall Intersection		-	-	**12.9**	**B**	-	-	**9.1**	**A**
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**									
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	74.3	F	L	-	36.0	E
			R	-	40.9	E	R	-	39.6	E
	E. 153rd Street	WB	LT	-	9.3	A	LT	-	13.4	B
	Overall Intersection		-	-	**64.1**	**F**	-	-	**34.7**	**D**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, SB approach on River Avenue is closed except for the right-turn onto the 161st Street service road.
(6): During the weeknight and weekend post-game peak hours, SB River Avenue is closed at the 157th Street/River Avenue intersection.
(7): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.
(8): During the weekend pre and post-game peak hours, EB 162nd Street at River Avenue is closed. (only for select games with the Mets, Red Sox and the Playoffs)
(9): During the weekend post-game peak hour, NB River Avenue is closed 50% of the time at the 161st Street/River Avenue intersection.
(10): During the weekend pre-game peak hour, SB through movement on River Avenue is prohibited at the 161st Street/River Avenue intersection.
(11): During the weekend pre and post-game peak hours, EB service road is closed at the 161st Street/River Avenue intersection.
(12): During the weekend post-game peak hour, WB 157th Street is closed at the 157th Street/River Avenue intersection.

TABLE B - 2
YANKEE STADIUM EIS -- *WEEKEND DAY GAME*
EXISTING TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	SIGNALIZED									
	GRAND CONCOURSE									
23	**Grand Concourse at E. 165th Street**									
	Grand Concourse (Main)	NB	L	0.21	12.9	B	L	0.23	12.1	B
			T	0.27	19.4	B	T	0.42	21.6	C
		SB	L	0.16	11.2	B	L	0.14	11.6	B
			T	0.50	22.9	C	T	0.35	20.5	C
	Grand Concourse (Service)	NB	TR	0.50	24.1	C	TR	0.78	34.4	C
		SB	TR	0.34	20.3	C	TR	0.24	19.0	B
	E. 165th Street	EB	LTR	0.22	28.0	C	DefL	0.67	41.2	D
			-	-	-	-	TR	0.69	39.6	D
		WB	DefL	0.53	37.0	D	LTR	0.72	40.0	D
			TR	0.53	35.0	C	-	-	-	-
		Overall Intersection	**-**	**0.52**	**23.9**	**C**	**-**	**0.75**	**29.4**	**C**
8	**Grand Concourse at E. 161st Street**									
	Grand Concourse	NB	LT	0.81	22.1	C	LT	1.04	53.0	D
			R	0.49	15.4	B	R	0.26	34.5	C
	Grand Concourse (Main)	SB	L	0.30	47.0	D	L	0.07	11.5	B
			T	0.76	54.0	D	T	0.56	17.4	B
	Grand Concourse (Service)	SB	T	0.31	15.1	B	T	0.47	16.5	B
			R	1.02	79.2	E	R	0.34	15.4	B
	E. 161st Street	EB	DefL	0.46	40.8	D	DefL	0.86	76.8	E
			TR	0.89	71.8	E	TR	0.7	56.6	E
		WB	LTR	0.65	42.9	D	LTR	0.97	76.9	E
		Overall Intersection	**-**	**0.88**	**43.8**	**D**	**-**	**1.02**	**42.9**	**D**
	RIVER AVENUE									
21	**River Avenue at E. 165th Street**									
	River Avenue	NB	LTR	0.30	23.2	C	LTR	0.98	99.0	F
		SB	LTR	1.00	120.0+	F*	LTR	0.42	15.2	B
	E. 165th Street	EB	LTR	0.98	120.0+	F*	LTR	0.75	37.0	D
		WB	LTR	0.51	32.9	C	LTR	0.75	35.6	D
		Overall Intersection	**-**	**0.70**	**85.4**	**F**	**-**	**0.88**	**64.5**	**E**
19	**River Avenue at E. 164th Street**									
	River Avenue	NB	LT	0.19	7.2	A	LT	1.01	62.8	E
		SB	TR	1.00	120.0+	F*	TR	0.09	6.6	A
	E. 164th Street	EB	LR	1.04	120.0+	F*	LR	0.35	32.6	C
		WB	LTR	0.39	22.7	C	LTR	0.74	43.6	D
		Overall Intersection	**-**	**1.03**	**97.9**	**F**	**-**	**0.91**	**52.4**	**D**
15	**River Avenue at E. 162nd Street (North)**									
	River Avenue	NB	LT	0.68	27.6	C	LT	1.05	113.1	F
		SB	TR	0.80	120.0+	F*	TR	0.17	9.7	A
	E. 162nd Street	EB	LR	CLOSED	See Note (8)		LR	CLOSED	See Note (8)	
		Overall Intersection	**-**	**0.68**	**49.8**	**D**	**-**	**1.05**	**85.0**	**F**
7	**River Avenue at E. 161st Street**									
	River Avenue	NB	LTR	0.81	43.6	D	LTR	CLOSED	See Note (9)	
		SB	LR	0.44	24.5	C	R	1.05	120.0+	F*
	E. 161st Street Main Road	EB	T	0.65	108.2	F	T	0.63	32.4	C
		WB	T	0.44	11.5	B	T	0.59	57.3	E
	E. 161st Street Service Road	EB	TR	CLOSED	See Note (11)		TR	CLOSED	See Note (11)	
		WB	TR	1.02	58.3	E	TR	0.83	29.1	C
		Overall Intersection	**-**	**0.92**	**42.6**	**D**	**-**	**0.93**	**62.7**	**E**
6	**River Avenue at E. 157th Street**									
	River Avenue	NB	TR	0.47	10.4	B	TR	FREE FLOW		
		SB	LT	0.47	10.4	B	LT	CLOSED	See Note (6)	
	E. 157th Street	WB	LR	0.14	14.1	B	LR	CLOSED	See Note (12)	
		Overall Intersection	**-**	**0.34**	**10.7**	**B**				

TABLE B - 2
YANKEE STADIUM EIS -- *WEEKEND DAY GAME*
EXISTING TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
5	**River Avenue at E. 153rd Street**									
	River Avenue	NB	LTR	1.05	65.0	E	LTR	1.01	79.1	E
		SB	LTR	0.79	23.0	C	LTR	1.01	78.9	E
	E. 153rd Street	EB	LTR	0.45	17.5	B	LTR	0.97	62.8	E
		WB	LTR	0.51	20.3	C	LTR	0.97	78.1	E
	Overall Intersection		-	**0.84**	**39.4**	**D**	-	**1.00**	**74.5**	**E**
1	**River Avenue and Exterior Street at E. 149th Street**									
	Major Deegan Expressway NB Off Ramp	NB	LTR	1.05	120.0+	F*	LTR	0.93	74.4	E
	River Avenue	SB	LTR	0.79	80.9	F	LTR	1.05	120.0+	F*
	Exterior Street	NB	LTR	0.89	79.3	E	LTR	0.43	40.5	D
		SB	DefL	0.31	47.1	D	DefL	0.45	44.8	D
			TR	0.04	37.6	D	TR	0.85	67.9	E
	E. 149th Street	EB	LTR	1.04	78.8	E	LTR	1.04	105.1	F
		WB	LTR	1.02	78.6	E	LTR	0.99	90.3	F
	Overall Intersection		-	**0.99**	**99.3**	**F**	-	**1.01**	**90.5**	**F**
	JEROME AVENUE									
20	**Jerome Avenue at E. 165th Street**									
	Jerome Avenue	NB	TR	0.76	41.7	D	TR	0.67	16.0	B
		SB	LT	1.05	100.4	F	LT	0.86	38.8	D
	E. 165th Street	WB	LR	0.44	24.6	C	LR	0.75	35.1	D
	Overall Intersection		-	**0.76**	**71.3**	**E**	-	**0.70**	**26.8**	**C**
18	**Jerome Avenue at E. 164th Street**									
	Jerome Avenue	NB	TR	0.89	49.6	D	TR	0.50	13.0	B
		SB	LT	1.05	102.0	F	LT	0.49	12.9	B
	E. 164th Street	WB	LR	0.07	18.8	B	LR	0.88	44.0	D
	Overall Intersection		-	**0.62**	**77.2**	**E**	-	**0.65**	**20.7**	**C**
17	**Jerome Avenue at E. 162nd Street**									
	Jerome Avenue	NB	LTR	1.05	120.0+	F*	LTR	0.46	11.8	B
		SB	LTR	0.82	26.5	C	LTR	0.73	17.2	B
	E. 162nd Street	WB	LTR	0.01	18.8	B	LTR	0.14	20.3	C
	Overall Intersection		-	**0.48**	**81.9**	**F**	-	**0.51**	**15.0**	**B**
9	**Jerome Avenue at E. 161st Street**									
	Jerome Avenue	NB	L	0.75	52.4	D	L	0.61	48.8	D
			T	0.46	20.9	C	T	0.15	16.5	B
			R	0.98	60.5	E	R	0.58	29.9	C
		SB	L	0.94	68.8	E	L	0.29	20.7	C
			TR	1.03	75.3	E	TR	0.91	45.9	D
	E. 161st Street	WB	LT	0.70	23.9	C	LT	0.99	48.5	D
	Overall Intersection		-	**0.85**	**51.1**	**D**	-	**0.95**	**43.7**	**D**
13	**Jerome Avenue at Ogden Avenue and Macombs Dam Bridge Service Road**									
	Ogden Avenue	SB	LR	0.89	46.8	D	LR	0.73	37.7	D
	Jerome Avenue	EB	T	0.59	14.8	B	T	0.15	36.0	D
		WB	TR	0.33	10.5	B	TR	0.68	15.3	B
	Overall Intersection		-	**0.71**	**22.9**	**C**	-	**0.70**	**20.2**	**C**
	MACOMBS DAM BRIDGE CORRIDOR									
14a	**Macomb's Dam Bridge Approach at E. 161st Street (North)**									
	Macomb's Dam Bridge Approach	NB	T	1.05	120.0+	F*	T	0.59	15.4	B
		SB	T	0.88	73.0	E	T	1.00	102.0	F
	E. 161st Street	WB	LR	1.05	120.0+	F*	LR	1.05	120.0+	F*
	Overall Intersection		-	**0.97**	**120.0+**	**F***	-	**0.77**	**84.0**	**F**
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**									
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	1.04	120.0+	F*	LTR	1.05	120.0+	F*
	Macombs Dam Bridge	EB	TR	1.03	106.9	F	TR	1.05	110.7	F
		WB	L	0.68	22.8	C	L	1.05	120.0+	F*
			T	0.46	13.8	B	T	1.05	73.3	E
	Overall Intersection		-	**1.05**	**75.9**	**E**	-	**1.05**	**105.6**	**F**

TABLE B - 2
YANKEE STADIUM EIS -- *WEEKEND DAY GAME*
EXISTING TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
3	**Macombs Place at W. 155th Street**									
	Macombs Place	NB	L	0.54	49.8	D	L	0.86	71.6	E
			T	0.21	23.5	C	T	0.25	15.3	B
		SB	T	0.48	35.9	D	T	1.02	85.3	F
			R	0.51	22.1	C	R	0.93	43.6	D
	W. 155th Street	EB	L	1.05	100.8	F	L	1.02	120.0+	F*
			R	0.11	15.7	B	R	0.18	15.5	B
	Overall Intersection		-	**0.64**	**49.2**	**D**	-	**0.90**	**63.8**	**E**
	OTHER									
12	**Walton Avenue at E 161st Street**									
	Walton Avenue	NB	LR	0.24	32.7	C	LR	0.43	27.8	C
		SB	LTR	1.01	94.8	F	LTR	0.89	49.3	D
	E. 161st Street	EB	LTR	0.40	11.4	B	LTR	0.71	24.4	C
		WB	LT	0.95	48.4	D	LT	0.84	29.7	C
	Overall Intersection		-	**0.97**	**51.2**	**D**	-	**0.86**	**34.7**	**C**
22	**Gerard Avenue at E. 165th Street**									
	Gerard Avenue	NB	LTR	0.44	17.2	B	LTR	1.05	80.7	F
	E. 165th Street	EB	LT	0.23	7.3	A	LT	0.75	16.7	B
		WB	TR	0.43	9.4	A	TR	0.65	13.5	B
	Overall Intersection		-	**0.44**	**11.4**	**B**	-	**0.86**	**40.6**	**D**
4	**E. 157th Street at Major Deegan Expressway NB Ramp**									
	Major Deegan Expressway NB Service Road	NB	T	0.28	23.9	C	T	0.58	28.5	C
	Major Deegan Expressway NB Off Ramp	NB	T	0.84	41.1	D	T	CLOSED	See Note (7)	
	E. 157th Street	WB	R	0.39	28.9	C	R	1.05	80.2	F
	Overall Intersection		-	**0.51**	**33.4**	**C**	-	**0.80**	**58.5**	**E**
2	**Lenox Avenue at W. 145th Street**									
	Lenox Avenue	NB	L	0.45	24.5	C	L	0.01	18.2	B
			LT	0.24	21.0	C	LT	0.64	28.6	C
			R	0.38	14.4	B	R	0.35	14.2	B
		SB	LTR	0.27	21.6	C	LTR	1.01	79.3	E
	W. 145th Street	EB	LTR	0.79	28.1	C	LTR	1.00	53.6	D
		WB	L	0.43	15.1	B	L	0.04	13.2	B
			TR	0.59	15.3	B	TR	0.87	25.2	C
	Overall Intersection		-	**0.68**	**21.5**	**C**		**0.92**	**41.3**	**D**
	UNSIGNALIZED									
16	**River Avenue at E.162nd Street (South)**									
	E. 162nd Street	WB	L	-	39.0	E	L	-	34.3	D
			R	-	67.0	F	R	-	83.8	F
	Overall Intersection		-	-	**66.8**	**F**	-	-	**83.5**	**F**
14b	**Macomb's Dam Bridge Approach at E. 161st Street (South)**									
	Macomb's Dam Bridge Approach Street	SB	LT	-	64.2	F	LT	-	10.5	B
	Overall Intersection		-	-	**64.2**	**F**	-	-	**10.5**	**B**
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**									
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	73.7	F	L	-	31.7	D
			R	-	54.1	F	R	-	41.6	E
	E. 153rd Street	WB	LT	-	10.0	A	LT	-	11.7	B
	Overall Intersection		-	-	**65.7**	**F**	-	-	**30.3**	**D**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, SB approach on River Avenue is closed except for the right-turn onto the 161st Street service road.
(6): During the weeknight and weekend post-game peak hours, SB River Avenue is closed at the 157th Street/River Avenue intersection.
(7): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.
(8): During the weekend pre and post-game peak hours, EB 162nd Street at River Avenue is closed. (only for select games with the Mets, Red Sox and the Playoffs)
(9): During the weekend post-game peak hour, NB River Avenue is closed 50% of the time at the 161st Street/River Avenue intersection.
(10): During the weekend pre-game peak hour, SB through movement on River Avenue is prohibited at the 161st Street/River Avenue intersection.
(11): During the weekend pre and post-game peak hours, EB service road is closed at the 161st Street/River Avenue intersection.
(12): During the weekend post-game peak hour, WB 157th Street is closed at the 157th Street/River Avenue intersection.

TABLE B - 3
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
NO BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	SIGNALIZED									
	GRAND CONCOURSE									
23	**Grand Concourse at E.165th Street**									
	Grand Concourse (Main)	NB	L	0.32	14.0	B	L	0.11	10.6	B
			T	0.75	29.3	C	T	0.25	19.2	B
		SB	L	0.26	16.8	B	L	0.06	10.3	B
			T	0.47	22.4	C	T	0.16	18.2	B
	Grand Concourse (Service)	NB	TR	0.79	34.9	C	TR	0.34	21.0	C
		SB	TR	0.27	19.4	B	TR	0.15	18.0	B
	E. 165th Street	EB	LTR	0.50	32.7	C	LTR	0.26	28.5	C
		WB	DefL	0.73	55.3	E	-	-	-	-
			T	0.54	35.6	D	LT	0.15	27.1	C
			R	0.79	51.3	D	R	0.16	27.9	C
		Overall Intersection	**-**	**0.76**	**30.5**	**C**	**-**	**0.31**	**21.1**	**C**
8	**Grand Concourse at E. 161st Street**									
	Grand Concourse	NB	L	1.20+	120.0+	F*	L	0.74	30.2	C
			TR	0.90	26.8	C	TR	0.35	8.7	A
			-	-	-	-	-	-	-	-
	Grand Concourse (Main)	SB	L	1.20+	120.0+	F*	L	0.07	11.8	B
			T	0.40	32.0	C	T	0.29	21.8	C
	Grand Concourse (Service)	SB	R	0.50	25.4	C	R	0.29	14.4	B
			-	-	-	-	-	-	-	-
	E. 161st Street	EB	L	0.69	50.0	D	L	0.42	39.9	D
			TR	0.51	35.2	D	TR	0.88	60.3	E
		WB	L	1.20+	120.0+	F*	L	0.58	44.8	D
			TR	0.99	80.3	F	TR	0.69	48.9	D
		Overall Intersection	-	**1.20+**	**78.8**	**E**	-	**0.74**	**29.0**	**C**
	RIVER AVENUE									
21	**River Avenue at E. 165th Street**									
	River Avenue	NB	LTR	0.39	12.0	B	LTR	0.53	14.1	B
		SB	LTR	0.43	12.6	B	LTR	0.13	9.5	A
	E. 165th Street	EB	LTR	0.78	37.2	D	LTR	0.43	24.2	C
		WB	LTR	0.77	36.8	D	LTR	0.38	23.3	C
		Overall Intersection	**-**	**0.57**	**24.7**	**C**	**-**	**0.49**	**17.2**	**B**
19	**River Avenue at E. 164th Street**									
	River Avenue	NB	LT	0.34	11.4	B	LT	0.61	12.2	B
		SB	TR	0.33	11.3	B	TR	0.07	6.4	A
	E. 164th Street	EB	LR	0.28	22.2	C	LR	0.17	14.7	B
		WB	LTR	0.15	19.7	B	LTR	0.40	17.1	B
		Overall Intersection	**-**	**0.32**	**13.2**	**B**	**-**	**0.53**	**13.0**	**B**
15	**River Avenue at E. 162nd Street (North)**									
	River Avenue	NB	LT	0.45	13.0	B	LT	0.39	12.3	B
		SB	TR	0.24	10.4	B	TR	0.21	10.1	B
	E. 162nd Street	EB	LR	0.48	25.1	C	LR	0.17	20.0	B
		Overall Intersection	**-**	**0.46**	**15.7**	**B**	**-**	**0.31**	**12.9**	**B**
7	**River Avenue at E. 161st Street**									
	River Avenue	NB	LT	0.47	19.9	B	LT	1.20+	120.0+	F*
			R	0.35	19.5	B	R	0.32	15.4	B
		SB	LT	0.91	49.4	D	R	0.25	31.4	C
			R	0.25	18.1	B	R	0.73	66.5	E
	E. 161st Street Main Road	EB	T	0.19	13.9	B	T	0.84	67.2	E
		WB	T	0.30	14.8	B	T	0.32	10.1	B
	E. 161st Street Service Road	EB	T	0.27	14.6	B	T	0.13	8.8	A
			R	0.67	24.5	C	R	0.05	8.4	A
		WB	TR	0.63	20.0	B	TR	1.15	103.1	F
		Overall Intersection	-	**0.79**	**22.3**	**C**	-	**1.20+**	**84.1**	**F**
6	**River Avenue at E. 157th Street**									
	River Avenue	NB	TR	0.44	13.1	B	TR	1.02	100.1	F
		SB	LT	0.80	24.8	C	LT	CLOSED See Note (6)		
	E. 157th Street	WB	LR	0.11	19.4	B	LR	0.48	27.3	C
		Overall Intersection	-	**0.53**	**20.4**	**C**	-	**0.81**	**76.9**	**E**

TABLE B - 3
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
NO BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
5	**River Avenue at E. 153rd Street**									
	River Avenue	NB	LTR	1.16	110.3	F	LTR	0.83	35.3	D
		SB	LTR	0.83	28.9	C	LTR	0.95	51.7	D
	E. 153rd Street	EB	LTR	0.44	23.5	C	LTR	0.45	23.6	C
		WB	LTR	0.43	24.8	C	LTR	0.29	22.8	C
	Overall Intersection		-	**0.88**	**60.7**	**E**	-	**0.75**	**37.0**	**D**
1	**River Avenue and Exterior Street at E. 149th Street**									
	Major Deegan Expressway NB Off Ramp	NB	-	-	-	-	DefL	0.43	33.9	C
			LTR	1.00	120.0+	F*	TR	0.17	30.5	C
	River Avenue	SB	LTR	0.54	41.5	D	LTR	0.92	69.6	E
	Exterior Street	NB	DefL	0.47	40.6	D	DefL	0.07	34.5	C
			TR	0.26	37.9	D	TR	0.09	34.6	C
		SB	L	0.60	38.0	D	L	0.38	33.3	C
			T	0.14	29.5	C	T	0.07	29.4	C
	E. 149th Street	EB	L	1.03	120.0+	F*	L	0.33	27.7	C
			TR	0.82	40.8	D	TR	0.48	29.6	C
		WB	L	0.30	37.2	D	L	0.11	34.2	C
			TR	0.99	72.9	E	TR	0.54	39.1	D
	Overall Intersection		-	**0.90**	**95.0**	**F**	-	**0.64**	**44.0**	**D**
	JEROME AVENUE									
20	**Jerome Avenue at E. 165th Street**									
	Jerome Avenue	NB	TR	0.56	13.9	B	TR	0.46	12.5	B
		SB	LT	0.74	18.7	B	LT	0.31	10.9	B
	E. 165th Street	WB	LR	0.78	37.5	D	LR	0.47	25.6	C
	Overall Intersection		-	**0.76**	**20.1**	**C**	-	**0.46**	**13.9**	**B**
18	**Jerome Avenue at E. 164th Street**									
	Jerome Avenue	NB	TR	0.54	13.6	B	TR	0.35	11.2	B
		SB	LT	0.74	18.2	B	LT	0.35	11.1	B
	E. 164th Street	WB	LR	0.16	19.8	B	LR	0.61	28.4	C
	Overall Intersection		-	**0.51**	**16.3**	**B**	-	**0.45**	**15.1**	**B**
17	**Jerome Avenue at E. 162nd Street**									
	Jerome Avenue	NB	LTR	0.65	15.0	B	LTR	0.37	10.9	B
		SB	LTR	0.96	37.3	D	LTR	0.52	12.8	B
	E. 162nd Street	WB	LTR	0.27	22.0	C	LTR	0.35	23.3	C
	Overall Intersection		-	**0.70**	**26.3**	**C**	-	**0.45**	**13.2**	**B**
9	**Jerome Avenue at E. 161st Street**									
	Jerome Avenue	NB	LT	0.94	49.6	D	LT	0.59	47.9	D
			R	0.96	60.1	E	R	0.85	45.0	D
		SB	L	0.95	104.1	F	L	0.43	31.2	C
			TR	0.73	33.3	C	TR	0.96	68.3	E
	E. 161st Street	WB	L	0.64	20.3	C	L	1.00	54.7	D
			LT	0.12	44.3	D	LT	0.18	54.4	D
	Overall Intersection		-	**0.78**	**44.1**	**D**	-	**0.93**	**54.6**	**D**
13	**Jerome Avenue at Ogden Avenue and Macombs Dam Bridge Service Road**									
	Ogden Avenue	SB	LR	0.55	26.7	C	LR	0.77	41.9	D
	Jerome Avenue	EB	T	0.75	19.9	B	T	0.18	9.4	A
		WB	TR	0.39	11.0	B	TR	0.96	38.3	D
	Overall Intersection		-	**0.68**	**17.7**	**B**	-	**0.89**	**35.5**	**D**
	MACOMBS DAM BRIDGE CORRIDOR									
14a	**Macomb's Dam Bridge Approach at E.161st Street (North)**									
	Macomb's Dam Bridge Approach	NB	T	0.90	34.9	C	T	0.34	11.5	B
		SB	T	0.41	11.8	B	T	0.81	25.0	C
	E. 161st Street	WB	LR	0.94	51.0	D	LR	0.98	62.2	E
	Overall Intersection		-	**0.91**	**31.2**	**C**	-	**0.88**	**36.3**	**D**
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**									
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	0.97	66.3	E	LTR	1.04	68.7	E
	Macombs Dam Bridge	EB	TR	1.06	68.2	E	TR	1.00	55.0	D
		WB	L	1.20+	120.0+	F*	L	0.81	28.6	C
			T	1.08	120.0+	F*	T	0.46	13.8	B
	Overall Intersection		-	**1.20+**	**104.1**	**F**	-	**1.03**	**44.6**	**D**

TABLE B - 3
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
NO BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
3	**Macombs Place at W. 155th Street**									
	Macombs Place	NB	L	0.85	68.8	E	L	0.46	46.7	D
			T	0.30	23.8	C	T	0.23	14.2	B
		SB	T	0.83	51.0	D	T	0.93	63.0	E
			R	0.96	46.6	D	R	0.66	25.8	C
	W. 155th Street	EB	L	1.12	120.0+	F*	L	0.56	36.9	D
			R	0.10	15.0	B	R	0.06	14.6	B
	Overall Intersection		-	**0.88**	**80.7**	**F**	-	**0.63**	**34.7**	**C**
	OTHER									
12	**Walton Avenue at E 161st Street**									
	Walton Avenue	NB	LR	0.70	46.8	D	LR	0.64	36.7	D
		SB	LTR	0.96	60.9	E	LTR	0.82	42.4	D
	E. 161st Street	EB	LTR	0.94	40.5	D	LTR	1.08	80.8	F
		WB	LT	1.10	82.9	F	LT	0.90	35.5	D
	Overall Intersection		-	**1.04**	**62.9**	**E**	-	**0.98**	**53.9**	**D**
22	**Gerard Avenue at E. 165th Street**									
	Gerard Avenue	NB	LTR	0.54	19.1	B	LTR	0.66	22.3	C
	E. 165th Street	EB	LT	0.67	14.3	B	LT	0.48	10.0	B
		WB	TR	0.61	12.5	B	TR	0.28	7.7	A
	Overall Intersection		-	**0.62**	**14.7**	**B**	-	**0.55**	**14.3**	**B**
4	**E. 157th Street at Major Deegan Expressway NB Ramp**									
	Major Deegan Expressway NB Service Road	NB	T	0.78	15.4	B	T	1.08	120.0+	F*
	Major Deegan Expressway NB Off Ramp	-	-	-	-	-	-	CLOSED	See Note (7)	
	E. 157th Street	WB	R	0.44	14.4	B	R	1.09	120.0+	F*
	Overall Intersection		-	**0.62**	**15.2**	**B**	-	**1.09**	**120.0+**	**F***
2	**Lenox Avenue at W. 145th Street**									
	Lenox Avenue	NB	L	0.75	38.5	D	L	0.38	23.9	C
			LT	0.74	36.4	D	LT	0.38	23.5	C
			R	0.67	21.4	C	R	0.25	12.8	B
		SB	LTR	0.39	23.6	C	LTR	0.25	21.2	C
	W. 145th Street	EB	LTR	0.90	35.1	D	LTR	0.53	21.6	C
		WB	L	0.68	20.6	C	L	0.38	12.4	B
			TR	0.62	15.6	B	TR	0.47	13.0	B
	Overall Intersection		-	**0.85**	**27.3**	**C**	-	**0.53**	**17.8**	**B**
	UNSIGNALIZED									
16	**River Avenue at E.162nd Street (South)**									
	E. 162nd Street	WB	L	-	25.5	D	L	-	18.8	C
			R	-	31.1	D	R	-	25.3	D
	Overall Intersection		-	-	**29.3**	**D**	-	-	**24.4**	**C**
14b	**Macomb's Dam Bridge Approach at E.161st Street (South)**									
	Macomb's Dam Bridge Approach	SB	LT	-	12.4	B	LT	-	9.1	A
	Overall Intersection		-	-	**12.4**	**B**	-	-	**9.1**	**A**
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**									
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	87.4	F	L	-	36.9	E
			R	-	42.7	E	R	-	40.9	E
	E. 153rd Street	WB	LT	-	9.3	A	LT	-	13.6	B
	Overall Intersection		-	-	**73.3**	**F**	-	-	**31.0**	**D**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, SB approach on River Avenue is closed except for the right-turn onto the 161st Street service road.
(6): During the weeknight and weekend post-game peak hours, SB River Avenue is closed at the 157th Street/River Avenue intersection.
(7): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.
(8): During the weekend pre and post-game peak hours, EB 162nd Street at River Avenue is closed. (only for select games with the Mets, Red Sox and the Playoffs)
(9): During the weekend post-game peak hour, NB River Avenue is closed 50% of the time at the 161st Street/River Avenue intersection.
(10): During the weekend pre-game peak hour, SB through movement on River Avenue is prohibited at the 161st Street/River Avenue intersection.
(11): During the weekend pre and post-game peak hours, EB service road is closed at the 161st Street/River Avenue intersection.
(12): During the weekend post-game peak hour, WB 157th Street is closed at the 157th Street/River Avenue intersection.

TABLE B - 4
YANKEE STADIUM MARKET -- *WEEKEND DAY GAME*
NO BUILD TRAFFIC LEVELS OF SERVICE

	INTERSECTION & APPROACH		Pre-Game Arrival Peak (12:00 - 1:00PM) Mvt.	V/C	Control Delay	LOS	Post-Game Departure Peak (4:00 - 5:00PM) Mvt.	V/C	Control Delay	LOS
	SIGNALIZED									
	GRAND CONCOURSE									
23	**Grand Concourse at E. 165th Street**									
	Grand Concourse (Main)	NB	L	0.23	13.7	B	L	0.24	12.3	B
			T	0.33	20.3	C	T	0.44	21.9	C
		SB	L	0.18	11.6	B	L	0.15	11.8	B
			T	0.56	24.2	C	T	0.35	20.6	C
	Grand Concourse (Service)	NB	TR	0.51	24.4	C	TR	0.86	40.1	D
		SB	TR	0.36	20.5	C	TR	0.28	19.6	B
	E. 165th Street	EB	LTR	0.23	28.1	C	DefL	0.72	44.7	D
			-	-	-	-	TR	0.70	40.2	D
		WB	DefL	0.54	37.4	D	DefL	0.50	38.5	D
			T	0.35	30.9	C	T	0.47	33.1	C
			R	0.27	29.8	C	R	0.43	33.7	C
		Overall Intersection	**-**	**0.56**	**24.0**	**C**	**-**	**0.79**	**29.9**	**C**
8	**Grand Concourse at E. 161st Street**									
	Grand Concourse	NB	L	1.09	90.4	F	L	0.75	33.0	C
			TR	0.45	9.8	A	TR	0.77	15.8	B
			-	-	-	-	-	-	-	-
	Grand Concourse (Main)	SB	L	0.13	24.9	C	L	0.82	87.9	F
			T	0.58	24.7	C	T	0.59	17.4	B
	Grand Concourse (Service)	SB	R	0.90	45.4	D	R	0.33	15.1	B
			-	-	-		-	-	-	-
	E. 161st Street	EB	L	0.44	40.3	D	L	0.91	84.7	F
			TR	0.47	38.9	D	TR	0.38	37.6	D
		WB	L	0.30	36.0	D	L	0.86	66.0	E
			TR	0.66	46.0	D	TR	1.04	102.8	F
		Overall Intersection	-	**1.00**	**30.8**	**C**	-	**0.91**	**31.6**	**C**
	RIVER AVENUE									
21	**River Avenue at E. 165th Street**									
	River Avenue	NB	LTR	0.35	24.0	C	LTR	1.04	120.0+	F*
		SB	LTR	1.20+	120.0+	F*	LTR	0.54	18.8	B
	E. 165th Street	EB	LTR	1.17	120.0+	F*	LTR	0.81	41.6	D
		WB	LTR	0.52	33.1	C	LTR	0.78	36.9	D
		Overall Intersection	**-**	**1.20+**	**120.0+**	**F***	**-**	**0.94**	**81.5**	**F**
19	**River Avenue at E. 164th Street**									
	River Avenue	NB	LT	0.22	7.5	A	LT	1.06	77.0	E
		SB	TR	1.20+	120.0+	F*	TR	0.12	6.8	A
	E. 164th Street	EB	LR	1.10	120.0+	F*	LR	0.36	33.9	C
		WB	LTR	0.39	22.9	C	LTR	0.75	45.9	D
		Overall Intersection	**-**	**1.14**	**120.0+**	**F***	**-**	**0.94**	**61.1**	**E**
15	**River Avenue at E. 162nd Street (North)**									
	River Avenue	NB	LT	0.73	29.7	C	LT	1.17	120.0+	F*
		SB	TR	1.20+	120.0+	F*	TR	0.21	10.1	B
	E. 162nd Street	EB	LR	CLOSED	See Note (8)		LR	CLOSED	See Note (8)	
		Overall Intersection	**-**	**0.73**	**110.9**	**F**	**-**	**1.17**	**115.4**	**F**
7	**River Avenue at E. 161st Street**									
	River Avenue	NB	LT	0.63	26.3	C	LT	CLOSED	See Note (9)	
			R	0.34	14.4	B	R			
		SB	L	0.09	11.1	B	R	0.32	22.3	C
			R	0.16	13.4	B	R	0.94	116.4	F
	E. 161st Street Main Road	EB	T	0.67	118.2	F	T	0.64	33.5	C
		WB	T	0.37	10.8	B	T	0.52	52.4	D
	E. 161st Street Service Road	EB	TR	CLOSED	See Note (11)		TR	CLOSED	See Note (11)	
		WB	TR	1.20+	120.0+	F*	TR	1.07	78.6	E
		Overall Intersection	-	**0.97**	**73.6**	**E**	-	**1.01**	**58.5**	**E**
6	**River Avenue at E. 157th Street**									
	River Avenue	NB	TR	0.61	12.9	B	TR	FREE FLOW		
		SB	LT	0.51	11.0	B	LT	CLOSED	See Note (6)	
	E. 157th Street	WB	LR	0.15	14.1	B	LR	CLOSED	See Note (12)	
		Overall Intersection	-	**0.43**	**12.2**	**B**	-			

TABLE B - 4
YANKEE STADIUM MARKET -- *WEEKEND DAY GAME*
NO BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
5	**River Avenue at E. 153rd Street**									
	River Avenue	NB	LTR	1.20+	120.0+	F*	LTR	1.20+	120.0+	F*
		SB	LTR	0.83	26.0	C	LTR	1.09	100.3	F
	E. 153rd Street	EB	LTR	0.45	17.6	B	LTR	1.04	80.8	F
		WB	LTR	0.52	20.5	C	LTR	0.99	85.5	F
	Overall Intersection		-	**1.08**	**118.0**	**F**	-	**1.20+**	**120.0+**	**F***
1	**River Avenue and Exterior Street at E. 149th Street**									
	Major Deegan Expressway NB Off Ramp	NB	LTR	1.20+	120.0+	F*	DefL	1.20+	120.0+	F*
			-	-	-	-	TR	0.49	34.7	C
	River Avenue	SB	LTR	0.71	52.7	D	LTR	1.20	120.0+	F*
	Exterior Street	NB	DefL	0.62	51.5	D	DefL	0.34	37.5	D
			TR	0.21	43.6	D	TR	0.20	35.8	D
		SB	L	0.69	37.5	D	L	0.83	55.6	E
			T	0.04	24.4	C	T	0.27	31.5	C
	E. 149th Street	EB	L	0.84	46.3	D	L	0.46	29.0	C
			TR	0.74	33.7	C	TR	0.77	36.9	D
		WB	L	0.29	35.0	C	L	1.20+	120.0+	F*
			TR	0.85	48.4	D	TR	0.93	60.2	E
	Overall Intersection		-	**0.95**	**76.3**	**E**	-	**1.20**	**92.2**	**F**
	JEROME AVENUE									
20	**Jerome Avenue at E. 165th Street**									
	Jerome Avenue	NB	TR	0.92	66.8	E	TR	0.74	18.0	B
		SB	LT	1.20+	120.0+	F*	LT	1.01	91.2	F
	E. 165th Street	WB	LR	0.47	25.2	C	LR	0.77	36.9	D
	Overall Intersection		-	**0.89**	**120.0+**	**F***	-	**0.90**	**45.6**	**D**
18	**Jerome Avenue at E. 164th Street**									
	Jerome Avenue	NB	TR	1.06	116.1	F	TR	0.57	13.9	B
		SB	LT	1.20+	120.0+	F*	LT	0.55	13.9	B
	E. 164th Street	WB	LR	0.07	18.8	B	LR	0.89	46.3	D
	Overall Intersection		-	**0.75**	**120.0+**	**F***	-	**0.69**	**21.4**	**C**
17	**Jerome Avenue at E. 162nd Street**									
	Jerome Avenue	NB	LTR	1.20+	120.0+	F*	LTR	0.51	12.5	B
		SB	LTR	0.93	37.8	D	LTR	0.79	19.3	B
	E. 162nd Street	WB	LTR	0.06	19.3	B	LTR	0.21	21.2	C
	Overall Intersection		-	**0.70**	**120.0+**	**F***	-	**0.57**	**16.5**	**B**
9	**Jerome Avenue at E. 161st Street**									
	Jerome Avenue	NB	LT	0.61	22.0	C	LT	0.27	17.7	B
			R	1.04	76.7	E	R	0.61	31.7	C
		SB	L	1.15	120.0+	F*	L	0.33	22.3	C
			TR	0.99	62.5	E	TR	0.93	49.8	D
	E. 161st Street	WB	LT	0.75	28.0	C	LT	1.03	60.9	E
	Overall Intersection		-	**0.94**	**57.0**	**E**	-	**0.99**	**49.3**	**D**
13	**Jerome Avenue at Ogden Avenue and Macombs Dam Bridge Service Road**									
	Ogden Avenue	SB	LR	0.91	49.4	D	LR	0.74	38.5	D
	Jerome Avenue	EB	T	0.75	19.7	B	T	0.28	43.5	D
		WB	TR	0.34	10.5	B	TR	0.69	15.6	B
	Overall Intersection		-	**0.81**	**24.9**	**C**	-	**0.71**	**22.3**	**C**
	MACOMBS DAM BRIDGE CORRIDOR									
14a	**Macomb's Dam Bridge Approach at E. 161st Street (North)**									
	Macomb's Dam Bridge Approach	NB	T	1.20	120.0+	F*	T	0.60	15.6	B
		SB	T	1.16	120.0+	F*	T	1.15	120.0+	F*
	E. 161st Street	WB	LR	1.18	120.0+	F*	LR	1.08	120.0+	F*
	Overall Intersection		-	**1.17**	**120.0+**	**F***	-	**0.79**	**113.4**	**F**
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**									
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	1.19	120.0+	F*	LTR	1.09	120.0+	F*
	Macombs Dam Bridge	EB	TR	1.20+	120.0+	F*	TR	1.12	120.0+	F*
		WB	L	0.91	35.8	D	L	1.20+	120.0+	F*
			T	0.50	14.3	B	T	1.10	93.0	F
	Overall Intersection		-	**1.20**	**118.7**	**F**	-	**1.20+**	**120.0+**	**F***

TABLE B - 4
YANKEE STADIUM MARKET -- *WEEKEND DAY GAME*
NO BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
3	**Macombs Place at W. 155th Street**									
	Macombs Place	NB	L	0.55	50.3	D	L	0.88	74.3	E
			T	0.21	23.9	C	T	0.25	15.4	B
		SB	T	0.48	36.0	D	T	1.06	97.2	F
			R	0.56	23.1	C	R	0.98	53.7	D
	W. 155th Street	EB	L	1.20+	120.0+	F*	L	1.11	120.0+	F*
			R	0.11	15.7	B	R	0.19	15.5	B
	Overall Intersection		-	**0.76**	**85.9**	**F**	-	**0.96**	**76.9**	**E**
	OTHER									
12	**Walton Avenue at E 161st Street**									
	Walton Avenue	NB	LR	0.24	32.7	C	LR	0.45	28.5	C
		SB	LTR	1.09	109.7	F	LTR	0.91	51.6	D
	E. 161st Street	EB	LTR	0.44	12.0	B	LTR	0.74	26.3	C
		WB	LT	1.05	74.6	E	LT	1.03	65.4	E
	Overall Intersection		-	**1.07**	**67.3**	**E**	-	**0.98**	**51.0**	**D**
22	**Gerard Avenue at E. 165th Street**									
	Gerard Avenue	NB	LTR	0.45	17.3	B	LTR	1.08	91.3	F
	E. 165th Street	EB	LT	0.24	7.3	A	LT	0.77	17.6	B
		WB	TR	0.45	9.6	A	TR	0.67	14.0	B
	Overall Intersection		-	**0.45**	**11.5**	**B**	-	**0.89**	**45.2**	**D**
4	**E. 157th Street at Major Deegan Expressway NB Ramp**									
	Major Deegan Expressway NB Service Road	NB	T	0.53	11.6	B	T	0.87	39.7	D
	Major Deegan Expressway NB Off Ramp	-	-	-	-	-	-	CLOSED	See Note (7)	
	E. 157th Street	WB	R	0.32	13.1	B	R	1.20+	120.0+	F*
	Overall Intersection		-	**0.43**	**11.9**	**B**	-	**1.03**	**90.9**	**F**
2	**Lenox Avenue at W. 145th Street**									
	Lenox Avenue	NB	L	0.45	24.7	C	L	0.01	18.2	B
			LT	0.25	21.0	C	LT	0.65	29.1	C
			R	0.39	14.5	B	R	0.36	14.3	B
		SB	LTR	0.28	21.7	C	LTR	1.15	120.0+	F*
	W. 145th Street	EB	LTR	0.92	36.9	D	LTR	1.11	87.1	F
		WB	L	0.43	16.7	B	L	0.04	14.9	B
			TR	0.74	19.5	B	TR	0.97	38.9	D
	Overall Intersection		-	**0.74**	**26.4**	**C**	-	**1.04**	**63.5**	**E**
	UNSIGNALIZED									
16	**River Avenue at E.162nd Street (South)**									
	E. 162nd Street	WB	L	-	42.5	E	L	-	35.5	E
			R	-	75.4	F	R	-	97.1	F
	Overall Intersection		-	-	**75.2**	**F**	-	-	**96.7**	**F**
14b	**Macomb's Dam Bridge Approach Street at E. 161st Street (South)**									
	Macomb's Dam Bridge Approach Street	SB	LT	-	107.3	F	LT	-	10.6	B
	Overall Intersection		-	-	**107.3**	**F**	-	-	**10.6**	**B**
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**									
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	120.0+	F*	L	-	39.0	E
			R	-	64.8	F	R	-	48.8	E
	E. 153rd Street	WB	LT	-	10.1	B	LT	-	11.9	B
	Overall Intersection		-	-	**120.0+**	**F***	-	-	**34.8**	**D**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, SB approach on River Avenue is closed except for the right-turn onto the 161st Street service road.
(6): During the weeknight and weekend post-game peak hours, SB River Avenue is closed at the 157th Street/River Avenue intersection.
(7): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.
(8): During the weekend pre and post-game peak hours, EB 162nd Street at River Avenue is closed. (only for select games with the Mets, Red Sox and the Playoffs)
(9): During the weekend post-game peak hour, NB River Avenue is closed 50% of the time at the 161st Street/River Avenue intersection.
(10): During the weekend pre-game peak hour, SB through movement on River Avenue is prohibited at the 161st Street/River Avenue intersection.
(11): During the weekend pre and post-game peak hours, EB service road is closed at the 161st Street/River Avenue intersection.
(12): During the weekend post-game peak hour, WB 157th Street is closed at the 157th Street/River Avenue intersection.

TABLE B - 5
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	SIGNALIZED									
	GRAND CONCOURSE									
23	**Grand Concourse at E.165th Street**									
	Grand Concourse (Main)	NB	L	0.32	13.9	B	L	0.11	10.6	B
			T	0.75	29.3	C	T	0.26	19.3	B
		SB	L	0.26	16.8	B	L	0.06	10.3	B
			T	0.46	22.3	C	T	0.16	18.2	B
	Grand Concourse (Service)	NB	TR	0.79	34.9	C	TR	0.33	20.7	C
		SB	TR	0.28	19.5	B	TR	0.15	18.0	B
	E. 165th Street	EB	LTR	0.50	32.7	C	LTR	0.33	29.7	C
		WB	DefL	0.73	55.3	E	-	-	-	-
			T	0.55	35.7	D	LT	0.15	27.1	C
			R	0.79	51.3	D	R	0.16	27.9	C
		Overall Intersection	**-**	**0.76**	**30.8**	**C**	**-**	**0.36**	**21.8**	**C**
8	**Grand Concourse at E. 161st Street**									
	Grand Concourse	NB	L	1.20+	120.0+	F*	L	0.48	12.7	B
			TR	0.87	24.0	C	TR	0.35	8.7	A
			-	-	-	-	-	-	-	-
	Grand Concourse (Main)	SB	L	1.20+	120.0+	F*	L	0.08	11.9	B
			T	0.40	31.8	C	T	0.31	22.3	C
	Grand Concourse (Service)	SB	R	0.53	26.2	C	R	0.23	13.5	B
			-	-	-	-	-	-	-	-
	E. 161st Street	EB	L	0.69	50.0	D	L	0.48	42.3	D
			TR	0.51	35.2	D	TR	1.04	93.7	F
		WB	L	1.20+	120.0+	F*	L	0.24	35.5	D
			TR	0.99	82.1	F	TR	0.49	41.1	D
		Overall Intersection	**-**	**1.20+**	**78.1**	**E**	**-**	**0.57**	**33.3**	**C**
	RIVER AVENUE									
21	**River Avenue at E. 165th Street**									
	River Avenue	NB	LTR	0.39	12.1	B	LTR	0.73	19.1	B
		SB	LTR	0.48	13.4	B	LTR	0.14	9.5	A
	E. 165th Street	EB	LTR	0.78	37.2	D	LTR	0.43	24.2	C
		WB	LTR	0.78	37.1	D	LTR	0.38	23.3	C
		Overall Intersection	**-**	**0.60**	**24.6**	**C**	**-**	**0.61**	**19.7**	**B**
19	**River Avenue at E. 164th Street**									
	River Avenue	NB	LT	0.41	12.6	B	LT	0.93	30.2	C
		SB	TR	0.40	12.1	B	TR	0.05	6.4	A
	E. 164th Street	EB	LR	0.82	47.1	D	LR	0.60	24.6	C
		WB	LTR	0.15	19.7	B	LTR	0.40	17.1	B
		Overall Intersection	**-**	**0.57**	**21.0**	**C**	**-**	**0.80**	**26.3**	**C**
15a	**River Avenue at E. 162nd Street**									
	River Avenue	NB	T	0.41	12.2	B	T	0.31	11.0	B
		SB	T	0.34	11.4	B	T	0.21	10.0	B
			-	**0.41**	**11.8**	**B**	**-**	**0.31**	**10.6**	**B**
7	**River Avenue at E. 161st Street**									
	River Avenue	NB	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*
			R	0.85	72.0	E	R	0.73	57.6	E
		SB	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*
			R	0.69	55.3	E	R	1.12	120.0+	F*
	E. 161st Street Main Road	EB	T	0.32	25.6	C	T	1.20+	120.0+	F*
		WB	T	0.52	28.7	C	T	0.54	27.5	C
	E. 161st Street Service Road	EB	T	0.48	27.2	C	T	0.24	23.0	C
			R	1.20+	120.0+	F*	R	0.11	22.5	C
		WB	TR	1.20+	120.0+	F*	TR	1.05	90.2	F
		Overall Intersection	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***
6	**River Avenue at E. 157th Street**									
	River Avenue	NB	LTR	1.20+	120.0+	F*	LTR	1.03	100.8	F
		SB	LTR	0.76	22.6	C	LTR	0.32	11.8	B
	E. 157th Street	EB	LTR	0.01	18.1	B	R	0.41	23.5	C
		WB	LTR	0.19	21.4	C	LR	0.26	22.2	C
		Overall Intersection	**-**	**0.83**	**82.6**	**F**	**-**	**0.78**	**55.9**	**E**

TABLE B - 5
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Control Delay**	**LOS**	**Mvt.**	**V/C**	**Control Delay**	**LOS**
5	**River Avenue at E. 153rd Street**									
	River Avenue	NB	LTR	0.80	24.7	C	LTR	0.80	32.2	C
		SB	LTR	0.71	21.2	C	LTR	1.20+	120.0+	F*
	E. 153rd Street	EB	DefL	1.20+	120.0+	F*	LTR	0.46	23.8	C
			TR	0.42	24.2	C	-	-	-	-
		WB	LTR	0.51	26.8	C	LTR	0.49	26.5	C
	Overall Intersection		-	**1.03**	**61.4**	**E**	-	**1.07**	**115.7**	**F**
1	**River Avenue and Exterior Street at E. 149th Street**									
	Major Deegan Expressway NB Off Ramp	NB	DefL	1.09	119.0	F	DefL	0.42	33.7	C
			TR	0.56	89.2	F	TR	0.17	30.5	C
	River Avenue	SB	LTR	0.53	42.0	D	LTR	0.83	54.9	D
	Exterior Street	NB	DefL	0.48	41.6	D	LTR	0.08	34.5	C
			TR	0.27	38.8	D	-	-	-	-
		SB	L	0.60	38.0	D	L	0.38	33.3	C
			T	0.14	29.5	C	T	0.02	28.9	C
	E. 149th Street	EB	L	1.04	120.0+	F*	L	0.33	27.7	C
			TR	0.79	38.4	D	TR	0.48	29.6	C
		WB	L	0.27	36.4	D	L	0.11	34.2	C
			TR	0.99	72.9	E	TR	0.54	39.1	D
	Overall Intersection		-	**0.94**	**74.6**	**E**	-	**0.62**	**39.1**	**D**
	JEROME AVENUE									
20	**Jerome Avenue at E. 165th Street**									
	Jerome Avenue	NB	TR	0.56	13.9	B	TR	0.49	12.9	B
		SB	LT	0.78	20.3	C	LT	0.31	10.9	B
	E. 165th Street	WB	LR	0.78	37.5	D	LR	0.47	25.6	C
	Overall Intersection		-	**0.78**	**20.8**	**C**	-	**0.49**	**14.1**	**B**
18	**Jerome Avenue at E. 164th Street**									
	Jerome Avenue	NB	TR	0.58	14.3	B	TR	0.42	12.0	B
		SB	LT	1.03	57.2	E	LT	0.40	11.8	B
	E. 164th Street	WB	LR	0.43	24.0	C	LR	0.86	43.4	D
	Overall Intersection		-	**0.80**	**36.3**	**D**	-	**0.59**	**20.8**	**C**
17	**Jerome Avenue at Macomb's Dam Bridge Approach**									
	Jerome Avenue/ Macomb's Dam Bridge Approach	NB	LT	0.73	16.5	B	LT	0.59	14.4	B
			-	-	-	-	-	-	-	-
		SB	TR	0.80	19.6	B	TR	0.82	20.6	C
	Overall Intersection		-	**0.80**	**18.0**	**B**	-	**0.81**	**18.2**	**B**
9	**Jerome Avenue at E. 161st Street**									
	Jerome Avenue	NB	LT	1.07	84.3	F	DefL	0.59	47.9	D
			-	-	-	-	T	0.32	21.1	C
			R	1.20+	120.0+	F*	R	0.43	21.7	C
		SB	L	1.18	120.0+	F*	L	0.44	32.3	C
			TR	0.71	32.0	C	TR	1.20+	120.0+	F*
	E. 161st Street	WB	L	0.64	20.2	C	L	1.10	85.3	F
			LT	0.12	44.3	D	LT	0.50	86.6	F
	Overall Intersection		-	**1.19**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***
13	**Jerome Avenue at Ogden Avenue and Major Deegan Expressway Service Road**									
	Ogden Avenue	SB	LR	0.55	26.7	C	LR	0.58	31.0	C
	Jerome Avenue	EB	T	1.20+	120.0+	F*	T	0.18	9.4	A
		WB	TR	0.38	10.9	B	TR	1.20+	120.0+	F*
	Overall Intersection		-	**1.01**	**94.5**	**F**	-	**1.20+**	**120.0+**	**F***
	MACOMBS DAM BRIDGE CORRIDOR									
14	**Macomb's Dam Bridge Approach at E.161st Street**									
	Macomb's Dam Bridge Approach	NB	T	1.20+	120.0+	F*	T	0.82	30.9	C
			R	1.20+	120.0+	F*	R	1.20+	120.0+	F*
		SB	DefL	1.20+	120.0+	F*	LT	1.20+	120.0+	F*
			T	0.89	30.5	C	-	-	-	-
	E. 161st Street	WB	LR	1.20+	120.0+	F*	LR	1.20+	120.0+	F*
	Overall Intersection		-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***

TABLE B - 5
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**									
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	1.20+	120.0+	F*	LTR	1.04	68.3	E
	Macombs Dam Bridge	EB	TR	1.08	72.5	E	TR	1.00	55.0	D
		WB	L	1.20+	120.0+	F*	L	1.08	69.9	E
			T	1.08	120.0+	F*	T	0.49	14.2	B
	Overall Intersection		**-**	**1.20+**	**120.0+**	**F***	**-**	**1.08**	**50.7**	**D**
3	**Macombs Place at W. 155th Street**									
	Macombs Place	NB	L	0.85	68.8	E	L	0.46	46.7	D
			T	0.30	23.8	C	T	0.23	14.2	B
		SB	T	0.83	51.0	D	T	0.93	63.0	E
			R	0.96	46.6	D	R	0.70	26.9	C
	W. 155th Street	EB	L	1.20	120.0+	F*	L	0.56	36.9	D
			R	0.10	15.0	B	R	0.06	14.6	B
	Overall Intersection		**-**	**0.95**	**91.3**	**F**	**-**	**0.66**	**34.9**	**C**
	OTHER									
12	**Walton Avenue at E 161st Street**									
	Walton Avenue	NB	LR	0.70	46.8	D	LR	0.55	32.5	C
		SB	LTR	0.96	60.9	E	LTR	0.82	41.5	D
	E. 161st Street	EB	LTR	0.94	41.3	D	LTR	0.96	45.5	D
		WB	LT	1.11	87.1	F	DefL	1.05	120.0+	F*
			-	-	-	-	T	0.49	14.7	B
	Overall Intersection		**-**	**1.05**	**65.0**	**E**	**-**	**0.96**	**44.1**	**D**
22	**Gerard Avenue at E. 165th Street**									
	Gerard Avenue	NB	LTR	0.54	19.1	B	LTR	0.66	22.3	C
	E. 165th Street	EB	LT	0.67	14.3	B	LT	0.63	13.0	B
		WB	TR	0.62	12.6	B	TR	0.28	7.7	A
	Overall Intersection		**-**	**0.62**	**14.8**	**B**	**-**	**0.64**	**15.1**	**B**
4	**E. 157th Street at Major Deegan Expressway NB Ramp**									
	Major Deegan Expressway NB Service Road	NB	T	0.83	16.9	B	T	0.35	40.0	D
	Major Deegan Expressway NB Off Ramp	-	-	-	-	-	-	CLOSED See Note (5)		
	E. 157th Street	WB	R	0.42	14.2	B	R	1.20+	120.0+	F*
	Overall Intersection		**-**	**0.65**	**16.4**	**B**	**-**	**1.16**	**120.0+**	**F***
2	**Lenox Avenue at W. 145th Street**									
	Lenox Avenue	NB	L	0.75	38.5	D	L	0.38	23.9	C
			LT	0.74	36.4	D	LT	0.38	23.5	C
			R	0.67	21.4	C	R	0.25	12.8	B
		SB	LTR	0.39	23.6	C	LTR	0.25	21.2	C
	W. 145th Street	EB	LTR	0.90	35.6	D	LTR	0.53	21.6	C
		WB	L	0.68	20.7	C	L	0.38	12.4	B
			TR	0.62	15.6	B	TR	0.48	13.1	B
	Overall Intersection		**-**	**0.85**	**27.5**	**C**	**-**	**0.53**	**17.9**	**B**
25	**E. 157th Street at E. 153rd Street/Ruppert Pl./Garage A**									
	153rd Street	NB	LT	0.91	42.8	D	LT	0.78	29.9	C
	Garage A Access	SB	T	0.01	37.5	D	TR	0.50	13.4	B
			R	0.01	39.5	D	R	0.59	16.4	B
	157th Street	EB	L	0.51	18.1	B	-	-	-	-
						-				
	Overall Intersection		**-**	**0.62**	**35.3**	**D**	**-**	**0.66**	**20.6**	**C**
31	**Ruppert Place at E. 161st Street**									
	E. 161st Street	EB	T	0.74	32.3	C	T	0.42	24.7	C
		WB	T	0.68	29.8	C	T	0.50	25.7	C
	Overall Intersection		**-**	**0.73**	**30.9**	**C**	**-**	**0.50**	**25.3**	**C**

TABLE B - 5
YANKEE STADIUM EIS -- *WEEKNIGHT GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (5:15 - 6:15PM)				Post-Game Departure Peak(10:00 - 11:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	UNSIGNALIZED									
	RIVER AVENUE									
15b	**River Avenue at Garage B**									
	River Avenue	NB	LT	-	13.8	B	LT	-	-	-
	Garage B Access	EB	L	-	-	-	L	-	120.0+	F*
			R	-	-	-	R	-	110.8	F
	Overall Intersection		-	-	**13.8**	**B**	-	-	**120.0+**	**F***
16	**River Avenue at E.162nd Street (South)**									
	E. 162nd Street	WB	L	-	96.3	F	L	-	20.0	C
			R	-	120.0+	F*	R	-	26.2	D
	Overall Intersection		-	-	**120.0+**	**F***	-	-	**25.4**	**D**
30	**River Avenue at Garage D**									
	River Avenue	SB	L	-	11.8	B	L	-	8.0	A
	Garage D Access	WB	LR	-	21.1	C	LR	-	39.7	E
	Overall Intersection		-	-	**13.2**	**B**	-	-	**39.5**	**E**
	MACOMBS DAM BRIDGE CORRIDOR									
26	**Garage C West Access at Macomb's Dam Approach**									
	Garage C West Access	SB	R	-	-	-	R	-	60.3	F
	Overall Intersection		-	-	-	-	-	-	**60.3**	**F**
27	**Garage C East Access at Macomb's Dam Approach**									
	Garage C East Access	SB	R	-	-	-	R	-	120.0+	F*
	Overall Intersection		-	-	-	-	-	-	**120.0+**	**F***
29	**Garage A Access at Macomb's Dam Approach**									
	Garage A Access	NB	R	-	-	-	R	-	13.3	B
	Overall Intersection		-	-	-	-	-	-	**13.3**	**B**
	OTHER									
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**									
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	120.0+	F*	L	-	74.2	F
			R	-	120.0+	F*	R	-	68.0	F
	E. 153rd Street	WB	LT	-	9.3	A	LT	-	18.3	C
	Overall Intersection		-	-	**120.0+**	**F***	-	-	**49.5**	**E**
24	**Garage A East Access at E. 157th Street**									
	Garage A East Access	SB	LR	-	8.9	A	LR	-	9.5	A
	E. 157th Street	EB	LT	-	7.6	A	LT	-	7.2	A
	Overall Intersection		-	-	**8.5**	**A**	-	-	**9.5**	**A**
28	**Garage C Access at E. 161st Street**									
	Garage C Access	NB	LR	-	14.9	B	LR	-	120.0+	F*
	E. 161st Street	WB	L	-	9.9	A	L	-	7.6	A
	Overall Intersection		-	-	**10.5**	**B**	-	-	**120.0+**	**F***
33	**Garage B Access at Jerome Avenue**									
	Jerome Avenue	SB	LT	-	14.4	B	LT	-	-	-
	Garage B Access	WB	L	-	-	-	L	-	120.0+	F*
			R	-	-	-	R	-	14.9	B
	Overall Intersection			-	**14.4**	**B**		-	**120.0+**	**F***
34	**Garage D Access at Gerard Avenue**									
	Gerard Avenue	NB	LT	-	7.2	A	LT	-	7.2	A
	Garage D Access	EB	L	-	10.9	B	L	-	10.1	B
	Overall Intersection			-	**9.1**	**A**		-	**8.7**	**A**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.

TABLE B - 6
YANKEE STADIUM EIS -- *WEEKEND GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	SIGNALIZED									
	GRAND CONCOURSE									
23	**Grand Concourse at E.165th Street**									
	Grand Concourse (Main)	NB	L	0.23	13.6	B	L	0.24	12.3	B
			T	0.33	20.3	C	T	0.45	22.1	C
		SB	L	0.18	11.6	B	L	0.16	11.9	B
			T	0.56	24.0	C	T	0.35	20.6	C
	Grand Concourse (Service)	NB	TR	0.51	24.4	C	TR	0.84	39.0	D
		SB	TR	0.36	20.6	C	TR	0.28	19.6	B
	E. 165th Street	EB	LTR	0.23	28.1	C	DefL	0.77	47.8	D
			-	-	-	-	TR	0.77	43.6	D
		WB	DefL	0.54	37.4	D	DefL	0.54	40.7	D
			T	0.36	30.9	C	T	0.47	33.1	C
			R	0.27	29.8	C	R	0.43	33.7	C
		Overall Intersection	**-**	**0.56**	**23.9**	**C**	**-**	**1.08**	**31.6**	**C**
8	**Grand Concourse at E. 161st Street**									
	Grand Concourse	NB	L	1.08	87.0	F	L	0.36	14.1	B
			TR	0.41	9.3	A	TR	0.77	15.7	B
			-	-	-	-	-	-	-	-
	Grand Concourse (Main)	SB	L	0.12	23.6	C	L	0.88	101.7	F
			T	0.58	24.6	C	T	0.60	17.7	B
	Grand Concourse (Service)	SB	R	0.92	48.7	D	R	0.26	14.0	B
			-	-	-	-	-	-	-	-
	E. 161st Street	EB	L	0.44	40.3	D	L	1.04	119.7	F
			TR	0.47	38.9	D	TR	0.54	41.7	D
		WB	L	0.30	36.0	D	L	0.51	42.1	D
			TR	0.67	46.1	D	TR	0.88	67.2	E
		Overall Intersection	**-**	**0.99**	**31.3**	**C**	**-**	**0.91**	**28.1**	**C**
	RIVER AVENUE									
21	**River Avenue at E. 165th Street**									
	River Avenue	NB	LTR	0.56	29.7	C	LTR	1.20+	120.0+	F*
		SB	LTR	1.20+	120.0+	F*	LTR	0.54	18.7	B
	E. 165th Street	EB	LTR	1.17	120.0+	F*	LTR	0.81	42.1	D
		WB	LTR	0.52	33.3	C	LTR	0.78	36.9	D
		Overall Intersection	**-**	**0.92**	**120.0+**	**F***	**-**	**1.10**	**120.0+**	**F***
19	**River Avenue at E. 164th Street**									
	River Avenue	NB	LT	0.30	8.4	A	LT	1.20+	120.0+	F*
		SB	TR	1.20+	120.0+	F*	TR	0.10	6.6	A
	E. 164th Street	EB	LR	0.72	62.5	E	LR	0.52	41.8	D
		WB	LTR	0.39	22.9	C	LTR	0.75	45.9	D
		Overall Intersection	**-**	**0.98**	**120.0+**	**F***	**-**	**1.12**	**120.0+**	**F***
15a	**River Avenue at E. 162nd Street**									
	River Avenue	NB	T	0.33	3.6	A	T	0.87	44.6	D
		SB	T	0.30	28.5	C	T	0.24	7.6	A
		Overall Intersection	**-**	**0.33**	**10.8**	**B**	**-**	**0.87**	**32.3**	**C**
7	**River Avenue at E. 161st Street**									
	River Avenue	NB	LT	0.99	97.0	F	LT	0.70	53.4	D
			R	0.85	75.3	E	R	0.03	24.0	C
		SB	LT	1.20+	120.0+	F*	LT	0.49	32.5	C
			R	0.29	32.3	C	R	0.91	87.4	F
	E. 161st Street Main Road	EB	T	1.16	120.0+	F*	T	0.69	105.2	F
		WB	T	0.64	31.7	C	T	0.93	120.0+	F*
	E. 161st Street Service Road	EB	TR	0.83	46.4	D	TR	0.51	29.4	C
		WB	TR	1.20+	120.0+	F*	TR	1.03	105.1	F
		Overall Intersection	**-**	**1.20+**	**120.0+**	**F***	**-**	**0.97**	**120.0+**	**F***
6	**River Avenue at E. 157th Street**									
	River Avenue	NB	LTR	1.20+	120.0+	F*	LTR	1.07	87.8	F
		SB	LTR	0.47	10.5	B	LTR	0.39	10.0	A
	E. 157th Street	EB	LTR	0.01	12.8	B	R	0.60	23.5	C
		WB	LTR	0.35	19.3	B	LR	0.06	13.3	B
		Overall Intersection	**-**	**0.91**	**99.0**	**F**	**-**	**0.89**	**52.6**	**D**

TABLE B - 6
YANKEE STADIUM EIS -- *WEEKEND GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		**Mvt.**	**V/C**	**Control Delay**	**LOS**	**Mvt.**	**V/C**	**Control Delay**	**LOS**
5	**River Avenue at E. 153rd Street**									
	River Avenue	NB	LTR	1.20+	120.0+	F*	LTR	1.11	107.1	F
		SB	LTR	0.70	17.7	B	LTR	1.20+	120.0+	F*
	E. 153rd Street	EB	DefL	1.20+	120.0+	F*	LTR	1.07	91.0	F
			TR	0.72	31.2	C	-	-	-	-
		WB	LTR	0.60	23.4	C	LTR	1.20+	120.0+	F*
	Overall Intersection		-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***
1	**River Avenue and Exterior Street at E. 149th Street**									
	Major Deegan Expressway NB Off Ramp	NB	LTR	0.97	64.0	E	DefL	1.05	101.5	F
			-	-	-	-	TR	0.50	35.4	D
	River Avenue	SB	LTR	0.73	55.2	E	LTR	1.19	120.0+	F*
	Exterior Street	NB	DefL	0.67	55.7	E	DefL	0.30	36.4	D
			TR	0.23	45.0	D	TR	0.19	35.1	D
		SB	L	0.63	33.4	C	L	0.85	59.1	E
			T	0.04	23.2	C	T	0.10	30.3	C
	E. 149th Street	EB	L	0.89	51.3	D	L	0.46	29.0	C
			TR	0.73	33.9	C	TR	0.77	36.9	D
		WB	L	0.28	36.0	D	L	1.20+	120.0+	F*
			TR	0.89	53.4	D	TR	0.93	60.3	E
	Overall Intersection		-	**0.94**	**49.9**	**D**	-	**1.14**	**86.2**	**F**
	JEROME AVENUE									
20	**Jerome Avenue at E. 165th Street**									
	Jerome Avenue	NB	TR	1.05	120.0+	F*	TR	0.80	19.8	B
		SB	LT	1.20+	120.0+	F*	LT	1.05	105.1	F
	E. 165th Street	WB	LR	0.47	25.2	C	LR	0.77	36.9	D
	Overall Intersection		-	**0.88**	**120.0+**	**F***	-	**0.79**	**50.0**	**D**
18	**Jerome Avenue at E. 164th Street**									
	Jerome Avenue	NB	TR	1.09	120.0+	F*	TR	0.62	15.0	B
		SB	LT	1.20+	120.0+	F*	LT	0.59	14.5	B
	E. 164th Street	WB	LR	0.10	19.1	B	LR	0.97	60.1	E
	Overall Intersection		-	**0.75**	**120.0+**	**F***	-	**0.76**	**25.5**	**C**
17	**Jerome Avenue at Macomb's Dam Bridge Approach**									
	Jerome Avenue/ Macomb's Dam Bridge Approach	NB	LT	1.20+	120.0+	F*	LT	0.86	23.7	C
			-	-	-	-	-	-	-	-
		SB	TR	0.82	26.1	C	TR	1.07	64.5	E
	Overall Intersection		-	**1.20+**	**120.0+**	**F***	-	**1.07**	**48.2**	**D**
9	**Jerome Avenue at E. 161st Street**									
	Jerome Avenue	NB	LT	0.72	25.1	C	LT	0.28	18.0	B
			-	-	-	-	-	-	-	-
			R	1.20+	120.0+	F*	R	0.49	26.4	C
		SB	L	0.74	42.0	D	L	0.32	21.7	C
			TR	0.97	57.2	E	TR	1.20+	120.0+	F*
	E. 161st Street	WB	LT	0.54	19.7	B	LT	1.20+	120.0+	F*
	Overall Intersection		-	**1.02**	**115.4**	**F**	-	**1.20+**	**120.0+**	**F***
13	**Jerome Avenue at Ogden Avenue and Major Deegan Expressway Service Road**									
	Ogden Avenue	SB	LR	0.91	49.4	D	LR	0.56	29.7	C
	Jerome Avenue	EB	T	1.19	116.1	F	T	0.28	43.5	D
		WB	TR	0.26	9.8	A	TR	1.04	50.6	D
	Overall Intersection		-	**1.08**	**77.4**	**E**	-	**0.86**	**48.2**	**D**
	MACOMBS DAM BRIDGE CORRIDOR									
14	**Macomb's Dam Bridge Approach at E.161st Street**									
	Macomb's Dam Bridge Approach	NB	T	1.20+	120.0+	F*	T	1.20+	120.0+	F*
			R	1.20+	120.0+	F*	R	0.60	15.9	B
		SB	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*
	E. 161st Street	WB	LR	1.20+	120.0+	F*	LR	1.11	120.0+	F*
	Overall Intersection		-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***

TABLE B - 6
YANKEE STADIUM EIS -- *WEEKEND GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**									
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	1.20+	120.0+	F*	LTR	1.09	120.0+	F*
	Macombs Dam Bridge	EB	TR	1.20+	120.0+	F*	TR	1.12	120.0+	F*
		WB	L	0.91	35.6	D	L	1.20+	120.0+	F*
			T	0.50	14.3	B	T	1.17	119.8	F
	Overall Intersection		**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***
3	**Macombs Place at W. 155th Street**									
	Macombs Place	NB	L	0.55	50.3	D	L	0.88	74.3	E
			T	0.21	23.9	C	T	0.25	15.4	B
		SB	T	0.48	36.0	D	T	1.06	97.2	F
			R	0.56	23.1	C	R	1.05	71.9	E
	W. 155th Street	EB	L	1.20+	120.0+	F*	L	1.11	120.0+	F*
			R	0.11	15.7	B	R	0.19	15.5	B
	Overall Intersection		**-**	**0.79**	**107.8**	**F**	**-**	**0.96**	**82.3**	**F**
	OTHER									
12	**Walton Avenue at E 161st Street**									
	Walton Avenue	NB	LR	0.24	32.7	C	LR	0.31	24.0	C
		SB	LTR	1.09	109.7	F	LTR	0.89	48.5	D
	E. 161st Street	EB	LTR	0.44	12.0	B	LTR	0.80	31.1	C
		WB	LT	1.06	77.8	E	LT	0.68	19.9	B
	Overall Intersection		**-**	**1.07**	**68.8**	**E**	**-**	**0.84**	**33.2**	**C**
22	**Gerard Avenue at E. 165th Street**									
	Gerard Avenue	NB	LTR	0.45	17.3	B	LTR	1.08	91.3	F
	E. 165th Street	EB	LT	0.24	7.3	A	LT	0.94	33.4	C
		WB	TR	0.45	9.6	A	TR	0.67	14.0	B
	Overall Intersection		**-**	**0.45**	**11.5**	**B**	**-**	**0.99**	**49.1**	**D**
4	**E. 157th Street at Major Deegan Expressway NB Ramp**									
	Major Deegan Expressway NB Service Road	NB	T	0.57	12.0	B	T	0.27	24.0	C
	Major Deegan Expressway NB Off Ramp	-	-	-	-	-	-	CLOSED	See Note (5)	
	E. 157th Street	WB	R	0.30	13.0	B	R	1.20+	120.0+	F*
	Overall Intersection		**-**	**0.45**	**12.2**	**B**	**-**	**1.20+**	**120.0+**	**F***
2	**Lenox Avenue at W. 145th Street**									
	Lenox Avenue	NB	L	0.45	24.7	C	L	0.01	18.2	B
			LT	0.25	21.0	C	LT	0.65	29.1	C
			R	0.39	14.5	B	R	0.36	14.3	B
		SB	LTR	0.28	21.7	C	LTR	1.15	120.0+	F*
	W. 145th Street	EB	LTR	0.92	37.8	D	LTR	1.11	87.1	F
		WB	L	0.43	16.8	B	L	0.04	14.9	B
			TR	0.74	19.5	B	TR	0.99	43.6	D
	Overall Intersection		**-**	**0.74**	**26.8**	**C**	**-**	**1.05**	**64.9**	**E**
25	**E. 157th Street at E. 153rd Street/Ruppert Pl./Garage A**									
	153rd Street	NB	LT	0.83	37.4	D	LT	0.64	23.0	C
	Garage A Access	SB	T	0.01	37.5	D	TR	0.57	16.7	B
			R	0.01	37.5	D	R	0.68	21.6	C
	157th Street	EB	L	0.61	19.7	B	-	-	-	-
	Overall Intersection		**-**	**0.63**	**30.8**	**C**	**-**	**0.66**	**20.1**	**C**
31	**Ruppert Place at E. 161st Street**									
	E. 161st Street	EB	T	0.50	27.0	C	T	0.53	27.7	C
		WB	T	0.52	26.7	C	T	0.52	27.4	C
	Overall Intersection		**-**	**0.51**	**26.8**	**C**	**-**	**0.53**	**27.6**	**C**

TABLE B - 6
YANKEE STADIUM EIS -- *WEEKEND GAME*
BUILD TRAFFIC LEVELS OF SERVICE

			Pre-Game Arrival Peak (12:00 - 1:00PM)				Post-Game Departure Peak (4:00 - 5:00PM)			
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS
	UNSIGNALIZED									
	RIVER AVENUE									
15b	**River Avenue at Garage B**									
	River Avenue	NB	LT	-	12.9	B	LT	-	-	-
	Garage B Access	EB	L	-	-	-	L	Beyond HCS Limit		F
			R	-	-	-	R	-	127.1	F
	Overall Intersection		-	-	**12.9**	**B**	-	**Beyond HCS Limit**		**F**
16	**River Avenue at E.162nd Street (South)**									
	E. 162nd Street	WB	L	-	50.6	F	L	-	42.1	E
			R	-	87.1	F	R	-	111.2	F
	Overall Intersection		-	-	**87.1**	**F**	-	-	**110.8**	**F**
30	**River Avenue at Garage D**									
	River Avenue	SB	L	-	13.1	B	L	-	9.1	A
	Garage D Access	WB	LR	-	24.8	C	LR	-	120.0+	F*
	Overall Intersection		-	-	**14.2**	**B**	-	-	**120.0+**	**F***
	MACOMBS DAM BRIDGE CORRIDOR									
26	**Garage C West Access at Macomb's Dam Approach**									
	Garage C West Access	SB	R	-	-	-	R	-	120.0+	F*
	Overall Intersection		-	-	-	-	-	-	**120.0+**	**F***
27	**Garage C East Access at Macomb's Dam Approach**									
	Garage C East Access	SB	R	-	-	-	R	-	120.0+	F*
	Overall Intersection		-	-	-	-	-	-	**120.0+**	**F***
29	**Garage A Access at Macomb's Dam Approach**									
	Garage A Access	NB	R	-	-	-	R	-	19.6	C
	Overall Intersection		-	-	-	-	-	-	**19.6**	**C**
	OTHER									
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**									
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	120.0+	F*	L	-	102.3	F
			R	-	120.0+	F*	R	-	106.0	F
	E. 153rd Street	WB	LT	-	10.0	A	LT	-	18.8	C
	Overall Intersection		-	-	**120.0+**	**F***	-	-	**62.4**	**F**
24	**Garage A East Access at E. 157th Street**									
	Garage A East Access	SB	LR	-	9.0	A	LR	-	9.5	A
	E. 157th Street	EB	LT	-	7.7	A	LT	-	7.2	A
	Overall Intersection		-	-	**8.6**	**A**	-	-	**9.5**	**A**
28	**Garage C Access at E. 161st Street**									
	Garage C Access	NB	LR	-	11.6	B	LR	-	120.0+	F*
	E. 161st Street	WB	L	-	10.0	B	L	-	7.5	A
	Overall Intersection		-	-	10.5	**B**	-	-	**120.0+**	**F***
33	**Garage B Access at Jerome Avenue**									
	Jerome Avenue	SB	LT	-	15.1	C	LT	-	-	-
	Garage B Access	WB	L	-	-	-	L	-	120.0+	F*
			R	-	-	-	R	-	14.5	B
	Overall Intersection		-	-	**15.1**	**C**	-	-	**120.0+**	**F***
34	**Garage D Access at Gerard Avenue**									
	Gerard Avenue	NB	LT	-	7.2	A	LT	-	7.2	A
	Garage D Access	EB	L	-	10.8	B	L	-	14.7	B
	Overall Intersection		-	-	**9.0**	**A**	-	-	**11.0**	**B**

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.

TABLE B - 7
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION SCENARIO*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

	INTERSECTION & APPROACH		NO BUILD 2009 Pre-Game (5:15 - 6:15PM) Mvt.	V/C	Control Delay	LOS	BUILD 2009 Pre-Game (5:15 - 6:15PM) Mvt.	V/C	Control Delay	LOS	BUILD MITIGATED Pre-Game (5:15 - 6:15PM) Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	BUILD WITH DIVERSIONS Pre-Game (5:15 - 6:15PM) Mvt.	V/C	Control Delay	LOS	BUILD WITH DIVERSIONS MITIGATED Pre-Game (5:15 - 6:15PM) Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
SIGNALIZED																								
GRAND CONCOURSE																								
23	**Grand Concourse at E.165th Street**																							
	Grand Concourse (Main)	NB	L	0.32	14.0	B	L	0.32	13.9	B					- Mitigation not required.	L	0.32	13.9	B					- Mitigation not required.
			T	0.75	29.3	C	T	0.75	29.3	C						T	0.75	29.3	C					
		SB	L	0.26	16.8	B	L	0.26	16.8	B						L	0.26	16.8	B					
			T	0.47	22.4	C	T	0.46	22.3	C						T	0.46	22.3	C					
	Grand Concourse (Service)	NB	TR	0.79	34.9	C	TR	0.79	34.9	C						TR	0.79	34.9	C					
		SB	TR	0.27	19.4	B	TR	0.28	19.5	B						TR	0.28	19.5	B					
	E. 165th Street	EB	LTR	0.50	32.7	C	LTR	0.5	32.7	C						LTR	0.50	32.7	C					
		WB	DefL	0.73	55.3	E	DefL	0.73	55.3	E						DefL	0.73	55.3	E					
			T	0.54	35.6	D	T	0.55	35.7	D						T	0.55	35.7	D					
			R	0.79	51.3	D	R	0.79	51.3	D						R	0.79	51.3	D					
	Overall Intersection		**-**	**0.76**	**30.5**	**C**	**-**	**0.76**	**30.8**	**C**						**-**	**0.76**	**30.8**	**C**					
8	**Grand Concourse at E. 161st Street**																							
	Grand Concourse	NB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*					- Mitigation not required.	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	- Modify signal timing (reduce cycle length from 120 s to 90 s; NB/SB phase shifts from 58 s to 35 s, EB/WB phase shifts 37 s to 29 s, and NB lead phase increased from 7 s to 8 s).
			TR	0.90	26.8	C	TR	0.87	24.0	C						TR	0.87	24.0	C	TR	0.93	26.2	C	
	Grand Concourse (Main)	SB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*						L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	
			T	0.40	32.0	C	T	0.40	31.8	C						T	0.40	31.8	C	T	0.48	40.2	D	
	Grand Concourse (Service)	SB	R	0.50	25.4	C	R	0.53	26.2	C						R	0.53	26.2	C	R	0.68	34.8	C	
			-	-	-	-	-	-	-	-						-	-	-	-	-	-	-	-	
	E. 161st Street	EB	L	0.69	50.0	D	L	0.69	50.0	D						L	0.69	50.0	D	L	0.66	36.9	D	
			TR	0.51	35.2	D	TR	0.51	35.2	D						TR	0.45	34.1	C	TR	0.43	24.4	C	
		WB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*						L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	
			TR	0.99	80.3	F	TR	0.99	82.1	F						TR	0.89	60.2	E	TR	0.94	57.5	E	
	Overall Intersection		**-**	**1.20+**	**78.8**	**E**	**-**	**1.20+**	**78.1**	**E**						**-**	**1.20+**	**81.1**	**F**	**-**	**1.20+**	**75.6**	**E**	
RIVER AVENUE																								
21	**River Avenue at E. 165th Street**																							
	River Avenue	NB	LTR	0.39	12.0	B	LTR	0.39	12.1	B					- Mitigation not required.	LTR	0.39	12.1	B					- Mitigation not required.
		SB	LTR	0.43	12.6	B	LTR	0.48	13.4	B						LTR	0.48	13.4	B					
	E. 165th Street	EB	LTR	0.78	37.2	D	LTR	0.78	37.2	D						LTR	0.78	37.2	D					
		WB	LTR	0.77	36.8	D	LTR	0.78	37.1	D						LTR	0.78	37.1	D					
	Overall Intersection		**-**	**0.57**	**24.7**	**C**	**-**	**0.60**	**24.6**	**C**						**-**	**0.60**	**24.6**	**C**					
19	**River Avenue at E. 164th Street**																							
	River Avenue	NB	LT	0.34	11.4	B	LT	0.41	12.6	B	LT	0.43	13.4	B	- Modify signal timing (shift 1.0 second of green time from NB/SB to EB/WB).	LT	0.41	12.6	B	LT	0.43	13.4	B	- Modify signal timing (shift 1.0 second of green time from NB/SB to EB/WB).
		SB	TR	0.33	11.3	B	TR	0.40	12.1	B	TR	0.41	12.7	B		TR	0.40	12.1	B	TR	0.41	12.7	B	
	E. 164th Street	EB	LR	0.28	22.2	C	LR	0.82	47.1	D	LR	0.79	42.7	D		LR	0.82	47.1	D	LR	0.79	42.7	D	
		WB	LTR	0.15	19.7	B	LTR	0.15	19.7	B	LTR	0.15	19.0	B		LTR	0.15	19.7	B	LTR	0.15	19.0	B	
	Overall Intersection		**-**	**0.32**	**13.2**	**B**	**-**	**0.57**	**21.0**	**C**	**-**	**0.57**	**20.4**	**C**		**-**	**0.57**	**21.0**	**C**	**-**	**0.57**	**20.4**	**B**	
15a	**River Avenue at E. 162nd Street (North)**																							
	River Avenue	NB	LT	0.45	13.0	B	T	0.41	12.2	B					- Mitigation not required.	T	0.41	12.2	B					- Mitigation not required.
		SB	TR	0.24	10.4	B	T	0.34	11.4	B						T	0.34	11.4	B					
	E. 162nd Street	EB	LR	0.48	25.1	C	-	-	-	-						-	-	-	-					
	Overall Intersection		**-**	**0.46**	**15.7**	**B**	**-**	**0.41**	**11.8**	**B**						**-**	**0.41**	**11.8**	**B**					
7	**River Avenue at E. 161st Street**																							
	River Avenue	NB	LT	0.47	19.9	B	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	- Partially mitigated - Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	- Partially mitigated - Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
			R	0.35	19.5	B	R	0.85	72.0	E	R	0.77	57.2	E		R	0.85	72.0	E	R	0.77	57.2	E	
		SB	LT	0.91	49.4	D	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*		LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	
			R	0.25	18.1	B	R	0.69	55.3	E	R	0.65	50.2	D		R	0.69	55.3	E	R	0.62	46.7	D	
	E. 161st Street Main Road	EB	T	0.19	13.9	B	T	0.32	25.6	C	T	0.29	25.1	C		T	0.32	25.6	C	T	0.29	25.1	C	
		WB	T	0.30	14.8	B	T	0.52	28.7	C	T	0.47	27.5	C		T	0.52	28.7	C	T	0.47	27.5	C	
	E. 161st Street Service Road	EB	T	0.27	14.6	B	T	0.48	27.2	C	T	0.43	26.8	C		T	0.40	26.5	C	T	0.36	25.8	C	
			R	0.67	24.5	C	R	1.20+	120.0+	F*	R	1.20+	120.0+	F*		R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	
		WB	TR	0.63	20.0	B	TR	1.20+	120.0+	F*	TR	1.01	66.3	E		TR	1.20+	120.0+	F*	TR	1.09	92.8	F	
	Overall Intersection		**-**	**0.79**	**22.3**	**C**	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***		**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***	
6	**River Avenue at E. 157th Street**																							
	River Avenue	NB	TR	0.44	13.1	B	LTR	1.20+	120.0+	F*	Def L	0.66	21.9	C	- Enforce No Parking restrictions on the east side of NB River Avenue approach to allow two 9.5 ft. wide travel lanes by placing "footed" lane delineators for this time period from current one 11 ft. wide travel lan	LTR	1.20+	120.0+	F*	DefL	0.66	21.9	C	- Enforce No Parking restrictions on the east side of NB River Avenue approach to allow two 9.5 ft. wide travel lanes by placing "footed" lane delineators for this time period from current one 11 ft. wide travel lan
			-	-	-	-	-	-	-	-	TR	0.40	10.8	B		-	-	-	-	TR	0.40	10.8	B	
		SB	LT	0.80	24.8	C	LTR	0.76	22.6	C	LTR	0.71	18.0	B	- Modify signal timing (shift 3.0 s of green time from EB/WB phase to NB/SB phase).	LTR	0.76	22.6	C	LTR	0.71	18.0	B	- Modify signal timing (shift 3.0 s of green time from EB/WB phase to NB/SB phase).
	E. 157th Street	EB	LR	0.11	19.4	B	LTR	0.01	18.1	B	LTR	0.01	20.1	C		LTR	0.01	18.1	B	LTR	0.01	20.1	C	
		WB	-	-	-	-	LTR	0.19	21.4	C	LTR	0.20	23.6	C		LTR	0.19	21.4	C	LTR	0.20	23.6	C	
	Overall Intersection		**-**	**0.53**	**20.4**	**C**	**-**	**0.83**	**82.6**	**F**	**-**	**0.52**	**16.7**	**B**		**-**	**0.83**	**82.6**	**F**	**-**	**0.52**	**16.7**	**B**	
5	**River Avenue at E. 153rd Street**																							
	River Avenue	NB	LTR	1.16	110.3	F	LTR	0.80	24.7	C	DefL	1.00	83.4	F	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue approaches, and allow two 10 ft. wide travel lanes by placing "footed" lane delineators on both NB and SB River Avenue for this time period (NB approach will have two 10 ft. wide lanes from current one 12 ft. wide lane with parking, and SB approach will have two 10 ft. wide lanes from current one 13 ft. wide lane with parking. - Enforce No Parking restrictions on the north side of WB River Avenue and allow one 17 ft. wide travel lane from current one 9 ft. wide lane with parking for this time period. - Modify signal timing (shift 8.0 s of green time from NB/SB phase to EB/WB phase).	LTR	0.80	24.7	C	DefL	1.00	83.4	F	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue approaches, and allow two 10 ft. wide travel lanes by placing "footed" lane delineators on both NB and SB River Avenue for this time period (NB approach will have two 10 ft. wide lanes from current one 12 ft. wide lane with parking, and SB approach will have two 10 ft. wide lanes from current one 13 ft. wide lane with parking. - Enforce No Parking restrictions on the north side of WB River Avenue and allow one 17 ft. wide travel lane from current one 9 ft. wide lane with parking for this time period. - Modify signal timing (shift 8.0 s of green time from NB/SB phase to EB/WB phase).
		SB	LTR	0.83	28.9	C	LTR	0.71	21.2	C	LTR	0.47	17.5	B		LTR	0.71	21.2	C	LTR	0.47	17.5	B	
	E. 153rd Street	EB	LTR	0.44	23.5	C	DefL	1.20+	120.0+	F*	L	0.86	44.3	D		DefL	1.20+	120.0+	F*	L	0.86	44.3	D	
			-	-	-	-	TR	0.42	24.2	C	TR	0.30	16.7	B		TR	0.42	24.2	C	TR	0.30	16.7	B	
		WB	LTR	0.43	24.8	C	LTR	0.51	26.8	C	LTR	0.27	16.1	B		LTR	0.51	26.8	C	LTR	0.27	16.1	B	
	Overall Intersection		**-**	**0.88**	**60.7**	**E**	**-**	**1.03**	**61.4**	**E**	**-**	**0.93**	**31.9**	**D**		**-**	**1.03**	**61.4**	**E**	**-**	**0.93**	**31.9**	**C**	

TABLE B - 7
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION SCENARIO*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD MITIGATED Pre-Game (5:15 - 6:15PM)					BUILD WITH DIVERSIONS Pre-Game (5:15 - 6:15PM)					BUILD WITH DIVERSIONS MITIGATED Pre-Game (5:15 - 6:15PM)				
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)	Mvt.	V/C	Control Delay	LOS	
1	**River Avenue and Exterior Street at E. 149th Street**																							
	Major Deegan Expressway NB Off Ramp	NB	LTR	1.00	120.0+	F*	DefL	1.09	119.0	F					- Mitigation not required.	DefL	1.09	119.0	F	- Mitigation not required.				
			-	-	-	-	TR	0.56	89.2	F						TR	0.76	1.20+	F*					
	River Avenue	SB	LTR	0.54	41.5	D	LTR	0.53	42.0	D						LTR	0.53	42.0	D					
	Exterior Street	NB	DefL	0.47	40.6	D	DefL	0.48	41.6	D						DefL	0.48	41.6	D					
			TR	0.26	37.9	D	TR	0.27	38.8	D						TR	0.27	38.8	D					
		SB	L	0.60	38.0	D	L	0.60	38.0	D						L	0.60	38.0	D					
			T	0.14	29.5	C	T	0.14	29.5	C						T	0.14	29.5	C					
	E. 149th Street	EB	L	1.03	120.0+	F*	L	1.04	120.0+	F*						L	1.04	1.20+	F*					
			TR	0.82	40.8	D	TR	0.79	38.4	D						TR	0.79	38.4	D					
		WB	L	0.30	37.2	D	L	0.27	36.4	D						L	0.27	36.4	D					
			TR	0.99	72.9	E	TR	0.99	72.9	E						TR	0.99	72.9	E					
	Overall Intersection		**-**	**0.90**	**95.0**	**F**	**-**	**0.94**	**74.6**	**E**						**-**	**0.97**	**77.0**	**E**					
	JEROME AVENUE																							
20	**Jerome Avenue at E. 165th Street**																							
	Jerome Avenue	NB	TR	0.56	13.9	B	TR	0.56	13.9	B					- Mitigation not required.	TR	0.56	13.9	B	- Mitigation not required.				
		SB	LT	0.74	18.7	B	LT	0.78	20.3	C						LT	0.90	28.0	C					
	E. 165th Street	WB	LR	0.78	37.5	D	LR	0.78	37.5	D						LR	0.78	37.5	D					
	Overall Intersection		**-**	**0.76**	**20.1**	**C**	**-**	**0.78**	**20.8**	**C**						**-**	**0.85**	**24.5**	**C**					
18	**Jerome Avenue at E. 164th Street**																							
	Jerome Avenue	NB	TR	0.54	13.6	B	TR	0.58	14.3	B	TR	0.56	12.8	B	- Modify signal timing (shift 2.0 s of green time from WB phase to NB/SB phase).	TR	0.58	14.3	B	- Modify signal timing (shift 6.0 s of green time from WB phase to NB/SB phase).	TR	0.52	10.2	B	
		SB	LT	0.74	18.2	B	LT	1.03	57.2	E	LT	0.99	42.3	D		LT	1.15	99.7	F		LT	1.00	43.0	D	
	E. 164th Street	WB	LR	0.16	19.8	B	LR	0.43	24.0	C	LR	0.46	26.0	C		LR	0.43	24.0	C		LR	0.53	30.8	C	
	Overall Intersection		**-**	**0.51**	**16.3**	**B**	**-**	**0.80**	**36.3**	**D**	**-**	**0.79**	**28.6**	**C**		**-**	**0.87**	**59.7**	**E**		**-**	**0.85**	**29.3**	**C**	
17	**Jerome Avenue at E. 162nd Street**																							
	Jerome Avenue	NB	LTR	0.65	15.0	B	LT	0.73	16.5	B					- Mitigation not required.	LT	0.60	13.8	B	- Mitigation not required.				
		SB	LTR	0.96	37.3	D	TR	0.80	19.6	B						-	-	-	-					
	E. 162nd Street	WB	LTR	0.27	22.0	C	-	-	-	-						TR	0.77	18.5	B					
	Overall Intersection		**-**	**0.70**	**26.3**	**C**	**-**	**0.80**	**18.0**	**B**						**-**	**0.77**	**16.3**	**B**					
9	**Jerome Avenue at E. 161st Street**																							
	Jerome Avenue	NB	LT	0.94	49.6	D	LT	1.07	84.3	F	L	0.61	28.5	C	- Place "footed" lane delineators on NB Jerome Ave. to shift the center line 10 ft. to the west and allow four travel	LT	1.07	84.3	F	- Place "footed" lane delineators on NB Jerome Ave. to shift the center line 10 ft. to the west and allow four travel	L	0.69	38.3	D	
			-	-	-	-	-	-	-	-	T	0.55	18.0	B	lanes (one 10 ft. exclusive left-turn lane, two 11 ft.thru lanes, and one 12 ft. exclusive right-turn lane	-	-	-	-	lanes (one 10.5 ft. exclusive left-turn lane, two 10.5 ft.thru lanes, and one 12.5 ft. exclusive right-turn lane	T	0.64	23.1	C	
			R	0.96	60.1	E	R	1.20+	120.0+	F*	R	1.01	19.8	B	- Prohibit parking on the west side of SB Jerome Avenue approach 120 ft. away from the intersection for this time	R	1.20+	120.0+	F*	- Prohibit parking on the west side of SB Jerome Avenue approach 120 ft. away from the intersection for this time	R	1.01	56.7	E	
		SB	L	0.95	104.1	F	L	1.18	120.0+	F*	L	0.84	63.9	E	period.	L	1.20+	120.0+	F*	period.	L	0.62	29.1	C	
			TR	0.73	33.3	C	TR	0.71	32.0	C	TR	0.41	16.0	B	- Place "footed" lane delineators on SB Jerome Avenue to allow one 15 ft.wide exclusive left-turn lane and one 16 ft.	TR	0.71	32.0	C	- Place "footed" lane delineators on SB Jerome Avenue to allow one 16 ft.wide exclusive left-turn lane and one 15 ft.	TR	0.42	16.3	B	
		WB	L	0.64	20.3	C	L	0.64	20.2	C	-	-	-	-	wide thru lane for this time period	L	0.64	20.2	C	wide thru lane for this time period	-	-	-	-	
	E. 161st Street		LT	0.12	44.3	D	LT	0.12	44.3	D	LT	0.47	43.7	D	- Place sign on the WB approach of 161st Street informing dirvers to stay in the left lane for left-turns.	LT	0.12	44.3	D	- Place sign on the WB approach of 161st Street informing dirvers to stay in the left lane for left-turns.	LT	0.47	43.7	D	
	Overall Intersection		**-**	**0.78**	**44.1**	**D**	**-**	**1.19**	**120.0+**	**F***	**-**	**0.67**	**37.0**	**D**	- Modify signal phasing and timing plan (Add a phase follwed by the WB phase. During this phase, all WB movements and NB right turn movement would be allowed; Allocate 18.0 s of green time to WB phase, 14 s of green time to WB and NB right-turn phase, and 43 s of green time to NB/SB phase. Yellow and all-red times remain 3 s and 2 s repectively).	**-**	**1.19**	**120.0+**	**F***	- Modify signal phasing and timing plan (Add a phase follwed by the WB phase. During this phase, all WB movements and NB right turn movement would be allowed; Add a lead SB phase; Allocate 18.0 s of green time to WB phase, 14 s of green time to WB/NB right-turn phase, 5.0 s of green plus yellow time to the SB lead phase, and 38 s of green time to the NB/SB phase)	**-**	**0.63**	**38.1**	**D**	
13	**Jerome Avenue at Ogden Avenue and Major Deegan Expressway Service Road**																							
	Ogden Avenue	SB	LR	0.55	26.7	C	LR	0.55	26.7	C	LR	0.55	26.7	C		LR	0.55	26.7	C		LR	0.55	26.8	C	
	Jerome Avenue	EB	T	0.75	19.9	B	T	1.20+	120.0+	F*	T	0.89	25.6	C	- Allow EB thru traffic to utilize the right most shared thru-right turn lane more effectively by placing a sign	T	1.17	108.3	F		T	0.62	14.1	B	- Allow EB thru traffic to utilize the right most shared thru-right turn lane more effectively by placing a sign
		WB	TR	0.39	11.0	B	TR	0.38	10.9	B	TR	0.38	10.9	B	indicating the left most lane should be used as a thru lane and the right most lane should be used as a shared thru-right lane.	TR	0.38	10.9	B		TR	0.38	10.9	B	indicating the left most lane should be used as a thru lane and the right most lane should be used as a shared thru-right lane.
	Overall Intersection		**-**	**0.68**	**17.7**	**B**	**-**	**1.01**	**94.5**	**F**	**-**	**0.76**	**21.3**	**C**		**-**	**0.94**	**63.4**	**E**		**-**	**0.59**	**15.2**	**B**	
	MACOMBS DAM BRIDGE CORRIDOR																							
14a	**Macomb's Dam Bridge Approach at E.161st Street**																							
	Macomb's Dam Bridge Approach	NB	T	0.90	34.9	C	T	1.20+	120.0+	F*	T	1.20+	120.0+	F*	- Partially mitigated	T	1.20+	120.0+	F*	- Partially mitigated	T	1.20	120.0+	F*	- Partially mitigated
			-	-	-	-	R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	1.20+	120.0+	F*	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	1.20+	120.0+	F*	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
		SB	T	0.41	11.8	B	DefL	1.20+	120.0+	F*	DefL	1.20+	120.0+	F*	- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.39	7.0	A		T	0.35	6.6	A	
			-	-	-	-	T	0.89	30.5	C	T	0.80	22.6	C		-	-	-	-		-	-	-	-	
	E. 161st Street	WB	LR	0.94	51.0	D	LR	1.20+	120.0+	F*	LR	1.10	97.0	F		L	1.20+	120.0+	F*		L	1.20+	120.0+	F*	
	Overall Intersection		**-**	**0.91**	**31.2**	**C**	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***		**-**	**1.20+**	**120.0+**	**F***		**-**	**1.20+**	**116.4**	**F**	
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**																							
	Major Deegan Expressway Southbound Off-Ramp	SB	-	-	-	-	-	-	-	-	L	0.78	32.8	C	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim	-	-	-	-	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim	L	0.59	25.7	C	
			LTR	0.97	66.3	E	LTR	1.20+	120.0+	F*	LTR	0.95	57.0	E	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one	LTR	1.20+	120.0+	F*	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one	LTR	0.87	40.7	D	
	Macombs Dam Bridge	EB	TR	1.06	68.2	E	TR	1.08	72.5	E	TR	1.05	62.4	E	shared thru-right turn lane).	TR	1.08	72.5	E	shared thru-right turn lane).	TR	1.05	62.4	E	
		WB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	- Modify signal timing (shift 1.0 s of green time from SB phase to EB/WB phase).	L	1.20+	120.0+	F*	- Modify signal timing (shift 1.0 s of green time from SB phase to EB/WB phase).	L	1.20+	120.0+	F*	- Modify signal timing (shift 1.0 s of green time from SB phase to EB/WB phase).
			T	1.08	120.0+	F*	T	1.08	120.0+	F*	T	1.04	120.0+	F*		T	1.08	1.20+	F*		T	1.04	120.0+	F*	
	Overall Intersection		**-**	**1.20+**	**104.1**	**F**	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**88.1**	**F**		**-**	**1.20+**	**120.0+**	**F***		**-**	**1.20+**	**86.0**	**F**	
3	**Macombs Place at W. 155th Street**																							
	Macombs Place	NB	L	0.85	68.8	E	L	0.85	68.8	E	L	0.76	46.6	D	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only	L	0.85	68.8	E	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only	L	0.76	46.6	D	
			T	0.30	23.8	C	T	0.30	23.8	C	T	0.29	18.4	B	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian	T	0.30	23.8	C	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian	T	0.29	18.4	B	
		SB	T	0.83	51.0	D	T	0.83	51.0	D	T	0.87	46.6	D	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 31 s; NB green time shifts from	T	0.83	51.0	D	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 31 s; NB green time shifts from	T	0.87	46.6	D	
			R	0.96	46.6	D	R	0.96	46.6	D	R	0.66	9.1	A	24 s to 18 s; NB/SB green time shifts from 18 s to 26 s].	R	0.96	46.6	D	24 s to 18 s; NB/SB green time shifts from 18 s to 26 s]	R	0.66	9.1	A	
	W. 155th Street	EB	L	1.12	120.0+	F*	L	1.20	120.0+	F*	L	1.04	120.0+	F*		L	1.20	120.0+	F*		L	1.04	120.0+	F*	
			R	0.10	15.0	B	R	0.10	15.0	B	R	0.14	19.5	B		R	0.10	15.0	B		R	0.14	19.5	B	
	Overall Intersection		**-**	**0.88**	**80.7**	**F**	**-**	**0.95**	**91.3**	**F**	**-**	**0.91**	**52.8**	**F**		**-**	**0.95**	**91.3**	**F**		**-**	**0.91**	**52.8**	**D**	
	OTHER																							
12	**Walton Avenue at E 161st Street**																							
	Walton Avenue	NB	LR	0.70	46.8	D	LR	0.70	46.8	D	LR	0.71	39.8	D	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.	LR	0.70	46.8	D	LR	0.70	47.3	D	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.
		SB	LTR	0.96	60.9	E	LTR	0.96	60.9	E	LTR	0.53	17.3	B	- Modify signal timing (Allocate 30 s of green time to EB/WB phase, 20 s of green time to NB/SB phases. Yellow	LTR	0.96	60.9	E	LTR	0.53	24.7	C	- [Measures reflect geometric improvements needed for other peak periods, otherwise restriping not needeed.]
	E. 161st Street	EB	LTR	0.94	40.5	D	LTR	0.94	41.3	D	LTR	0.90	29.2	C	and all-red times remain 3 and 2 s respectively. Decrease cycle length from 90 s to 60 s.	LTR	0.86	30.7	C	LTR	0.83	27.1	C	
		WB	LT	1.10	82.9	F	LT	1.11	87.1	F	LT	1.10	79.4	E	[Measures reflect geometric improvements needed for other peak periods, otherwise restriping not needeed.]	LT	1.06	70.7	E	LT	1.05	66.6	E	
	Overall Intersection		**-**	**1.04**	**62.9**	**E**	**-**	**1.05**	**65.0**	**E**	**-**	**0.94**	**47.9**	**D**		**-**	**1.02**	**55.8**	**E**		**-**	**0.92**	**44.7**	**D**	

TABLE B - 7
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION SCENARIO*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD MITIGATED Pre-Game (5:15 - 6:15PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Pre-Game (5:15 - 6:15PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (5:15 - 6:15PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
22	**Gerard Avenue at E. 165th Street**																							
	Gerard Avenue	NB	LTR	0.54	19.1	B	LTR	0.54	19.1	B					- Mitigation not required.	LTR	0.54	19.1	B					- Mitigation not required.
	E. 165th Street	EB	LT	0.67	14.3	B	LT	0.67	14.3	B						LT	0.67	14.3	B					
		WB	TR	0.61	12.5	B	TR	0.62	12.6	B						TR	0.62	12.6	B					
	Overall Intersection		**-**	**0.62**	**14.7**	**B**	**-**	**0.62**	**14.8**	**B**						**-**	**0.62**	**14.8**	**B**					
4	**E. 157th Street at Major Deegan Expressway NB Ramp**																							
	Major Deegan Expressway NB Service Road	NB	T	0.78	15.4	B	T	0.83	16.9	B					- Mitigation not required.	T	0.78	15.4	B					- Mitigation not required.
	Major Deegan Expressway NB Off Ramp	-	-	-	-	-	-	-	-	-						-	-	-	-					
	E. 157th Street	WB	R	0.44	14.4	B	R	0.42	14.2	B						R	0.42	14.2	B					
	Overall Intersection		**-**	**0.62**	**15.2**	**B**	**-**	**0.65**	**16.4**	**B**						**-**	**0.62**	**15.2**	**B**					
2	**Lenox Avenue at W. 145th Street**																							
	Lenox Avenue	NB	L	0.75	38.5	D	L	0.75	38.5	D					- Mitigation not required.	L	0.75	38.5	D					- Mitigation not required.
			LT	0.74	36.4	D	LT	0.74	36.4	D						LT	0.74	36.4	D					
			R	0.67	21.4	C	R	0.67	21.4	C						R	0.67	21.4	C					
		SB	LTR	0.39	23.6	C	LTR	0.39	23.6	C						LTR	0.39	23.6	C					
	W. 145th Street	EB	LTR	0.90	35.1	D	LTR	0.90	35.6	D						LTR	0.90	35.6	D					
		WB	L	0.68	20.6	C	L	0.68	20.7	C						L	0.68	20.7	C					
			TR	0.62	15.6	B	TR	0.62	15.6	B						TR	0.62	15.6	B					
	Overall Intersection		**-**	**0.85**	**27.3**	**C**	**-**	**0.85**	**27.5**	**C**						**-**	**0.85**	**27.5**	**C**					
25	**E. 157th Street at E. 153rd Street/Ruppert Pl./Garage A**																							
	153rd Street	NB	-	-	-	-	LT	0.91	42.8	D					- Mitigation not required.	LT	0.91	42.8	D					- Mitigation not required.
	Garage A Access	SB	-	-	-	-	T	0.01	37.5	D					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.01	37.5	D					
			-	-	-	-	R	0.01	39.5	D						R	0.01	39.5	D					
	157th Street	EB	-	-	-	-	L	0.51	18.1	B						L	0.51	18.1	B					
	Overall Inter		**-**	**-**	**-**	**-**	**-**	**0.62**	**35.3**	**D**						**-**	**0.62**	**35.3**	**D**					
31	**Ruppert Place at E. 161st Street**																							
	E. 161st Street	EB	-	-	-	-	T	0.74	32.3	C					- Mitigation not required.	T	0.69	30.9	C					- Mitigation not required.
		WB	-	-	-	-	T	0.68	29.8	C					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.68	29.8	C					
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**0.73**	**30.9**	**C**						**-**	**0.69**	**30.2**	**C**					
	UNSIGNALIZED																							
	RIVER AVENUE																							
15b	**River Avenue at Garage B**																							
	River Avenue	NB	-	-	-	-	LT	-	13.8	B					- Mitigation not required.	LT	-	13.8	B					- Mitigation not required.
	Garage B Access	EB	-	-	-	-	L	-	-	-						L	-	-	-					
			-	-	-	-	R	-	-	-						R	-	-	-					
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**13.8**	**B**						**-**	**-**	**13.8**	**B**					
16	**River Avenue at E.162nd Street (South)**																							
	River Avenue	NB	-	-	-	-	-	-	-	-	T	0.31	10.5	B	- Install signal control for this time period.	-	-	-	-	T	0.31	10.5	B	- Install signal control for this time period.
		SB	-	-	-	-	-	-	-	-	T	0.37	11.2	B		-	-	-	-	T	0.37	11.2	B	- (Traffic signal installation is justified from a signal warrant analysis).
	E. 162nd Street	WB	L	-	25.5	D	L	-	96.3	F	L	0.09	19.6	B		L	-	96.3	F	L	0.09	9.6	A	
			R	-	31.1	D	R	-	120.0+	F*	R	0.48	29.5	C		R	-	120.0+	F*	R	0.48	29.5	C	
	Overall Intersection		**-**	**-**	**29.3**	**D**	**-**	**-**	**120.0+**	**F***	**-**	**0.41**	**13.7**	**B**		**-**	**-**	**120.0+**	**F***	**-**	**0.41**	**13.7**	**B**	
30	**River Avenue at Garage D**																							
	River Avenue	SB	-	-	-	-	L	-	11.8	B					- Mitigation not required.	L	-	12.7	B					- Mitigation not required.
	Garage D Access	WB	-	-	-	-	LR	-	21.1	C						LR	-	21.3	C					
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**13.2**	**B**						**-**	**-**	**14.0**	**B**					
	MACOMBS DAM BRIDGE CORRIDOR																							
26	**Garage C West Access at Macomb's Dam Approach**																							
	Garage C West Access	SB	-	-	-	-	R	-	-	-					- Mitigation not required.	R	-	-	-					- Mitigation not required.
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**						**-**	**-**	**-**	**-**					
27	**Garage C East Access at Macomb's Dam Approach**																							
	Garage C East Access	SB	-	-	-	-	R	-	-	-					- Mitigation not required.	R	-	-	-					- Mitigation not required.
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**						**-**	**-**	**-**	**-**					
29	**Garage A Access at Macomb's Dam Approach**																							
	Garage A Access	NB	-	-	-	-	R	-	-	-					- Mitigation not required.	R	-	-	-					- Mitigation not required.
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**						**-**	**-**	**-**	**-**					
	OTHER																							
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**																							
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	87.4	F	L	-	120.0+	F*	LR	0.93	25.3	C	- Operate currently installed signal as regular traffic signal for this time period.	L	-	120.0+	F*	LR	0.93	25.3	C	- Operate currently installed signal as regular traffic signal for this time period.
			R	-	42.7	E	R	-	120.0+	F*	-	-	-	-		R	-	120.0+	F*	-	-	-	-	
	E. 153rd Street	EB	-	-	-	-	-	-	-	-	TR	0.32	29.1	C		-	-	-	-	TR	0.32	29.1	C	
		WB	LT	-	9.3	A	LT	-	9.3	A	LT	0.79	39.7	D		LT	-	9.3	A	LT	0.79	39.7	D	
	Overall Intersection		**-**	**-**	**73.3**	**F**	**-**	**-**	**120.0+**	**F***	**-**	**0.89**	**29.9**	**C**		**-**	**-**	**120.0+**	**F***	**-**	**0.89**	**29.9**	C	
24	**Garage A East Access at E. 157th Street**																							
	Garage A East Access	SB	-	-	-	-	LR	-	8.9	A					- Mitigation not required.	LR	-	8.9	A					- Mitigation not required.
	E. 157th Street	EB	-	-	-	-	LT	-	7.6	A						LT	-	7.6	A					
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**8.5**	**A**						**-**	**-**	**8.5**	**A**					

TABLE B - 7
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION SCENARIO*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD MITIGATED Pre-Game (5:15 - 6:15PM)					BUILD WITH DIVERSIONS Pre-Game (5:15 - 6:15PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (5:15 - 6:15PM)				
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
28	**Garage C Access at E. 161st Street**																						
	Garage C Access	NB	-	-	-	-	LR	-	14.9	B						LR	-	17.6	C					
	E. 161st Street	WB	-	-	-	-	L	-	9.9	A					- Mitigation not required.	L	-	9.7	A					- Mitigation not required.
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**10.5**	**B**						**-**	**-**	**10.7**	**B**					
33	**Garage B Access at Jerome Avenue**																						
	Jerome Avenue	SB	-	-	-	-	LT	-	14.4	B					- Mitigation not required.	LT	-	18.3	C					- Mitigation not required.
	Garage B Access	WB	-	-	-	-	L	-	-	-						L	-	-	-					
			-	-	-	-	R	-	-	-						R	-	-	-					
	Overall Intersection		**-**	**-**	**-**	**-**		**-**	**14.4**	**B**						**-**	**-**	**18.3**	**C**					
34	**Garage D Access at Gerard Avenue**																						
	Gerard Avenue	NB	-	-	-	-	LT	-	7.2	A					- Mitigation not required.	LT	-	7.2	A					- Mitigation not required.
	Garage D Access	EB	-	-	-	-	L	-	10.9	B						L	-	10.9	B					
	Overall Intersection		**-**	**-**	**-**	**-**		**-**	**9.1**	**A**						**-**	**-**	**9.1**	**A**					
	YANKEE STADIUM EIS *ADDITIONAL LOCATIONS* -- WEEKNIGHT PRE-GAME																						
	SIGNALIZED																						
1	**Gerard Avenue at E.149th Street**																						
	Gerard Avenue	NB	LTR	0.61	50.2	D										LTR	0.64	51.5	D					- Mitigation not required.
		EB	DefL	0.92	50.5	D										DefL	0.88	44.1	D					
			T	1.20+	120.0+	F*										T	1.20+	120.0+	F*					
		WB	TR	1.03	53.6	D										TR	1.03	53.6	D					
	Overall Intersection		**-**	**1.20+**	**105.2**	**F**										**-**	**1.20+**	**104.6**	**F**					
2	**Jerome Avenue/Cromwell Avenue at E. 167th Street/Edward Grant Highway**																						
	Jerome Avenue	NB	DefL	1.09	111.8	F										DefL	1.07	106.3	F	DefL	1.00	83.6	F	- Prohibit parking on the west side of SB Jerome Avenue approach 120 ft. away from the intersection for this time
			TR	0.81	44.3	D										TR	0.81	44.5	D	TR	0.76	38.4	D	period.
		SB	LTR	0.84	44.4	D										LTR	1.13	112.1	F	LTR	0.87	42.5	D	- Restripe the south side of EB Grant Highway approach as follows:
	Cromwell Avenue	NB	R	0.01	24.4	C										R	0.01	24.4	C	R	0.01	25.9	C	- Shift the 6 ft. bike lane to the curb; remove the 4 ft. shaded lane; use the remaining 36 ft. for 3 travel lanes (shared
	Edward Grant Highway	EB	LTR	0.93	48.2	D										LTR	1.17	120.0+	F*	LTR	0.85	42.1	D	left-thru, shared right-thru, and right-turn only).
			-	-	-	-										-	-	-	-	R	0.77	43.2	D	- Prohibit parking on the west side of the SB Jerome receiving lanes 120 ft. away from the intersection to gain good
	E. 167th Street	WB	L	0.72	49.3	D										L	0.71	48.5	D	L	0.72	50.1	D	transition from the EB bike lane
			TR	0.46	11.3	B										TR	0.46	11.3	B	TR	0.48	12.8	B	- Relocate bus stop on the EB 167th Street approach from near side to far side.
																								- Modify signal timing: Maintain 90 s cycle (allocate 23 s of green time for EB/WB phase, 22 s of green time for WB
	Overall Intersection		**-**	**0.92**	**49.2**	**D**										**-**	**1.02**	**89.6**	**F**	**-**	**0.87**	**42.8**	**D**	lag/NB Cromwell Avenue right turn phase, and 29 s of green time for NB/SB Jerome Avenue phase.).
3	**Edward Grant Highway/University Avenue at Washington Bridge On-Ramp**																						
	Edward Grant Highway/University Avenue	NB	L	0.98	52.5	D										L	0.98	50.4	D					- Mitigation not required.
			T	0.61	8.3	A										T	0.61	8.3	A					
		SB	LT	0.33	5.6	A										LT	0.35	5.8	A					
			R	0.84	23.1	C										R	0.84	23.1	C					
	Overall Intersection		**-**	**0.98**	**20.4**	**C**										**-**	**0.98**	**19.8**	**B**					
4a	**Edward Grant Highway/University Avenue at Washington Bridge Off-Ramp**																						
	Edward Grant Highway/University Avenue	NB	T	0.86	19.2	B										T	0.86	19.2	B					
		SB	LT	0.76	18.7	B										LT	0.82	22.4	C					
	Off-Ramp	EB	L	1.20+	120.0+	F*										L	1.20+	120.0+	F*					
			R	1.17	120.0+	F*										R	1.09	103.3	F					
	Overall Intersection		**-**	**0.97**	**64.6**	**E**										**-**	**0.97**	**59.3**	**E**					
5	**River Avenue at E. 167th Street**																						
	River Avenue	NB	LTR	0.99	68.7	E										LTR	0.99	68.7	E	LTR	0.88	45.0	D	- Prohibit parking on the south side of EB 167th Street approach and north side of WB E. 167th Street approach 120
		SB	LTR	0.83	35.4	D										LTR	0.83	35.4	D	LTR	0.84	38.3	D	ft. away from the intersection for this time period
	E. 167th Street	EB	LTR	1.01	82.2	F										LTR	1.19	120.0+	F*	LTR	1.01	77.1	E	- Prohibit parking on the west side of NB River Avenue approach 120 ft. away from the intersection for this time
		WB	LTR	1.00	69.9	E										LTR	1.18	120.0+	F*	LTR	0.99	64.1	E	period.
																								- Modify signal timing (shift 1 s of green time from NB/SB phase to EB/WB phase).
	Overall Intersection		**-**	**1.00**	**66.7**	**E**										**-**	**1.07**	**106.6**	**F**	**-**	**0.93**	**60.3**	**E**	
6	**Jerome Avenue at E. 170th Street**																						
	Jerome Avenue	NB	LTR	0.85	27.0	C										LTR	0.85	27.0	C					- Mitigation not required.
		SB	LTR	0.49	13.6	B										LTR	0.46	13.1	B					
	E. 170th Street	EB	LTR	0.41	22.6	C										LTR	0.41	22.6	C					
		WB	LTR	0.77	34.6	C										LTR	0.77	34.6	C					
	Overall Intersection		**-**	**0.81**	**24.7**	**C**										**-**	**0.81**	**24.7**	**C**					
7	**Jerome Avenue at E. 173rd Street**																						
	Jerome Avenue	NB	LTR	0.84	24.5	C										LTR	0.84	24.5	C					- Mitigation not required.
		SB	LTR	0.86	23.4	C										LTR	0.77	18.5	B					
			-	-	-	-										-	-	-	-					
	E. 173rd Street	EB	LTR	0.63	26.4	C										LTR	0.63	26.4	C					
		WB	LTR	0.74	31.3	C										LTR	0.74	31.3	C					
	Overall Intersection		**-**	**0.81**	**25.3**	**C**										**-**	**0.80**	**23.4**	**C**					
8	**Jerome Avenue at Cross Bronx Expressway N. Service Road**																						
	Jerome Avenue	NB	T	0.77	27.8	C										T	0.77	27.8	C					- Mitigation not required.
			R	0.79	5.2	A										R	0.79	5.2	A					
		SB	DefL	0.92	67.0	E										DefL	0.92	67.0	E					
			T	0.58	21.3	C										T	0.58	21.3	C					
	Cross Bronx Expressway N. Service Road	WB	L	0.75	30.3	C										L	0.78	32.2	C					
			R	0.26	17.0	B										R	0.26	17.0	B					
	Overall Intersection		**-**	**0.79**	**21.0**	**C**										**-**	**0.85**	**21.4**	**C**					

TABLE B - 7
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION SCENARIO*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (5:15 - 6:15PM)			BUILD 2009 Pre-Game (5:15 - 6:15PM)				BUILD MITIGATED Pre-Game (5:15 - 6:15PM)					BUILD WITH DIVERSIONS Pre-Game (5:15 - 6:15PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (5:15 - 6:15PM)				
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
9a	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																						
	Jerome Avenue	NB	TR	0.76	29.6	C										TR	0.79	29.6	C					- Mitigation not required.
		SB	DefL	0.96	60.7	E										DefL	0.96	60.7	E					
			T	0.71	27.5	C										T	0.73	28.7	C					
	Cross Bronx Expressway S. Service Road	EB	L	0.74	25.0	C										L	0.74	25.0	C					
	Overall Intersection		**-**	**0.85**	**34.0**	**C**										**-**	**0.85**	**34.2**	**C**					
10	**Grand Concourse at E. 149th Street**																						
	Grand Concourse	NB	LTR	1.03	63.1	E										LTR	0.90	32.1	C					- Mitigation not required.
		SB	LT	0.75	24.7	C										LT	0.75	24.7	C					
			R	1.20+	120.0+	F*										R	1.20+	120.0+	F*					
	E. 149th Street	EB	LTR	0.98	63.0	E										LTR	0.98	63.0	E					
		WB	LTR	0.84	43.4	D										LTR	0.84	43.4	D					
	Overall Intersection		**-**	**1.15**	**65.3**	**E**										**-**	**1.15**	**55.8**	**E**					
	UNSIGNALIZED																						
4b	**Edward Grant Highway/University Avenue at Martin Luther King Jr. Boulevard**																						
	Martin Luther King Jr. Boulevard	EB	R	0.55	17.7	C										R	0.56	17.7	C					- Mitigation not required.
	Overall Intersection		**-**	**0.55**	**17.7**	**C**										**-**	**0.56**	**17.7**	**C**					
9b	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																						
	Cross Bronx Expressway S. Service Road	EB	R	0.90	42.0	E										R	0.74	26.2	D					- Mitigation not required.
	Overall Intersection		**-**	**0.90**	**42.0**	**E**										**-**	**0.74**	**26.2**	**D**					

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.

GAME-DAY TRAFFIC MANAGEMENT PLAN

(6): As part of the Game-Day Traffic Management Plan, a series of additional mitigation measures would be implemented beyond those listed under "Build Mitigation Measures," including:

· VMS signs would be placed at selected locations along the Major Deegan and Cross Bronx Expressways to divert a portion of stadium-bound traffic to reduce volumes at congested intersections near the stadium.

· River Avenue would be closed to vehicle traffic post-game between East 161st Street and the entrace/exit to Garage B.

· Left turns would be prohibited from southboud Macombs Dam Bridge approach to the eastbound East 161st Street service road and right, and right turns would be prohibited

· Operate the exit from Garage B at Jerome Avenue as right-turn out only, postgame.

TABLE B - 8
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD MITIGATED Post-Game (10:00 - 11:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Post-Game (10:00 - 11:00PM)				BUILD WITH DIVERSIONS MITIGATED Post-Game (10:00 - 11:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
	SIGNALIZED																						
	GRAND CONCOURSE																						
23	**Grand Concourse at E.165th Street**																						
	Grand Concourse (Main) NB	L	0.11	10.6	B	L	0.11	10.6	B					- Mitigation not required.	L	0.11	10.6	B					- Mitigation not required.
		T	0.25	19.2	B	T	0.26	19.3	B						T	0.29	19.7	B					
	SB	L	0.06	10.3	B	L	0.06	10.3	B						L	0.07	10.4	B					
		T	0.16	18.2	B	T	0.16	18.2	B						T	0.16	18.2	B					
	Grand Concourse (Service) NB	TR	0.34	21.0	C	TR	0.33	20.7	C						TR	0.33	20.7	C					
	SB	TR	0.15	18.0	B	TR	0.15	18.0	B						TR	0.15	18.0	B					
	E. 165th Street EB	LTR	0.26	28.5	C	LTR	0.33	29.7	C						LTR	0.39	30.6	C					
	WB	LT	0.15	27.1	C	LT	0.15	27.1	C						DefL	0.21	29.0	C					
		-	-	-	-		-	-	-						T	0.15	27.4	C					
		R	0.16	27.9	C	R	0.16	27.9	C						R	0.16	27.9	C					
	Overall Intersection	**-**	**0.31**	**21.1**	**C**	**-**	**0.36**	**21.8**	**C**						**-**	**0.37**	**22.1**	**C**					
8	**Grand Concourse at E. 161st Street**																						
	Grand Concourse NB	L	0.74	30.2	C	L	0.48	12.7	B	L	0.52	15.6	B	- Modify signal timing (shift 4.0 s of green time from NB/SB phase to EB/WB phase).	L	0.48	12.7	B	L	0.51	15.4	B	- Modify signal timing (shift 4.0 s of green time from NB/SB phase to EB/WB phase).
		TR	0.35	8.7	A	TR	0.35	8.7	A	TR	0.37	10.6	B		TR	0.35	8.7	A	TR	0.36	10.5	B	
	Grand Concourse (Main) SB	L	0.07	11.8	B	L	0.08	11.9	B	L	0.09	14.0	B		L	0.08	11.9	B	L	0.09	13.9	B	
		T	0.29	21.8	C	T	0.31	22.3	C	T	0.34	26.0	C		T	0.31	22.3	C	T	0.33	25.7	C	
	Grand Concourse (Service) SB	R	0.29	14.4	B	R	0.23	13.5	B	R	0.26	16.1	B		R	0.23	13.5	B	R	0.25	15.9	B	
	E. 161st Street EB	L	0.42	39.9	D	L	0.48	42.3	D	L	0.42	36.7	D		L	0.63	48.7	D	L	0.56	41.9	D	
		TR	0.88	60.3	E	TR	1.04	93.7	F	TR	0.95	68.1	E		TR	1.01	89.6	F	TR	0.88	57.2	E	
	WB	L	0.58	44.8	D	L	0.24	35.5	D	L	0.21	31.6	C		L	0.25	35.7	D	L	0.22	32.2	C	
		TR	0.69	48.9	D	TR	0.49	41.1	D	TR	0.43	35.9	-		TR	0.49	41.1	D	TR	0.44	36.5	D	
	Overall Intersection	**-**	**0.74**	**29.0**	**C**	**-**	**0.57**	**33.3**	**C**	**-**	**0.61**	**29.6**	**C**		**-**	**0.57**	**32.1**	**D**	**-**	**0.57**	**27.4**	**C**	
	RIVER AVENUE																						
21	**River Avenue at E. 165th Street**																						
	River Avenue NB	LTR	0.53	14.1	B	LTR	0.73	19.1	B					- Mitigation not required.	LTR	0.84	25.9	C					- Mitigation not required.
	SB	LTR	0.13	9.5	A	LTR	0.14	9.5	A						LTR	0.14	9.6	A					
	E. 165th Street EB	LTR	0.43	24.2	C	LTR	0.43	24.2	C						LTR	0.43	24.2	C					
	WB	LTR	0.38	23.3	C	LTR	0.38	23.3	C						LTR	0.38	23.3	C					
	Overall Intersection	**-**	**0.49**	**17.2**	**B**	**-**	**0.61**	**19.7**	**B**						**-**	**0.68**	**23.8**	**C**					
19	**River Avenue at E. 164th Street**																						
	River Avenue NB	LT	0.61	12.2	B	LT	0.93	30.2	C					- Mitigation not required.	LT	1.01	48.4	D	LT	0.67	13.7	B	- Place "footed" lane delineators to allow NB River Avenue approach to have two 9.5 ft. wide travel lanes for this
	SB	TR	0.07	6.4	A	TR	0.05	6.4	A						TR	0.07	6.5	A	TR	0.07	7.5	A	period.
	E. 164th Street EB	LR	0.17	14.7	B	LR	0.60	24.6	C						LR	0.94	70.9	E	LR	0.73	33.2	C	- Shift 2 s from the NB/SB phase to EB/WB phase.
	WB	LTR	0.40	17.1	B	LTR	0.40	17.1	B						LTR	0.39	16.9	B	LTR	0.35	14.9	B	
	Overall Intersection	**-**	**0.53**	**13.0**	**B**	**-**	**0.80**	**26.3**	**C**						**-**	**0.98**	**44.6**	**D**	**-**	**0.70**	**16.3**	**B**	
15a	**River Avenue at E. 162nd Street (North)**																						
	River Avenue NB	LT	0.39	12.3	B	T	0.31	11.0	B					- Mitigation not required.	T	0.17	9.7	A					- Mitigation not required.
	SB	TR	0.21	10.1	B	T	0.21	10.0	B						T	0.00	8.5	A					
	E. 162nd Street EB	LR	0.17	20.0	B	-	-	-	-						-	-	-	-					
	Overall Intersection	**-**	**0.31**	**12.9**	**B**	**-**	**0.31**	**10.6**	**B**						**-**	**0.10**	**9.7**	**A**					
7	**River Avenue at E. 161st Street**																						
	River Avenue NB	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	- Partially mitigated	L	1.02	108.8	F	L	0.92	78.9	E	- Partially mitigated
		R	0.32	15.4	B	R	0.73	57.6	E	R	0.66	48.9	D	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	1.04	120.0+	F*	R	0.94	88.5	F	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
	SB	R	0.25	31.4	C	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*		-	-	-	-	-	-	-	-	
		R	0.73	66.5	E	R	1.12	120.0+	F*	R	1.03	117.2	F		-	-	-	-	-	-	-	-	
	E. 161st Street Main Road EB	T	0.84	67.2	E	T	1.20+	120.0+	F*	T	1.18	120.0+	F*		T	1.20+	120.0+	F*	T	1.18	120.0+	F*	
	WB	T	0.32	10.1	B	T	0.54	27.5	C	T	0.49	26.3	C		T	0.54	27.5	C	T	0.49	26.3	C	
	E. 161st Street Service Road EB	T	0.13	8.8	A	T	0.24	23.0	C	T	0.21	22.7	C		T	0.18	22.4	C	T	0.16	22.2	C	
		R	0.05	8.4	A	R	0.11	22.5	C	R	0.10	22.2	C		R	0.11	22.5	C	R	0.10	22.2	C	
	WB	TR	1.15	103.1	F	TR	1.05	90.2	F	TR	0.78	38.7	D		T	0.54	28.6	C	T	0.48	27.1	C	
	Overall Intersection	**-**	**1.20+**	**84.1**	**F**	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***		**-**	**1.02**	**120.0+**	**F***	**-**	**1.04**	**113.6**	**F**	
6	**River Avenue at E. 157th Street**																						
	River Avenue NB	TR	1.02	100.1	F	LTR	1.03	100.8	F					- Mitigation not required.	LTR	1.03	100.8	F					- Mitigation not required.
	SB	LT	CLOSED See Note (6)			LTR	0.32	11.8	B						LTR	0.00	8.5	A					
	EB	-	-	-	-	R	0.41	23.5	C						R	0.41	23.5	C					
	E. 157th Street WB	LR	0.48	27.3	C	LR	0.26	22.2	C						LR	0.26	22.2	C					
	Overall Intersection	**-**	**0.81**	**76.9**	**E**	**-**	**0.78**	**55.9**	**E**						**-**	**0.78**	**67.6**	**E**					
5	**River Avenue at E. 153rd Street**																						
	River Avenue NB	LTR	0.83	35.3	D	LTR	0.80	32.2	C	LTR	0.86	39.6	D	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue	LTR	0.80	32.2	C	LTR	0.86	39.6	D	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue
	SB	LTR	0.95	51.7	D	LTR	1.20+	120.0+	F*	LTR	0.58	15.0	B	approaches for this time period	LTR	1.18	120.0+	F*	DefL	0.50	17.1	B	approaches for this time period
		-	-	-	-	-	-	-	-	-	-	-	-	- Place "footed" lane delineators to shift the center line 10 ft. to the east and allow three SB travel lanes and one NB	-	-	-	-	TR	0.41	12.7	B	- Place "footed" lane delineators to shift the center line 10 ft. to the east and allow three SB travel lanes and one NB
	E. 153rd Street EB	LTR	0.45	23.6	C	LTR	0.46	23.8	C	LTR	0.41	22.9	C	travel lane on River Avenue for this time period (NB approach will have one 10 ft. wide travel lane from its current	LTR	0.46	23.8	C	LTR	0.41	22.9	C	travel lane on River Avenue for this time period (NB approach will have one 10 ft. wide travel lane from its current
	WB	LTR	0.29	22.8	C	LTR	0.49	26.5	C	LTR	0.48	26.2	C	one 12 ft. lane with parking, and SB approach will have three 10 ft. wide travel lanes from its current one 13 ft. lane	LTR	0.49	26.5	C	LTR	0.48	26.2	C	one 12 ft. lane with parking, and SB approach will have three 10 ft. wide travel lanes from its current one 13 ft. lane
	Overall Intersection	**-**	**0.75**	**37.0**	**D**	**-**	**1.07**	**115.7**	**F**	**-**	**0.71**	**23.4**	**C**	with parking).	**-**	**0.91**	**64.6**	**E**	**-**	**0.71**	**23.9**	**C**	with parking).

TABLE B - 8
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD MITIGATED Post-Game (10:00 - 11:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Post-Game (10:00 - 11:00PM)				BUILD WITH DIVERSIONS MITIGATED Post-Game (10:00 - 11:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
1	**River Avenue and Exterior Street at E. 149th Street**																						
	Major Deegan Expressway NB Off Ramp NB	DefL	0.43	33.9	C	DefL	0.42	33.7	C					- Mitigation not required.	DefL	0.42	33.7	C					- Mitigation not required.
		TR	0.17	30.5	C	TR	0.17	30.5	C						TR	0.17	30.5	C					
	River Avenue SB	LTR	0.92	69.6	E	LTR	0.83	54.9	D						LTR	0.93	71.6	E					
	Exterior Street NB	DefL	0.07	34.5	C	LTR	0.08	34.5	C						LTR	0.08	34.5	C					
		TR	0.09	34.6	C	-	-	-	-						-	-	-	-					
	SB	L	0.38	33.3	C	L	0.38	33.3	C						L	0.38	33.3	C					
		T	0.07	29.4	C	T	0.02	28.9	C						T	0.02	28.9	C					
	E. 149th Street EB	L	0.33	27.7	C	L	0.33	27.7	C						L	0.33	27.7	C					
		TR	0.48	29.6	C	TR	0.48	29.6	C						TR	0.48	29.6	C					
	WB	L	0.11	34.2	C	L	0.11	34.2	C						L	0.11	34.2	C					
		TR	0.54	39.1	D	TR	0.54	39.1	D						TR	0.54	39.1	D					
	Overall Intersection	**-**	**0.64**	**44.0**	**D**	-	**0.62**	**39.1**	**D**						-	**0.69**	**44.7**	**D**					
	JEROME AVENUE																						
20	**Jerome Avenue at E. 165th Street**																						
	Jerome Avenue NB	TR	0.46	12.5	B	TR	0.49	12.9	B					- Mitigation not required.	TR	0.76	18.4	B					- Mitigation not required.
	SB	LT	0.31	10.9	B	LT	0.31	10.9	B						LT	0.31	10.9	B					
	E. 165th Street WB	LR	0.47	25.6	C	LR	0.47	25.6	C						LR	0.67	31.8	C					
	Overall Intersection	**-**	**0.46**	**13.9**	**B**	-	**0.49**	**14.1**	**B**						-	**0.72**	**18.9**	**B**					
18	**Jerome Avenue at E. 164th Street**																						
	Jerome Avenue NB	TR	0.35	11.2	B	TR	0.42	12.0	B					- Mitigation not required.	TR	0.68	16.1	B	TR	0.78	23.8	C	- Modify signal timing (shift 7.0 s of green time from NB/SB phase to WB phase).
	SB	LT	0.35	11.1	B	LT	0.40	11.8	B						LT	0.48	12.9	B	LT	0.58	18.9	B	
	E. 164th Street WB	LR	0.61	28.4	C	LR	0.86	43.4	D						LR	1.12	105.2	F	LR	0.92	42.9	D	
	Overall Intersection	**-**	**0.45**	**15.1**	**B**	-	**0.59**	**20.8**	**C**						-	**0.85**	**39.5**	**D**	-	**0.85**	**27.7**	**C**	
17	**Jerome Avenue at E. 162nd Street**																						
	Jerome Avenue NB	LTR	0.37	10.9	B	LT	0.59	14.4	B					- Mitigation not required.	LT	0.62	14.7	B					- Mitigation not required.
	SB	LTR	0.52	12.8	B	TR	0.82	20.6	C						TR	0.64	14.8	B					
	E. 162nd Street WB	LTR	0.35	23.3	C	-	-	-	-						-	-	-	-					
	Overall Intersection	**-**	**0.45**	**13.2**	**B**	-	**0.81**	**18.2**	**B**						-	**0.64**	**14.8**	**B**					
9	**Jerome Avenue at E. 161st Street**																						
	Jerome Avenue NB	-	-	-	-	DefL	0.59	47.9	D	DefL	0.59	51.6	D	- Partially Mitigated	-	-	-	-	-	-	-	-	- Prohibit parking on the west side of SB Jerome Avenue to allow one additional travel lane for this time period (SB
		LT	0.59	47.9	D	T	0.32	21.1	C	T	0.38	27.4	C	- Prohibit parking on the west side of SB Jerome Avenue to allow one additional travel lane for this time period (SB	LT	0.38	21.5	C	LT	0.68	50.5	D	approach will have three travel lanes instead of current two travel lanes)
		R	0.85	45.0	D	R	0.43	21.7	C	R	0.55	29.7	C	approach will have three travel lanes instead of current two travel lanes)	R	0.43	21.7	C	R	0.56	36.7	D	- Place "footed" lane delineators on NB approach to obtain one 11 ft. wide shared left-thru lane, one 11ft wide thru
	SB	L	0.43	31.2	C	L	0.44	32.3	C	L	0.54	46.9	D	- Place "footed" lane delineators on NB approach to obtain one 11 ft. wide shared left-thru lane, one 11.wide thru lane	L	0.90	90.0	F	L	0.39	27.9	C	lane, one 11ft. wide exclusive right-turn lane, and two 10.5 ft. wide recieving lanes for this time period
		TR	0.96	68.3	E	TR	1.20+	120.0+	F*	TR	1.01	68.5	E	one 11.ft. wide exclusive right-turn lane, and two 10.5 ft. wide recieving lanes for this time period	TR	1.20+	120.0+	F*	TR	0.64	31.3	C	- Place "footed" lane delineators on SB approach to obtain one 16 ft. wide exclusive left-turn lane, one 10 ft. wide thru
	E. 161st Street WB	L	1.00	54.7	D	L	1.10	85.3	F	L	1.02	56.5	E	- Place "footed" lane delineators on SB approach to obtain one 11 ft. wide exclusive left-turn lane, one 13 ft. wide thru	L	0.94	42.3	D	L	0.99	50.2	D	lane, one 11 ft. wide thru-right turn lane, and two 12 ft. wide receiving lanes for this time period
		LT	0.18	54.4	D	LT	0.50	86.6	F	LT	0.35	57.9	E	lane, one 13 ft. wide thru-right turn lane, and two 12 ft. wide receiving lanes for this time period	LT	0.44	78.9	E	LT	0.30	52.0	D	- Place "footed" lane delineators on WB 161st Street to allow one 11 ft. wide exclusive left-turn lane and one 13 ft.
	Overall Intersection	**-**	**0.93**	**54.6**	**D**	-	**1.20+**	**120.0+**	**F***	-	**0.98**	**57.3**	**E**	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft. wide shared left-thru lane. - Modify signal timing (shift 6.0 s of green time from NB/SB phase to WB phase).	-	**1.05**	**73.8**	**E**	-	**0.91**	**43.5**	**D**	wide shared left-thru lane. - Place TEA to override the current signal phasing and timing plan as follows. - Modify signal timing (shift 4.0 s of green time from NB/SB phase to WB phase). - Modify the NB/SB signal phasing and timing plan (Add a lead SB phase, and a lag NB/SB phase. Allocate 7.0 s of green time to the lead phase, and 20 s of green time to the lag phase)
13	**Jerome Avenue at Ogden Avenue and Major Deegan Expressway Service Road**																						
	Ogden Avenue SB	LR	0.77	41.9	D	LR	0.58	31.0	C	LR	0.71	44.1	D	- Partially Mitigated	LR	0.58	31.0	C	LR	0.71	44.1	D	- Partially Mitigated
	Jerome Avenue EB	T	0.18	9.4	A	T	0.18	9.4	A	T	0.16	6.7	A	- Modify signal timing (shift 6.0 s of green time from SB phase to EB/WB phase).	T	0.18	9.4	A	T	0.16	6.7	A	- Modify signal timing (shift 6.0 s of green time from SB phase to EB/WB phase).
	WB	TR	0.96	38.3	D	TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*		TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*	
	Overall Intersection	**-**	**0.89**	**35.5**	**D**	-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***		-	**1.06**	**120.0+**	**F***	-	**1.06**	**102.3**	**F**	
	MACOMBS DAM BRIDGE CORRIDOR																						
14a	**Macomb's Dam Bridge Approach at E.161st Street**																						
	Macomb's Dam Bridge Approach NB	T	0.34	11.5	B	T	0.82	30.9	C	T	0.74	23.6	C	- Partially mitigated	T	0.74	20.3	C	T	0.66	16.1	B	- Partially mitigated
		-	-	-	-	R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	1.12	120.0+	F*	R	1.01	70.3	E	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
	SB	T	0.81	25.0	C	-	-	-	-	-	-	-	F	- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.91	30.4	C	T	0.82	20.6	C	
		-	-	-	-	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*		-	-	-	-	-	-	-	-	
	E. 161st Street WB	LR	0.98	62.2	E	LR	1.20+	120.0+	F*	LR	1.10	102.1	F		L	0.73	47.4	D	L	0.66	42.3	D	
	Overall Intersection	**-**	**0.88**	**36.3**	**D**	-	**1.20+**	**120.0+**	**F***	-	**1.19**	**113.2**	**F**		-	**1.03**	**45.0**	**D**	-	**0.92**	**32.2**	**C**	
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**																						
	Major Deegan Expressway Southbound Off-Ramp SB	-	-	-	-	-	-	-	-	L	0.41	23.2	C	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim	-	-	-	-	L	0.42	24.1	C	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim
		LTR	1.04	68.7	E	LTR	1.04	68.3	E	LTR	0.85	37.3	D	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one	LTR	1.04	68.3	E	LTR	0.88	40.6	D	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one
	Macombs Dam Bridge EB	TR	1.00	55.0	D	TR	1.00	55.0	D	TR	1.00	55.0	D	shared thru-right turn lane).	TR	1.00	50.0	D	TR	1.00	55.0	D	shared thru-right turn lane).
	WB	L	0.81	28.6	C	L	1.08	69.9	E	L	0.97	44.1	D	- Modify signal timing (shift 3.0 s of green time from SB phase to WB lead phase).	L	1.09	71.7	E	L	0.94	36.7	D	- Modify signal timing (shift 4.0 s of green time from SB phase to WB lead phase).
		T	0.46	13.8	B	T	0.49	14.2	B	T	0.46	12.2	B		T	0.49	14.2	B	T	0.45	11.6	B	
	Overall Intersection	**-**	**1.03**	**44.6**	**D**	-	**1.08**	**50.7**	**D**	-	**0.95**	**36.2**	**D**		-	**1.08**	**51.0**	**D**	-	**0.97**	**35.4**	**D**	
3	**Macombs Place at W. 155th Street**																						
	Macombs Place NB	L	0.46	46.7	D	L	0.46	46.7	D	L	0.41	33.3	C	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only	L	0.46	46.7	D	L	0.41	33.3	C	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only
		T	0.23	14.2	B	T	0.23	14.2	B	T	0.21	8.5	A	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian	T	0.23	14.2	B	T	0.21	8.5	A	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian
	SB	T	0.93	63.0	E	T	0.93	63.0	E	T	0.86	44.2	D	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 28 s; NB green time shifts from	T	0.93	63.0	E	T	0.86	44.2	D	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 28 s; NB green time shifts from
		R	0.66	25.8	C	R	0.70	26.9	C	R	0.48	6.7	A	24 s to 18 s; NB/SB green time shifts from 18 s to 29 s]	R	0.70	26.9	C	R	0.48	6.7	A	24 s to 18 s; NB/SB green time shifts from 18 s to 29 s]
	W. 155th Street EB	L	0.56	36.9	D	L	0.56	36.9	D	L	0.53	26.7	C	[Measures reflect operational improvements needed for other peak periods, otherwise mitigation not needeed.]	L	0.56	36.9	D	L	0.53	26.7	C	[Measures reflect operational improvements needed for other peak periods, otherwise mitigation not needeed.]
		R	0.06	14.6	B	R	0.06	14.6	B	R	0.09	20.9	C		R	0.06	14.6	B	R	0.09	20.9	C	
	Overall Intersection	**-**	**0.63**	**34.7**	**C**	-	**0.66**	**34.9**	**C**	-	**0.63**	**20.3**	**C**		-	**0.66**	**34.9**	**C**	-	**0.63**	**20.3**	**C**	
	OTHER																						
12	**Walton Avenue at E 161st Street**																						
	Walton Avenue NB	LR	0.64	36.7	D	LR	0.55	32.5	C	LR	0.69	39.0	D	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.	LR	0.55	32.5	C	LR	0.66	44.7	D	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.
	SB	LTR	0.82	42.4	D	LTR	0.82	41.5	D	LTR	0.55	21.0	C	- Prohibit parking on the north side of WB 161st Street approach 120 ft. away from the intersection for this time	LTR	0.82	41.5	D	LTR	0.53	28.6	C	- Modify signal timing (shift 5 s of green time from NB/SB phase to EB/WB phase).
	E. 161st Street EB	LTR	1.08	80.8	F	LTR	0.96	45.5	D	LTR	0.86	21.6	C	period.	LTR	0.96	44.6	D	LTR	0.83	23.4	C	
	WB	LT	0.90	35.5	D	DefL	1.05	120.0+	F*	DefL	0.78	40.5	D	- Modify signal timing (Allocate 34 s of green time to EB/WB phase, 16 s of green time to NB/SB phases. Yellow	DefL	1.04	117.7	F	DefL	0.79	44.8	D	
		-	-	-	-	T	0.49	14.7	B	T	0.38	7.7	A	and all-red times remain 3 and 2 s respectively. Decrease cycle length from 90 s to 60 s).	T	0.49	14.7	B	T	0.44	11.2	B	
	Overall Intersection	**-**	**0.98**	**53.9**	**D**	-	**0.96**	**44.1**	**D**	-	**0.80**	**21.8**	**C**		-	**0.96**	**43.4**	**D**	-	**0.78**	**25.8**	**C**	

TABLE B - 8
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD MITIGATED Post-Game (10:00 - 11:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Post-Game (10:00 - 11:00PM)				BUILD WITH DIVERSIONS MITIGATED Post-Game (10:00 - 11:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
22	**Gerard Avenue at E. 165th Street**																							
	Gerard Avenue	NB	LTR	0.66	22.3	C	LTR	0.66	22.3	C					- Mitigation not required.	LTR	0.66	22.3	C					- Mitigation not required.
	E. 165th Street	EB	LT	0.48	10.0	B	LT	0.63	13.0	B						LT	0.72	15.7	B					
		WB	TR	0.28	7.7	A	TR	0.28	7.7	A						TR	0.28	7.7	A					
	Overall Intersection		**-**	**0.55**	**14.3**	**B**	-	**0.64**	**15.1**	**B**						-	**0.70**	**16.3**	**B**					
4	**E. 157th Street at Major Deegan Expressway NB Ramp**																							
	Major Deegan Expressway NB Service Road	NB	T	1.08	120.0+	F	T	0.35	40.0	D	T	0.35	40.0	D	- Modify signal timing (shift green yellow and all-red signal time from closed Major Deegan Expressway Off Ramp	T	0.35	40.0	D	T	0.35	40.0	D	- Modify signal timing (shift green yellow and all-red signal time from closed Major Deegan Expressway Off Ramp
	Major Deegan Expressway NB Off Ramp	-	-	CLOSED See Note (5)			-	CLOSED See Note (5)			-	-	-	-	to WB right signal time; WB phase green time shifts from 21.6 sec to 53.1 sec).	-	CLOSED See Note (5)			-	CLOSED See Note (5)			to WB right signal time; WB phase green time shifts from 21.6 sec to 53.1 sec).
	E. 157th Street	WB	R	1.09	120.0+	F	R	1.20+	120.0+	F*	R	0.78	20.4	C		R	1.20+	120.0+	F*	R	0.75	19.3	B	
	Overall Intersection		**-**	**1.09**	**120.0+**	**F**	**-**	**1.16**	**120.0+**	**F***	-	**0.67**	**23.3**	**C**		**-**	**0.57**	**120.0+**	**F***	-	**0.65**	**22.5**	**C**	
2	**Lenox Avenue at W. 145th Street**																							
	Lenox Avenue	NB	L	0.38	23.9	C	L	0.38	23.9	C					- Mitigation not required.	L	0.38	23.9	C					- Mitigation not required.
			LT	0.38	23.5	C	LT	0.38	23.5	C						LT	0.38	23.5	C					
			R	0.25	12.8	B	R	0.25	12.8	B						R	0.25	12.8	B					
		SB	LTR	0.25	21.2	C	LTR	0.25	21.2	C						LTR	0.25	21.2	C					
	W. 145th Street	EB	LTR	0.53	21.6	C	LTR	0.53	21.6	C						LTR	0.53	21.6	C					
		WB	L	0.38	12.4	B	L	0.38	12.4	B						L	0.38	12.4	B					
			TR	0.47	13.0	B	TR	0.48	13.1	B						TR	0.48	13.1	B					
	Overall Intersection		**-**	**0.53**	**17.8**	**B**	-	**0.53**	**17.9**	**B**						-	**0.53**	**17.9**	**B**					
25	**E. 157th Street at E. 153rd Street/Ruppert PL/Garage A**																							
	153rd Street	NB	-	-	-	-	LT	0.78	29.9	C					- Mitigation not required.	LT	0.73	28.3	C					- Mitigation not required.
	Garage A Access	SB	-	-	-	-	TR	0.50	13.4	B					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	TR	0.50	13.4	B					
			-	-	-	-	R	0.59	16.4	B						R	0.59	16.4	B					
	157th Street	EB	-	-	-	-	-	-	-	-						-	-	-	-					
	Overall Intersection		**-**	**-**	**-**	**-**	-	**0.66**	**20.6**	**C**						-	**0.65**	**19.8**	**B**					
31	**Ruppert Place at E. 161st Street**																							
	E. 161st Street	EB	-	-	-	-	T	0.42	24.7	C					- Mitigation not required.	T	0.39	24.4	C					- Mitigation not required.
		WB	-	-	-	-	T	0.50	25.7	C					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.49	25.5	C					
	Overall Intersection		-	-	-	-	-	**0.50**	**25.3**	**C**						-	**0.42**	**25.0**	**C**					
	UNSIGNALIZED																							
	RIVER AVENUE																							
15b	**River Avenue at Garage B**																							
	River Avenue	NB	-	-	-	-	LT	-	-	-					- Mitigation not required (Garage exit).	LT	-	-	-					- Mitigation not required (Garage exit).
	Garage B Access	EB	-	-	-	-	L	-	120.0+	F*						L	-	120.0+	F*					
			-	-	-	-	R	-	110.8	F						R	-	40.6	E					
	Overall Intersection		-	-	-	-	-	-	**120.0+**	**F***						-	-	**120.0+**	**F***					
16	**River Avenue at E.162nd Street (South)**																							
		NB	T	-	-	-	T	-	-	-	T	0.21	9.6	A	- Install signal control for this time period.	T				T	0.02	8.1	A	- Install signal control for this time period.
		SB	T	-	-	-	T	-	-	-	T	0.20	9.5	A	[Measures reflect operational improvements needed for other peak periods, otherwise mitigation not needeed.]	T	CLOSED - See Note #6			T	0.00	8.0	A	- (Traffic signal installation is justified from a signal warrant analysis).
	E. 162nd Street	WB	L	-	18.8	C	L	-	20.0	C	L	0.03	18.9	B		-				L	Free Flow	-	-	[Measures reflect operational improvements needed for other peak periods, otherwise mitigation not needeed.]
			R	-	25.3	D	R	-	26.2	D	R	0.40	26.5	C		R				R	0.45	28.1	C	
	Overall Intersection		**-**	**-**	**24.4**	**C**	-	-	**25.4**	**D**	-	**0.28**	**12.7**	B		-	-	-	-	-	**0.18**	**25.2**	**C**	
30	**River Avenue at Garage D**																							
	River Avenue	SB	-	-	-	-	L	-	8.0	A					- Mitigation not required (Garage exit).	L	-	8.0	A					- Mitigation not required (Garage exit).
	Garage D Access Level 1	WB	-	-	-	-	LR	-	39.7	E						LR	-	95.0	F					
	Overall Intersection		**-**	**-**	**-**	**-**	-	-	**39.5**	**E**						-	-	**94.6**	**F**					
	MACOMBS DAM BRIDGE CORRIDOR																							
26	**Garage C West Access at Macomb's Dam Approach**																							
	Garage C West Access	SB	-	-	-	-	R	-	60.3	F					- Mitigation not required (Garage exit).	R	-	53.7	F					- Mitigation not required (Garage exit).
	Overall Intersection		**-**	**-**	**-**	**-**	-	-	**60.3**	**F**						-	-	**53.7**	**F**					
27	**Garage C East Access at Macomb's Dam Approach**																							
	Garage C East Access	SB	-	-	-	-	R	-	120.0+	F*					- Mitigation not required (Garage exit).	R	-	78.7	F					- Mitigation not required (Garage exit).
	Overall Intersection		**-**	**-**	**-**	**-**	-	-	**120.0+**	**F***						-	-	**78.7**	**F**					
29	**Garage A Access at Macomb's Dam Approach**																							
	Garage A Access	NB	-	-	-	-	R	-	13.3	B					- Mitigation not required.	R	-	13.3	B					- Mitigation not required.
	Overall Intersection		**-**	**-**	**-**	**-**	-	-	**13.3**	**B**						-	-	**13.3**	**B**					
	OTHER																							
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**																							
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	36.9	E	L	-	74.2	F	LR	0.17	20.6	C	- Operate currently installed signal as regular traffic signal for this time period.	L	-	57.9	F	-	-	-	-	- Operate currently installed signal as regular traffic signal for this time period.
			R	-	40.9	E	R	-	68.0	F	-	-	-	-		R	-	68.0	F	-	-	-	-	
							-	-	-	-	TR	0.96	34.7	C		-	-	-	-	LR	0.17	20.6	C	
		EB	-	-	-	-	-	-	-	-	LT	0.32	10.5	B		-	-	-	-	TR	0.96	34.7	C	
	E. 153rd Street	WB	LT	-	13.6	B	LT	-	18.3	C						LT	-	17.0	C	LT	0.22	9.5	A	
											-	**0.66**	**28.5**	**C**									
	Overall Intersection		**-**	**-**	**31.0**	**D**	**-**	**-**	**49.5**	**E**						**-**	**-**	**56.0**	**F**	-	**0.66**	**29.1**	**C**	
24	**Garage A East Access at E. 157th Street**																							
	Garage A East Access	SB	-	-	-	-	LR	-	9.5	A					- Mitigation not required.	LR	-	9.5	A					- Mitigation not required.
	E. 157th Street	EB	-	-	-	-	LT	-	7.2	A						LT	-	7.2	A					
	Overall Intersection		**-**	**-**	**-**	**-**	-	-	**9.5**	**A**						-	-	**9.5**	**A**					

TABLE B - 8
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD MITIGATED Post-Game (10:00 - 11:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Post-Game (10:00 - 11:00PM)				BUILD WITH DIVERSIONS MITIGATED Post-Game (10:00 - 11:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
28	**Garage C Access at E. 161st Street**																							
	Garage C Access	NB	-	-	-	-	LR	-	120.0+	F*					- Mitigation not required (Garage exit).	LR	-	120.0+	F*					- Mitigation not required (Garage exit).
	E. 161st Street	WB	-	-	-	-	L	-	7.6	A						L	-	7.7	A					
	Overall Intersection		**-**	**-**	**-**	**-**	-	-	**120.0+**	**F***						**-**	**-**	**120.0**	**F***					
33	**Garage B Access at Jerome Avenue**																							
	Jerome Avenue	SB	-	-	-	-	LT	-	-	-					- Mitigation not required (Garage exit).	LT	-	11.2	B					- Mitigation not required (Garage exit).
	Garage B Access	WB	-	-	-	-	L	-	120.0+	F*						L	-	19.9	C					
							R	-	14.9	B						R	-	53.1	F					
			-	-	-	-																		
	Overall Intersection							-	**120.0+**	**F***						**-**	**-**	**53.0**	**F**					
34	**Garage D Access at Gerard Avenue**																							
	Gerard Avenue	NB	-	-	-	-	LT	-	7.2	A					- Mitigation not required.	LT	-	7.2	A					- Mitigation not required.
	Garage D Access	EB	-	-	-	-	L	-	10.1	B						L	-	10.1	B					
	Overall Intersection		**-**	**-**	**-**	**-**		-	**8.7**	**A**						-	-	**8.7**	**A**					

YANKEE STADIUM EIS *ADDITIONAL LOCATIONS* -- WEEKNIGHT POST-GAME

SIGNALIZED

1	**Gerard Avenue at E.149th Street**																							
	Gerard Avenue	NB	LTR	0.42	47.5	D										LTR	0.42	47.5	D					- Mitigation not required.
		EB	DefL	0.34	8.9	A										-	-	-	-					
			T	1.13	110.6	F										LT	0.81	22.0	C					
		WB	TR	0.82	21.8	C										TR	0.83	22.0	C					
	Overall Intersection		**-**	**0.97**	**48.7**	**D**										**-**	**0.73**	**23.5**	**C**					
2	**Jerome Avenue/Cromwell Avenue at E. 167th Street/Edward Grant Highway**																							
	Jerome Avenue	NB	DefL	0.90	55.0	D										-	-	-	-	-	-	-	-	- Prohibit parking on the east side of NB Jerome Avenue approach and the west side of SB Jerome Avenue approach
			TR	0.90	55.0	D										LTR	1.20+	120.0+	F*	LTR	1.01	53.0	D	120 ft. away from the intersection for this time period
		SB	LTR	0.82	51.5	D										LTR	0.82	50.7	D	LTR	0.51	20.5	C	- Restripe the south side of EB Grant Highway approach as follows:
	Cromwell Avenue	NB	R	0.05	24.8	C										R	0.05	24.8	C	R	0.06	27.2	C	- Shift the 6 ft. bike lane next to the curb; remove the 4 ft. shaded lane; use the remaining 36 ft. for 3 travel lanes
	Edward Grant Highway	EB	LTR	0.39	26.4	C										LTR	0.44	27.1	C	LTR	0.51	37.3	D	(shared left-thru, shared right-thru, and right-turn only)
			-	-	-	-										-	-	-	-	R	0.50	40.3	D	- Prohibit parking on the west side of the SB Jerome receiving lanes 120 ft. away from the intersection to gain good
	E. 167th Street	WB	L	0.18	26.5	C										L	0.18	26.5	B	L	0.21	29.4	C	transition from the EB bike lane
			TR	0.44	10.9	B										TR	0.39	10.3	C	TR	0.53	20.7	C	- Relocate bus stop on the EB 167th Street approach from near side to far side.
																								- Modify signal timing: Maintain 90 s cycle (allocate 14 s of green time for NB/SB phase, 19 s of green time for WB
	Overall Intersection		**-**	**0.60**	**37.9**	**D**										**-**	**0.90**	**120.0+**	**F***	**-**	**0.77**	**40.6**	**D**	lag/NB Cromwell Avenue right turn phase, and 41 s of green time for NB/SB Jerome Avenue phase).
3	**Edward Grant Highway/University Avenue at Washington Bridge On-Ramp**																							
	Edward Grant Highway/University Avenue	NB	L	1.01	33.8	C										L	0.74	5.8	A					- Mitigation not required.
			T	0.39	5.9	A										T	0.39	5.9	A					
		SB	LT	0.30	5.4	A										LT	0.32	5.6	A					
			R	0.30	5.6	A										R	0.30	5.6	A					
	Overall Intersection		**-**	**1.01**	**18.1**	**B**										**-**	**0.81**	**5.8**	**A**					
4a	**Edward Grant Highway/University Avenue at Washington Bridge Off-Ramp**																							
	Edward Grant Highway/University Avenue	NB	T	0.81	15.6	B										LT	0.65	11.1	B	T	0.69	13.4	B	- Modify signal timing (shift 3.0 s of green time from NB/SB phase to EB phase).
		SB	LT	0.48	10.1	B										L	0.52	10.9	B	LT	0.55	13.0	B	
	Off-Ramp	EB	L	1.20+	120.0+	F*										L	1.20+	120.0+	F*	L	1.06	107.3	F	
			R	0.57	39.6	D										R	0.69	47.1	D	R	0.61	38.7	D	
	Overall Intersection		**-**	**0.92**	**34.4**	**C**										**-**	**0.81**	**34.9**	**C**	**-**	**0.81**	**28.6**	**C**	
5	**River Avenue at E. 167th Street**																							
	River Avenue	NB	LTR	0.91	38.8	D										LTR	0.60	17.5	B					
		SB	LTR	0.11	9.3	A										LTR	0.10	9.3	A					- Mitigation not required.
	E. 167th Street	EB	LTR	0.76	35.8	D										LTR	0.85	42.8	D					
		WB	LTR	0.79	37.1	D										LTR	0.69	32.0	C					
	Overall Intersection		**-**	**0.86**	**36.0**	**D**										**-**	**0.70**	**30.2**	**C**					
6	**Jerome Avenue at E. 170th Street**																							
	Jerome Avenue	NB	LTR	0.89	30.3	C										LTR	0.86	27.6	C					- Mitigation not required.
		SB	LTR	0.24	10.4	B										LTR	0.24	10.4	B					
	E. 170th Street	EB	LTR	0.21	20.1	C										LTR	0.21	20.1	C					
		WB	LTR	0.31	21.9	C										LTR	0.31	21.9	C					
	Overall Intersection		**-**	**0.66**	**24.5**	**C**										**-**	**0.65**	**22.8**	**C**					
7	**Jerome Avenue at E. 173rd Street**																							
	Jerome Avenue	NB	LTR	0.93	35.3	D										LTR	0.82	23.0	C					- Mitigation not required.
		SB	DefL	0.89	46.7	D										DefL	0.73	23.1	C					
			TR	0.55	12.9	B										TR	0.64	15.2	B					
	E. 173rd Street	EB	LTR	0.78	43.5	D										LTR	0.78	43.5	D					
		WB	LTR	0.80	39.9	D										LTR	0.71	32.5	C					
	Overall Intersection		**-**	**0.88**	**32.0**	**C**										**-**	**0.81**	**23.8**	**C**					
8	**Jerome Avenue at Cross Bronx Expressway N. Service Road**																							
	Jerome Avenue	NB	T	0.36	16.6	B										T	0.31	15.9	B					- Mitigation not required.
			R	0.69	3.1	A										R	0.72	3.6	A					
		SB	DefL	0.62	28.1	C										DefL	0.63	28.4	C					
			T	0.64	26.2	C										T	0.64	26.2	C					
	Cross Bronx Expressway N. Service Road	WB	L	0.56	20.6	C										L	0.56	20.6	C					
			R	0.46	20.9	C										R	0.46	20.9	C					
	Overall Intersection		**-**	**0.69**	**14.2**	**B**										**-**	**0.72**	**14.4**	**B**					

TABLE B - 8
YANKEE STADIUM EIS -- *WEEKNIGHT WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Post-Game (10:00 - 11:00PM)			BUILD 2009 Post-Game (10:00 - 11:00PM)				BUILD MITIGATED Post-Game (10:00 - 11:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Post-Game (10:00 - 11:00PM)				BUILD WITH DIVERSIONS MITIGATED Post-Game (10:00 - 11:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
9a	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																						
	Jerome Avenue	NB	TR	0.89	36.3	D										TR	0.78	28.9	C					- Mitigation not required.
		SB	DefL	0.87	47.8	D										DefL	0.87	48.7	D					
			T	0.50	20.7	C										T	0.43	18.8	B					
	Cross Bronx Expressway S. Service Road	EB	L	0.43	17.2	B										L	0.43	17.2	B					
	Overall Intersection		**-**	**0.72**	**32.7**	**C**										**-**	**0.67**	**28.8**	**C**					
10	**Grand Concourse at E. 149th Street**																						
	Grand Concourse	NB	LTR	0.63	25.5	C										LTR	0.63	25.5	C					- Mitigation not required.
		SB	LT	0.96	46.2	D										LT	0.89	36.7	D					
			R	0.52	24.4	C										R	0.52	24.4	C					
	E. 149th Street	EB	LTR	0.64	35.9	D										LTR	0.64	35.9	D					
		WB	LTR	0.57	31.8	C										LTR	0.57	31.8	C					
	Overall Intersection		**-**	**0.82**	**36.6**	**D**										**-**	**0.78**	**32.3**	**C**					
	UNSIGNALIZED																						
4b	**Edward Grant Highway/University Avenue at Martin Luther King Jr. Boulevard**																						
	Martin Luther King Jr. Boulevard	EB	R	0.24	10.5	B										R	0.25	10.8	B					- Mitigation not required.
	Overall Intersection		**-**	**0.24**	**10.5**	**B**										**-**	**0.25**	**10.8**	**B**					
9b	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																						
	Cross Bronx Expressway S. Service Road	EB	R	0.80	32.5	D										R	0.80	32.5	D					- Mitigation not required.
	Overall Intersection		**-**	**0.80**	**32.5**	**D**										**-**	**0.80**	**32.5**	**D**					

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.

GAME-DAY TRAFFIC MANAGEMENT PLAN

(6): As part of the Game-Day Traffic Management Plan, a series of additional mitigation measures would be implemented beyond those listed under "Build Mitigation Measures," including:

· VMS signs would be placed at selected locations along the Major Deegan and Cross Bronx Expressways to divert a portion of stadium-bound traffic to reduce volumes at congested intersections near the stadium.

· River Avenue would be closed to vehicle traffic post-game between East 161st Street and the entrace/exit to Garage B.

· Left turns would be prohibited from southboud Macombs Dam Bridge approach to the eastbound East 161st Street service road and right, and right turns would be prohibited from
· Operate the exit from Garage B at Jerome Avenue as right-turn out only, postgame.

TABLE B - 9
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD MITIGATED Pre-Game (12:00 - 1:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Pre-Game (12:00 - 1:00PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (12:00 - 1:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS			Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
	SIGNALIZED																							
	GRAND CONCOURSE																							
23	**Grand Concourse at E.165th Street**																							
	Grand Concourse (Main) NB	L	0.23	13.7	B	L	0.23	13.6	B					- Mitigation not required.		L	0.23	13.6	B					- Mitigation not required.
		T	0.33	20.3	C	T	0.33	20.3	C							T	0.33	20.3	C					
	SB	L	0.18	11.6	B	L	0.18	11.6	B							L	0.18	11.6	B					
		T	0.56	24.2	C	T	0.56	24.0	C							T	0.56	24.0	C					
	Grand Concourse (Service) NB	TR	0.51	24.4	C	TR	0.51	24.4	C							TR	0.51	24.4	C					
	SB	TR	0.36	20.5	C	TR	0.36	20.6	C							TR	0.36	20.6	C					
	E. 165th Street EB	LTR	0.23	28.1	C	LTR	0.23	28.1	C							LTR	0.23	28.1	C					
	WB	DefL	0.54	37.4	D	DefL	0.54	37.4	D							DefL	0.54	37.4	D					
		T	0.35	30.9	C	T	0.36	30.9	C							T	0.36	30.9	C					
		R	0.27	29.8	C	R	0.27	29.8	C							R	0.27	29.8	C					
	Overall Intersection	-	**0.56**	**24.0**	**C**	-	**0.56**	**23.9**	**C**							-	**0.56**	**23.9**	**C**					
8	**Grand Concourse at E. 161st Street**																							
	Grand Concourse NB	L	1.09	90.4	F	L	1.08	87.0	F					- Mitigation not required.		L	1.08	87.0	F					- Mitigation not required.
		TR	0.45	9.8	A	TR	0.41	9.3	A							TR	0.41	9.3	A					
	Grand Concourse (Main) SB	L	0.13	24.9	C	L	0.12	23.6	C							L	0.12	23.6	C					
		T	0.58	24.7	C	T	0.58	24.6	C							T	0.58	24.6	C					
	Grand Concourse (Service) SB	R	0.90	45.4	D	R	0.92	48.7	D							R	0.92	48.7	D					
	E. 161st Street EB	L	0.44	40.3	D	L	0.44	40.3	D							L	0.44	40.3	D					
		TR	0.47	38.9	D	TR	0.47	38.9	D							TR	0.38	37.4	D					
	WB	L	0.30	36.0	D	L	0.30	36.0	D							L	0.30	36.0	D					
		TR	0.66	46.0	D	TR	0.67	46.1	D							TR	0.67	46.1	D					
	Overall Intersection	-	**1.00**	**30.8**	**C**	-	**0.99**	**31.3**	**C**							-	**0.99**	**31.0**	**C**					
	RIVER AVENUE																							
21	**River Avenue at E. 165th Street**																							
	River Avenue NB	LTR	0.35	24.0	C	LTR	0.56	29.7	C	LTR	0.61	25.0	C	- Place "footed" lane delineators to allow NB River Avenue approach to have two 9.5 ft. wide travel lanes from curre		LTR	0.56	29.7	C	LTR	0.61	25.0	C	- Place "footed" lane delineators to allow NB River Avenue approach to have two 9.5 ft. wide travel lanes from curre
	SB	LTR	1.20+	120.0+	F*	LTR	1.20+	120.0+	F*	LTR	1.19	120.0+	F*	one 19.0 ft. wide lane for this time period		LTR	1.20+	120.0+	F*	LTR	1.19	120.0+	F*	one 19.0 ft. wide lane for this time period
	E. 165th Street EB	LTR	1.17	120.0+	F*	LTR	1.17	120.0+	F*	LTR	1.20+	120.0+	F*	- Place "footed" lane delineators to allow SB River Avenue approach to have two 9.0 ft. wide travel lanes from current		LTR	1.17	120.0+	F*	LTR	1.20+	120.0+	F*	- Place "footed" lane delineators to allow SB River Avenue approach to have two 9.0 ft. wide travel lanes from current
	WB	LTR	0.52	33.1	C	LTR	0.52	33.3	C	LTR	0.61	22.8	C	one 18.0 ft. side lane for this time period		LTR	0.52	33.3	C	LTR	0.61	22.8	C	one 18.0 ft. side lane for this time period
	Overall Intersection	-	**1.20+**	**120.0+**	**F***	-	**0.92**	**120.0+**	**F***	-	**0.61**	**108.1**	**F**			-	**0.92**	**120.0+**	**F***	-	**0.61**	**108.1**	**F**	
19	**River Avenue at E. 164th Street**																							
	River Avenue NB	LT	0.22	7.5	A	LT	0.30	8.4	A	LT	0.25	6.4	A			LT	0.30	8.4	A	LT	0.25	6.4	A	- Modify signal timing (shift 3.0 s of green time from EB/WB phase to NB/SB phase).
	SB	TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*	TR	1.07	120.0+	F*	- Modify signal timing (shift 3.0 s of green time from EB/WB phase to NB/SB phase).		TR	1.20+	120.0+	F*	TR	1.07	120.0+	F*	
	E. 164th Street EB	LR	1.10	120.0+	F*	LR	0.72	62.5	E	LR	0.95	120.0+	F*			LR	0.72	62.5	E	LR	0.95	120.0+	F*	
	WB	LTR	0.39	22.9	C	LTR	0.39	22.9	C	LTR	0.51	30.2	C			LTR	0.39	22.9	C	LTR	0.51	30.2	C	
	Overall Intersection	-	**1.14**	**120.0+**	**F***	-	**0.98**	**120.0+**	**F***	-	**1.00**	**103.9**	**F**			-	**0.98**	**120.0+**	**F***	-	**1.00**	**103.9**	**F**	
15a	**River Avenue at E. 162nd Street (North)**																							
	River Avenue NB	LT	0.73	29.7	C	T	0.33	3.6	A					- Mitigation not required.		T	0.33	3.6	A					- Mitigation not required.
	SB	TR	1.20+	120.0+	F*	T	0.30	28.5	C							T	0.30	28.5	C					
	E. 162nd Street EB	LR	CLOSED	See Note (8)		-	-	-	-							-	-	-	-					
	Overall Intersection	-	**0.73**	**110.9**	**F**	-	**0.33**	**10.8**	**B**							-	**0.33**	**10.8**	**B**					
7	**River Avenue at E. 161st Street**																							
	River Avenue NB	LT	0.63	26.3	C	LT	0.99	97.0	F	LT	0.90	71.5	E	- Partially mitigated		LT	0.99	97.0	F	LT	0.90	71.5	E	- Partially mitigated
		R	0.34	14.4	B	R	0.85	75.3	E	R	0.77	60.4	E	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.		R	0.85	75.3	E	R	0.77	60.4	E	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
	SB	L	0.09	11.1	B	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*			LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	
		R	0.16	13.4	B	R	0.29	32.3	C	R	0.26	31.0	C			R	0.29	32.3	C	R	0.26	30.8	C	
	E. 161st Street Main Road EB	T	0.67	118.2	F	T	1.16	120.0+	F*	T	1.04	120.0+	F*			T	1.16	120.0+	F*	T	1.04	120.0+	F*	
	WB	T	0.37	10.8	B	T	0.64	31.7	C	T	0.57	29.5	C			T	0.64	31.7	C	T	0.57	29.5	C	
	E. 161st Street Service Road EB	TR	CLOSED	See Note (11)		TR	0.83	46.4	D	TR	0.75	30.6	C			TR	0.80	46.8	D	TR	0.72	39.3	D	
	WB	TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*			TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*	
	Overall Intersection	-	**0.97**	**73.6**	**E**	-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***			-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***	
6	**River Avenue at E. 157th Street**																							
	River Avenue NB	TR	0.61	12.9	B	LTR	1.20+	120.0+	F*	LTR	0.56	10.5	B	- Enforce No Parking restrictions on the east side of NB River Avenue approach to allow two 9.5 ft. wide travel lanes		LTR	1.20+	120.0+	F*	LTR	0.56	10.5	B	- Enforce No Parking restrictions on the east side of NB River Avenue approach to allow two 9.5 ft. wide travel lanes
	SB	LT	0.51	11.0	B	LTR	0.47	10.5	B	-	-	-	-	by placing "footed" lane delineators for this time period from current one 11 ft. wide tavel lan		LTR	0.47	10.5	B	LTR	0.47	10.5	B	by placing "footed" lane delineators for this time period from current one 11 ft. wide tavel lan
	E. 157th Street EB	-	-	-	-	LTR	0.01	12.8	B	LTR	0.47	10.5	B			LTR	0.01	12.8	B	LTR	0.01	12.7	B	
	WB	LR	0.15	14.1	B	LTR	0.35	19.3	B	LTR	0.01	12.7	B			LTR	0.35	19.3	B	LTR	0.34	19.0	B	
										LTR	0.34	19.0	B											
	Overall Intersection	-	**0.43**	**12.2**	**B**	-	**0.91**	**99.0**	**F**	-	**0.47**	**11.0**	**B**			-	**0.91**	**99.0**	**F**	-	**0.47**	**11.0**	**B**	
5	**River Avenue at E. 153rd Street**																							
	River Avenue NB	LTR	1.20+	120.0+	F*	LTR	1.20+	120.0+	F*	DefL	1.20+	120.0+	F*	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of the SB River Avenue		LTR	1.20+	120.0+	F*	DefL	1.20+	120.0+	F*	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue
		-	-	-	-	-	-	-	-	TR	0.81	27.3	C	approaches, and allow two 10 ft. wide travel lanes by placing "footed" lane delineators on both NB and SB River		-	-	-	-	TR	0.81	27.3	C	approaches, and allow two 10 ft. wide travel lanes by placing "footed" lane delineators on both NB and SB River
	SB	LTR	0.83	26.0	C	LTR	0.70	17.7	B	LTR	0.50	14.6	B	Avenue for this time period (NB approach will have two 10 ft. wide lanes from current one 12 ft. wide lane with		LTR	0.70	17.7	B	LTR	0.50	14.6	B	Avenue for this time period (NB approach will have two 10 ft. wide lanes from current one 12 ft. wide lane with
	E. 153rd Street EB	LTR	0.45	17.6	B	DefL	1.20+	120.0+	F*	DefL	0.91	42.8	D	parking, and SB approach will have two 10 ft. wide lanes from current one 13 ft. wide lane with parking]		DefL	1.20+	120.0+	F*	DefL	0.91	42.8	D	parking, and SB approach will have two 10 ft. wide lanes from current one 13 ft. wide lane with parking]
		-	-	-	-	TR	0.72	31.2	C	TR	0.41	12.9	B	- Modify signal timing (Shift 7.0 s of green time from NB/SB phase to EB/WB phase)		TR	0.72	31.2	C	TR	0.41	12.9	B	- Modify signal timing (Shift 7.0 s of green time from NB/SB phase to EB/WB phase)
	WB	LTR	0.52	20.5	C	LTR	0.60	23.4	C	LTR	0.42	13.2	B			LTR	0.60	23.4	C	LTR	0.42	13.2	B	
	Overall Intersection	-	**1.08**	**118.0**	**F**	-	**1.20+**	**120.0+**	**F***	-	**1.09**	**49.0**	**D**			-	**1.20+**	**120.0+**	**F***	-	**1.09**	**49.0**	**D**	

TABLE B - 9
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD MITIGATED Pre-Game (12:00 - 1:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Pre-Game (12:00 - 1:00PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (12:00 - 1:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
1	**River Avenue and Exterior Street at E. 149th Street**																							
	Major Deegan Expressway NB Off Ramp	NB	LTR	1.20+	120.0+	F*	LTR	0.97	64.0	E						LTR	1.00	86.3	E					- Mitigation not required.
			-	-	-	-	-	-	-	-					- Mitigation not required.	-	-	-	-					
	River Avenue	SB	LTR	0.71	52.7	D	LTR	0.73	55.2	E						LTR	0.71	53.7	E					
	Exterior Street	NB	DefL	0.62	51.5	D	DefL	0.67	55.7	E						DefL	0.65	54.1	E					
			TR	0.21	43.6	D	TR	0.23	45.0	D						TR	0.22	44.6	E					
		SB	L	0.69	37.5	D	L	0.63	33.4	C						L	0.65	35.4	C					
			T	0.04	24.4	C	T	0.04	23.2	C						T	0.04	24.1	C					
	E. 149th Street	EB	L	0.84	46.3	D	L	0.89	51.3	D						L	0.87	49.0	D					
			TR	0.74	33.7	C	TR	0.73	33.9	C						TR	0.72	32.8	C					
		WB	L	0.29	35.0	C	L	0.28	36.0	D						L	0.27	35.0	D					
			TR	0.85	48.4	D	TR	0.89	53.4	D						TR	0.86	49.9	D					
	Overall Intersection		-	**0.95**	**76.3**	**E**	-	**0.94**	**49.9**	**D**						-	**0.94**	**54.2**	**D**					
	JEROME AVENUE																							
20	**Jerome Avenue at E. 165th Street**																							
	Jerome Avenue	NB	TR	0.92	66.8	E	TR	1.05	120.0+	F*	TR	0.87	48.3	D	- Prohibit parking on the east side of NB Jerome Avenue 120 ft. away from the intersection for this time period.	TR	1.05	120.0+	F*	TR	0.86	44.3	D	- Prohibit parking on the east side of NB Jerome Avenue 120 ft. away from the intersection for this time period.
		SB	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*		LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	- Modify signal timing (shift 4.0 s of green time from WB phase to NB/SB phase).
	E. 165th Street	WB	LR	0.47	25.2	C	LR	0.47	25.2	C	LR	0.47	25.2	C		LR	0.47	25.2	C	LR	0.53	30.1	C	
	Overall Intersection		-	**0.89**	**120.0+**	**F***	-	**0.88**	**120.0+**	**F***	-	**0.88**	**120.0+**	**F***		-	**0.97**	**120.0+**	**F***	-	**0.96**	**120.0+**	**F***	
18	**Jerome Avenue at E. 164th Street**																							
	Jerome Avenue	NB	TR	1.06	116.1	F	TR	1.09	120.0+	F*	TR	1.05	110.9	F	- Modify signal timing (shift 1.0 s of green time from WB phase to NB/SB phase).	TR	1.09	120.0+	F*	TR	0.99	85.6	F	- Modify signal timing (shift 3.0 s of green time from WB phase to NB/SB phase).
		SB	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*		LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	
	E. 164th Street	WB	LR	0.07	18.8	B	LR	0.10	19.1	B	LR	0.11	19.8	B		LR	0.10	19.1	B	LR	0.11	21.3	C	
	Overall Intersection		-	**0.75**	**120.0+**	**F***	-	**0.75**	**120.0+**	**F***	-	**0.75**	**120.0+**	**F***		-	**0.83**	**120.0+**	**F***	-	**0.83**	**120.0+**	**F***	
17	**Jerome Avenue at E. 162nd Street**																							
	Jerome Avenue	NB	LTR	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	LT	0.89	41.7	D	- Modify signal timing plan (Allocate 27 s of green time, 4 s of yellow time, and 2 s of all-red time for ped only phas	LT	1.13	120.0+	F*					- Mitigation not required.
		SB	LTR	0.93	37.8	D	TR	0.82	26.1	C	TR	0.63	14.6	B	(former WB phase); allocate 83 s of green time, 2 s of yellow time, and 2 s of all-red time to the NB/SB phase;	-	-	-	-					
	E. 162nd Street	WB	LTR	0.06	19.3	B	-	-	-	-	-	-	-	-	increase the cycle length from 90 s to 120 s.	TR	0.71	21.5	C					
	Overall Intersection		-	**0.70**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***	-	**0.88**	**29.5**	**C**		-	**0.69**	**97.9**	**F**					
9	**Jerome Avenue at E. 161st Street**																							
													Option 1										**Option 1**	
	Jerome Avenue	NB	LT	0.61	22.0	C	LT	0.72	25.1	C	LT	0.59	17.7	B	- Partially mitigated.	LT	0.72	25.1	C	LT	0.59	17.7	B	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft.
			R	1.04	76.7	E	R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft.	R	1.20+	120.0+	F*	R	0.97	51.8	D	wide shared left-thru lane.
		SB	L	1.15	120.0+	F*	L	0.74	42.0	D	L	0.64	28.4	C	wide shared left-thru lane.	L	1.15	120.0+	F*	L	0.99	77.2	E	- Modify signal timing (shift 6.0 s of green time from WB phase to NB/SB phase).
			TR	0.99	62.5	E	TR	0.97	57.2	E	TR	0.86	35.8	D	- Modify signal timing (shift 6.0 s of green time from WB phase to NB/SB phase).	TR	0.97	57.2	E	TR	0.86	35.8	D	
	E. 161st Street	WB	-	-	-	-	-	-	-	-	L	0.26	17.8	B		-	-	-	-	L	0.26	17.8	B	
			LT	0.75	28.0	C	LT	0.54	19.7	B	LT	0.47	25.1	C		LT	0.54	19.7	B	LT	0.47	25.1	C	
	Overall Intersection		-	**0.94**	**57.0**	**E**	-	**1.02**	**115.4**	**F**	-	**0.89**	**64.7**	**E**		-	**0.86**	**71.6**	**E**	-	**0.75**	**36.9**	**D**	
													Option 2										**Option 2**	
											LT	0.59	17.7	B	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft.					NB	LT	0.59	17.7	B	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft.
											R	0.64	2.6	A	wide shared left-thru lane.						R	0.50	1.5	A	wide shared left-thru lane.
											L	0.64	28.4	C	- Modify signal timing (shift 6.0 s of green time from WB phase to NB/SB phase).					SB	L	0.99	77.2	E	- Modify signal timing (shift 6.0 s of green time from WB phase to NB/SB phase).
											TR	0.86	35.8	D	- Place TEA to allow NB right turns during WB phase.						TR	0.86	35.8	D	- Place TEA to allow NB right turns during WB phase.
											L	0.26	17.8	B						WB	L	0.26	17.8	B	
											LT	0.47	25.1	C							LT	0.47	25.1	C	
											-	**0.68**	**17.4**	**B**		**Overall Intersection**				-	**0.75**	**23.6**	**C**	
13	**Jerome Avenue at Ogden Avenue and Major Deegan Expressway Service Road**																							- Mitigation not required.
	Ogden Avenue	SB	LR	0.91	49.4	D	LR	0.9	49.4	D	LR	0.91	49.4	D	- Allow EB thru traffic to utilize the right most shared thru-right turn lane more effectively by placing a sign	LR	0.91	49.4	D					
	Jerome Avenue	EB	T	0.75	19.7	B	T	1.2	116.1	F	T	0.74	17.4	B	indicating to use the left most lane as a thru lane and the right most lane as a shared thru-right lane	T	0.99	44.3	D					
		WB	TR	0.34	10.5	B	TR	0.3	9.8	A	TR	0.26	9.8	A		TR	0.26	9.8	A					
	Overall Intersection		-	**0.81**	**24.9**	**C**	-	**1.1**	**77.4**	**E**	-	**0.81**	**23.3**	**C**		-	**0.96**	**37.4**	**D**					
	MACOMBS DAM BRIDGE CORRIDOR																							
14a	**Macomb's Dam Bridge Approach at E.161st Street**																							
	Macomb's Dam Bridge Approach	NB	T	1.20	120.0+	F*	T	1.20+	120.0+	F*	T	1.20+	120.0+	F*	- Partially mitigated	T	1.08	120.0+	F*	T	0.97	120.0+	F*	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
			-	-	-	-	R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	1.02	71.5	E	R	0.92	43.6	D	- See note (6) for Game-day Traffic Management Plan.
		SB	T	1.16	120.0+	F*	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.90	60.3	E	T	0.81	40.5	D	
	E. 161st Street	WB	LR	1.18	120.0+	F*	LR	1.20+	120.0+	F*	LR	1.20+	120.0+	F*		L	0.85	53.0	D	L	0.77	43.9	D	
	Overall Intersection		-	**1.17**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***		-	**0.88**	**99.5**	**F**	-	**0.88**	**71.4**	**E**	
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**																							
	Major Deegan Expressway Southbound Off-Ramp	SB	-	-	-	-	-	-	-	-	L	1.10	120.0+	F*	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim	-	-	-	-	L	0.77	54.8	D	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim
			LTR	1.19	120.0+	F*	LTR	1.20+	120.0+	F*	LTR	1.16	120.0+	F*		LTR	1.20+	120.0+	F*	LTR	1.06	120.0+	F*	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one
	Macombs Dam Bridge	EB	TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*		TR	1.20+	120.0+	F*	TR	1.20+	120.0+	F*	shared thru-right turn lane).
		WB	L	0.91	35.8	D	L	0.91	35.6	D	L	0.87	30.5	C		L	0.91	35.6	D	L	0.87	30.5	C	- Modify signal timing (shift 2.0 s of green time from SB phase to EB/WB phase).
			T	0.50	14.3	B	T	0.50	14.3	B	T	0.48	13.0	B	- Modify signal timing (shift 2.0 s of green time from SB phase to EB/WB phase).	T	0.50	14.3	B	T	0.48	13.0	B	
	Overall Intersection		-	**1.20**	**118.7**	**F**	-	**1.20+**	**120.0+**	**F***	-	**1.18**	**120.0+**	**F***		-	**1.20+**	**120.0+**	**F***	-	**1.14**	**98.6**	**F**	
3	**Macombs Place at W. 155th Street**																							
	Macombs Place	NB	L	0.55	50.3	D	L	0.55	50.3	D	L	0.50	36.1	D	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only	L	0.55	50.3	D	L	0.50	36.1	D	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only
			T	0.21	23.9	C	T	0.21	23.9	C	T	0.21	19.7	B	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian	T	0.21	23.9	C	T	0.21	19.7	B	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian
		SB	T	0.48	36.0	D	T	0.48	36.0	D	T	0.53	30.8	C	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 34 s; NB green time shifts from	T	0.48	36.0	D	T	0.53	30.8	C	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 34 s; NB green time shifts from
			R	0.56	23.1	C	R	0.56	23.1	C	R	0.38	5.4	A	24 s to 17 s; NB/SB green time shifts from 18 s to 24 s].	R	0.56	23.1	C	R	0.38	5.4	A	24 s to 17 s; NB/SB green time shifts from 18 s to 24 s]
	W. 155th Street	EB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	L	1.14	113.9	F		L	1.20+	120.0+	F*	L	1.14	113.9	F	
			R	0.11	15.7	B	R	0.11	15.7	B	R	0.14	17.7	B		R	0.14	15.7	B	R	0.14	17.7	B	
	Overall Intersection		-	**0.76**	**85.9**	**F**	-	**0.79**	**107.8**	**F**	-	**0.80**	**50.6**	**D**		-	**0.79**	**107.8**	**F**	-	**0.80**	**50.6**	**D**	
	OTHER																							
12	**Walton Avenue at E 161st Street**																							
	Walton Avenue	NB	LR	0.24	32.7	C	LR	0.24	32.7	C	LR	0.48	31.1	C	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.	LR	0.24	32.7	C	LR	0.24	32.8	C	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.
		SB	LTR	1.09	109.7	F	LTR	1.09	109.7	F	LTR	0.59	25.9	C	[Measures reflect geometric and operational improvements needed for other peak periods, otherwise mitigation not	LTR	1.09	109.7	F	LTR	0.65	39.9	D	[Measures reflect geometric and operational improvements needed for other peak periods, otherwise mitigation not
	E. 161st Street	EB	LTR	0.44	12.0	B	LTR	0.44	12.0	B	LTR	0.43	12.4	B	needeed.]	LTR	0.39	11.4	B	LTR	0.36	11.0	B	needeed.]
		WB	LT	1.05	74.6	E	LT	1.06	77.8	E	LT	1.05	73.7	E		LT	1.03	68.3	E	LT	1.01	62.5	E	
	Overall Intersection		-	**1.07**	**67.3**	**E**	-	**1.07**	**68.8**	**E**	-	**0.83**	**44.6**	**D**		-	**1.05**	**66.6**	**E**	-	**0.87**	**44.3**	**D**	

TABLE B - 9
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD MITIGATED Pre-Game (12:00 - 1:00PM)					BUILD WITH DIVERSIONS Pre-Game (12:00 - 1:00PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (12:00 - 1:00PM)				
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
22	**Gerard Avenue at E. 165th Street**																						
	Gerard Avenue	NB	LTR	0.45	17.3	B	LTR	0.45	17.3	B					- Mitigation not required.	LTR	0.45	17.3	B					- Mitigation not required.
	E. 165th Street	EB	LT	0.24	7.3	A	LT	0.24	7.3	A						LT	0.24	7.3	A					
		WB	TR	0.45	9.6	A	TR	0.45	9.6	A						TR	0.45	9.6	A					
	Overall Intersection		-	**0.45**	**11.5**	**B**	-	**0.45**	**11.5**	**B**						-	**0.45**	**11.5**	**B**					
4	**E. 157th Street at Major Deegan Expressway NB Ramp**																						
	Major Deegan Expressway NB Service Road	NB	T	0.53	11.6	B	T	0.57	12.0	B					- Mitigation not required.	T	0.50	11.3	B					- Mitigation not required.
	Major Deegan Expressway NB Off Ramp		-	-	-	-	-	-	-	-						CLOSED See Note (5)								
	E. 157th Street	WB	R	0.32	13.1	B	R	0.30	13.0	B						R	0.30	13.0	B					
	Overall Intersection		-	**0.43**	**11.9**	**B**	-	**0.45**	**12.2**	**B**						-	**0.41**	**11.6**	**B**					
2	**Lenox Avenue at W. 145th Street**																						
	Lenox Avenue	NB	L	0.45	24.7	C	L	0.45	24.7	C					- Mitigation not required.	L	0.45	24.7	C					- Mitigation not required.
			LT	0.25	21.0	C	LT	0.25	21.0	C						LT	0.25	21.0	C					
			R	0.39	14.5	B	R	0.39	14.5	B						R	0.39	14.5	B					
		SB	LTR	0.28	21.7	C	LTR	0.28	21.7	C						LTR	0.28	21.7	C					
	W. 145th Street	EB	LTR	0.92	36.9	D	LTR	0.92	37.8	D						LTR	0.92	37.8	D					
		WB	L	0.43	16.7	B	L	0.43	16.8	B						L	0.43	16.8	B					
			TR	0.74	19.5	B	TR	0.74	19.5	B						TR	0.74	19.5	B					
	Overall Intersection		-	**0.74**	**26.4**	**C**	-	**0.74**	**26.8**	**C**						-	**0.74**	**26.8**	**C**					
25	**E. 157th Street at E. 153rd Street/Ruppert Pl/Garage A**																						
	153rd Street	NB	-	-	-	-	LT	0.83	37.4	D					- Mitigation not required.	LT	0.83	37.4	D					- Mitigation not required.
	Garage A Access	SB	-	-	-	-	T	0.01	37.5	D					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.01	37.5	D					
			-	-	-	-	R	0.01	37.5	D						R	0.01	37.5	D					
	157th Street	EB	-	-	-	-	L	0.61	19.7	B						L	0.61	19.7	B					
	Overall Intersection		-	-	-	-	-	**0.63**	**30.8**	**C**						-	**0.63**	**30.8**	**C**					
31	**Ruppert Place at E. 161st Street**																						
	E. 161st Street	EB	-	-	-	-	T	0.50	27.0	C					- Mitigation not required.	T	0.43	26.0	C					- Mitigation not required.
		WB	-	-	-	-	T	0.52	26.7	C					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.52	26.7	C					
	Overall Intersection		-	-	-	-	-	**0.51**	**26.8**	**C**						-	**0.52**	**26.5**	**C**					
	UNSIGNALIZED																						
	RIVER AVENUE																						
15b	**River Avenue at Garage B**																						
	River Avenue	NB	-	-	-	-	LT	-	12.9	B					- Mitigation not required.	LT	-	12.9	B					- Mitigation not required.
	Garage B Access	EB	-	-	-	-	L	-	-	-						L	-	-	-					
			-	-	-	-	R	-	-	-						R	-	-	-					
	Overall Intersection		-	-	-	-	-	-	**12.9**	**B**						-	-	**12.9**	**B**					
16	**River Avenue at E.162nd Street (South)**																						
	River Avenue	NB	-	-	-	-	-	-	-	-	T	0.31	10.5	B	- Install signal control for this time period.	-	-	-	-	T	0.31	10.5	B	- Install signal control for this time period.
		SB	-	-	-	-	-	-	-	-	T	0.19	9.4	A		-	-	-	-	T	0.19	9.4	A	- (Traffic signal installation is justified from a signal warrant analysis).
	E. 162nd Street	WB	L	-	42.5	E	L	-	50.6	F	L	0.00	18.7	B		L	-	50.6	F	L	0.00	18.7	B	
			R	-	75.4	F	R	-	87.1	F	R	0.67	39.0	D		R	-	87.1	F	R	0.67	39.0	D	
	Overall Intersection		-	-	**75.2**	**F**	-	-	**87.1**	**F**	-	**0.45**	**16.6**	**B**		-	-	**87.1**	**F**		**0.45**	**16.6**	**B**	
30	**River Avenue at Garage D**																						
	River Avenue	SB	-	-	-	-	L	-	13.1	B					- Mitigation not required.	L	-	15.2	C					- Mitigation not required.
	Garage D Access	WB	-	-	-	-	LR	-	24.8	C						LR	-	25.4	D					
	Overall Intersection		-	-	-	-	-	-	**14.2**	**B**						-	-	**16.2**	**C**					
	MACOMBS DAM BRIDGE CORRIDOR																						
26	**Garage C West Access at Macomb's Dam Approach**																						
	Garage C West Access	SB					R	-	-	-					- Mitigation not required.	R	-	-	-					- Mitigation not required.
			-	-	-	-																		
	Overall Intersection						-	-	-	-						-	-	-	-					
27	**Garage C East Access at Macomb's Dam Approach**																						
	Garage C East Access	SB	-	-	-	-	R	-	-	-					- Mitigation not required.	R	-	-	-					- Mitigation not required.
	Overall Intersection		-	-	-	-	-	-	-	-						-	-	-	-					
29	**Garage A Access at Macomb's Dam Approach**																						
	Garage A Access	NB	-	-	-	-	R	-	-	-					- Mitigation not required.	R	-	-	-					- Mitigation not required.
	Overall Intersection		-	-	-	-	-	-	-	-						-	-	-	-					
	OTHER																						
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**																						
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	120.0+	F*	L	-	120.0+	F*	LR	0.97	29.2	C	- Operate currently installed signal as regular traffic signal for this time period.	L	-	120.0+	F*	LR	0.97	29.2	C	- Operate currently installed signal as regular traffic signal for this time period.
			R	-	64.8	F	R	-	120.0+	F*	-	-	-	-		R	-	120.0+	F*	-	-	-	-	
	E. 153rd Street	EB	-	-	-	-	-	-	-	-	TR	0.77	42.9	D		-	-	-	-	TR	0.77	42.9	D	
		WB	LT	-	10.1	B	LT	-	10.0	A	LT	0.21	30.2	C		LT	-	10.0	A	LT	0.21	30.2	C	
	Overall Intersection		-	-	**120.0+**	**F***	-	-	**120.0+**	**F***	-	**0.92**	**32.4**	**C**		-	-	**120.0+**	**F***	-	**0.92**	**32.4**	**C**	
24	**Garage A East Access at E. 157th Street**																						
	Garage A East Access	SB	-	-	-	-	LR	-	9.0	A					- Mitigation not required.	LR	-	9.0	A					- Mitigation not required.
	E. 157th Street	EB	-	-	-	-	LT	-	7.7	A						LT	-	7.7	A					
	Overall Intersection		-	-	-	-	-	-	**8.6**	**A**						-	-	**8.6**	**A**					

TABLE B - 9
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD MITIGATED Pre-Game (12:00 - 1:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Pre-Game (12:00 - 1:00PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (12:00 - 1:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
28	**Garage C Access at E. 161st Street**																							
	Garage C Access	NB	-	-	-	-	LR	-	11.6	B					- Mitigation not required.	LR	-	13.8	B					
	E. 161st Street	WB	-	-	-	-	L	-	10.0	B						L	-	9.6	A					- Mitigation not required.
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**10.5**	**B**						**-**	**-**	**11.0**	**B**					
33	**Garage B Access at Jerome Avenue**														- Mitigation not required.									
	Jerome Avenue	SB	-	-	-	-	LT	-	15.1	C						LT	-	22.7	C					- Mitigation not required.
	Garage B Access	WB	-	-	-	-	L	-	-	-						L	-	-	-					
			-	-	-	-	R	-	-	-						R	-	-	-					
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**15.1**	**C**						**-**	**-**	**22.7**	**C**					
34	**Garage D Access at Gerard Avenue**														- Mitigation not required.									
	Gerard Avenue	NB	-	-	-	-	LT	-	7.2	A						LT	-	7.2	A					- Mitigation not required.
	Garage D Access	EB	-	-	-	-	L	-	10.8	B						L	-	10.8	B					
	Overall Intersection		**-**	**-**	**-**	**-**	**-**	**-**	**9.0**	**A**						**-**	**-**	**9.0**	**A**					

YANKEE STADIUM EIS *ADDITIONAL LOCATIONS* -- WEEKEND PRE-GAME

SIGNALIZED

1	**Gerard Avenue at E.149th Street**																							
	Gerard Avenue	NB	LTR	0.61	50.0	D										LTR	0.57	48.6	D					- Mitigation not required.
		EB	DefL	0.90	51.1	D										DefL	0.84	41.1	D					
			T	1.20+	120.0+	F*										T	1.20+	120.0+	F*					
		WB	TR	1.04	55.6	E										TR	1.04	55.6	E					
	Overall Intersection		**-**	**1.20+**	**111.2**	**F**										**-**	**1.20+**	**110.8**	**F**					
2	**Jerome Avenue/Cromwell Avenue at E. 167th Street/Edward Grant Highway**																							
	Jerome Avenue	NB	DefL	1.14	120.0+	F*										DefL	1.20+	120.0+	F*	DefL	1.00	69.7	E	- Prohibit parking on the east side of NB Jerome Avenue approach and the west side of SB Jerome Avenue approach
			TR	1.20+	120.0+	F*										TR	1.20+	120.0+	F*	TR	0.94	49.1	D	120 ft. away from the intersection for this time period
		SB	LTR	0.89	51.1	D										LTR	1.14	115.9	F	LTR	0.72	33.3	C	- Prohibit parking on the north side of WB E. 167th Street appraoch 120 ft. away from the itnersection for this time
	Cromwell Avenue	NB	R	0.04	24.7	C										R	0.04	24.7	C	R	0.05	26.3	C	period.
	Edward Grant Highway	EB	LTR	1.06	82.7	F										LTR	1.20+	120.0+	F*	LTR	0.67	38.1	D	- Restripe the south side of EB Grant Highway approach as follows:
			-	-	-	-										-	-	-	-	R	0.64	38.9	D	- Shift the 6 ft. bike lane next to the curb; remove the 4 ft. shaded lane; use the remaining 36 ft. for 3 travel lanes
	E. 167th Street	WB	L	0.44	31.2	C										L	0.43	31.0	C	L	0.52	33.3	C	(shared left-thru, shared right-thru, and right-turn only)
			TR	0.71	22.0	C										TR	0.71	22.0	C	TR	0.76	25.9	C	- Prohibit parking on the west side of the SB Jerome receiving lanes 120 ft. away from the intersection to gain good transition from the EB bike lane
	Overall Intersection		**-**	**0.94**	**95.5**	**F**										**-**	**1.08**	**120.0+**	**F***	**-**	**0.86**	**44.1**	**D**	- Modify signal timing: Maintain 90 s cycle (allocate 20 s of green time for NB/SB phase, 22 s of green time for WB lag/NB Cromwell Avenue right turn phase, and 32 s of green time for NB/SB Jerome Avenue phase).
3	**Edward Grant Highway/University Avenue at Washington Bridge On-Ramp**																							
	Edward Grant Highway/University Avenue	NB	L	0.64	4.2	A										L	0.65	4.7	A					- Mitigation not required.
			T	0.34	5.3	A										T	0.34	5.3	A					
		SB	LT	0.24	4.8	A										LT	0.26	4.9	A					
			R	0.39	6.1	A										R	0.39	6.1	A					
	Overall Intersection		**-**	**0.77**	**5.1**	**A**										**-**	**0.79**	**5.2**	**A**					
4a	**Edward Grant Highway/University Avenue at Washington Bridge Off-Ramp**																							
	Edward Grant Highway/University Avenue	NB	T	0.52	8.8	A										T	0.52	8.8	D	T	0.53	9.4	A	- Modify signal timing (shift 1 s of green time from NB/SB phase to EB phase).
		SB	LT	0.68	13.8	B										LT	0.73	15.4	E	LT	0.74	16.5	B	
	Off-Ramp	EB	L	1.20+	120.0+	F*										L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	
			R	1.20+	120.0+	F*										R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	
	Overall Intersection		**-**	**0.92**	**103.3**	**F**										**-**	**0.98**	**107.3**	**F**	**-**	**0.98**	**98.4**	**F**	
5	**River Avenue at E. 167th Street**																							
	River Avenue	NB	LTR	0.49	14.9	B										LTR	0.49	14.9	B	LTR	0.51	16.6	B	- Modify signal timing (shift 4 s of green time from NB/SB phase to EB/WB phase).
		SB	LTR	0.53	15.6	B										LTR	0.53	15.6	B	LTR	0.55	17.3	B	- Prohibit parking on the south side of EB 167th Street approach and north side of WB E. 167th Street approach 120
	E. 167th Street	EB	LTR	0.94	57.0	E										LTR	1.14	116.1	F	LTR	0.94	53.1	D	ft. away from the intersection for this time period
		WB	LTR	0.95	58.9	E										LTR	1.17	120.0+	F*	LTR	0.93	52.7	D	
	Overall Intersection		**-**	**0.70**	**41.1**	**D**										**-**	**0.78**	**82.7**	**F**	**-**	**0.72**	**39.7**	**D**	
6	**Jerome Avenue at E. 170th Street**																							
	Jerome Avenue	NB	LTR	1.02	59.5	E										LTR	1.02	59.5	E					- Mitigation not required.
		SB	LTR	1.05	67.8	E										LTR	1.00	51.9	D					
	E. 170th Street		R	0.03	8.7	A										R	0.03	8.7	A					
		EB	LTR	0.64	28.7	C										LTR	0.64	28.7	C					
		WB	LTR	0.81	38.7	D										LTR	0.81	38.7	D					
	Overall Intersection		**-**	**0.96**	**52.8**	**D**										**-**	**0.94**	**47.6**	**D**					
7	**Jerome Avenue at E. 173rd Street**																							
	Jerome Avenue	NB	LTR	1.06	73.2	E										LTR	1.06	73.2	E					- Mitigation not required.
		SB	LTR	1.01	54.2	D										LTR	0.89	29.6	C					
		EB	LTR	0.83	42.2	D										LTR	0.83	42.2	D					
	E. 173rd Street	WB	LTR	0.81	49.0	D										LTR	0.81	49.0	D					
	Overall Intersection		**-**	**0.97**	**58.6**	**E**										**-**	**0.97**	**49.0**	**D**					
8	**Jerome Avenue at Cross Bronx Expressway N. Service Road**																							
	Jerome Avenue	NB	TR	0.42	16.8	B										TR	0.42	16.8	B					- Mitigation not required.
			-	-	-	-										-	-	-	-					
		SB	LT	1.01	61.6	E										LT	1.01	61.6	E					
		WB	L	0.15	14.0	B										L	0.17	14.2	B					
	Cross Bronx Expressway N. Service Road		R	0.61	21.8	C										R	0.61	21.8	C					
	Overall Intersection		**-**	**0.81**	**33.2**	**C**										**-**	**0.81**	**32.9**	**C**					

TABLE B - 9
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
PRE GAME ARRIVAL PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Pre-Game (12:00 - 1:00PM)			BUILD 2009 Pre-Game (12:00 - 1:00PM)				BUILD MITIGATED Pre-Game (12:00 - 1:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Pre-Game (12:00 - 1:00PM)				BUILD WITH DIVERSIONS MITIGATED Pre-Game (12:00 - 1:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
			Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
9a	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																							
	Jerome Avenue	NB	TR	0.69	26.2	C										TR	0.69	26.2	C					- Mitigation not required.
		SB	DefL	0.86	43.2	D										DefL	0.86	43.2	D					
			T	0.80	31.7	C										T	0.87	37.5	D					
	Cross Bronx Expressway S. Service Road	EB	L	0.63	21.3	C										L	0.63	21.3	C					
	Overall Intersection		**-**	**0.74**	**29.5**	**C**										**-**	**0.74**	**30.9**	**C**					
10	**Grand Concourse at E. 149th Street**																							
	Grand Concourse	NB	LTR	0.95	45.4	D										LTR	0.88	35.3	D					- Mitigation not required.
		SB	LT	0.91	42.9	D										LT	0.91	42.5	D					
			R	0.98	88.0	F										R	0.98	88.0	F					
	E. 149th Street	EB	LTR	0.88	45.8	D										LTR	0.88	45.8	D					
		WB	LTR	0.73	34.6	C										LTR	0.73	34.6	C					
	Overall Intersection		**-**	**0.94**	**47.3**	**D**										**-**	**0.94**	**44.3**	**D**					
UNSIGNALIZED																								
4b	**Edward Grant Highway/University Avenue at Martin Luther King Jr. Boulevard**																							
	Martin Luther King Jr. Boulevard	EB	R	0.65	20.9	C										R	0.68	22.3	C					- Mitigation not required.
	Overall Intersection		**-**	**0.65**	**20.9**	**C**										**-**	**0.68**	**22.3**	**C**					
9b	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																							
	Cross Bronx Expressway S. Service Road	EB	R	0.82	37.1	E										R	0.57	21.7	C					- Mitigation not required.
	Overall Intersection		**-**	**0.82**	**37.1**	**E**										**-**	**0.57**	**21.7**	**C**					

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.

GAME-DAY TRAFFIC MANAGEMENT PLAN

(6): As part of the Game-Day Traffic Management Plan, a series of additional mitigation measures would be implemented beyond those listed under "Build Mitigation Measures," including:

· VMS signs would be placed at selected locations along the Major Deegan and Cross Bronx Expressways to divert a portion of stadium-bound traffic to reduce volumes at congested intersections near the stadium.

· River Avenue would be closed to vehicle traffic post-game between East 161st Street and the entrace/exit to Garage B.

· Left turns would be prohibited from southboud Macombs Dam Bridge approach to the eastbound East 161st Street service road and right, and right turns would be prohibited

· Operate the exit from Garage B at Jerome Avenue as right-turn out only, postgame.

TABLE B - 10
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD MITIGATED Weekend Post-Game (4:00 - 5:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Weekend Post-Game (4:00 - 5:00PM)				BUILD WITH DIVERSIONS MITIGATED Weekend Post-Game (4:00 - 5:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
SIGNALIZED																							
GRAND CONCOURSE																							
23 Grand Concourse at E.165th Street																							
Grand Concourse (Main)	NB	L	0.24	12.3	B	L	0.24	12.3	B					- Mitigation not required.	L	0.24	12.3	B	L	0.27	14.4	B	- Modify signal timing (shift 2 s from NB/SB exclusive left turn phase to EB/WB phase, shift 2 s from NB/SB phase to EB/WB phase).
		T	0.44	21.9	C	T	0.45	22.1	C						T	0.54	23.6	C	T	0.56	25.2	C	
	SB	L	0.15	11.8	B	L	0.16	11.9	B						L	0.17	12.7	B	L	0.20	14.9	B	
		T	0.35	20.6	C	T	0.35	20.6	C						T	0.35	20.6	C	T	0.37	21.9	C	
Grand Concourse (Service)	NB	TR	0.86	40.1	D	TR	0.84	39.0	D						TR	0.84	39.0	D	TR	0.87	43.5	D	
	SB	TR	0.28	19.6	B	TR	0.28	19.6	B						TR	0.28	19.6	B	TR	0.29	20.8	C	
E. 165th Street	EB	DefL	0.72	44.7	D	DefL	0.77	47.8	D						DefL	0.77	47.8	D	DefL	0.69	39.5	D	
		TR	0.70	40.2	D	TR	0.77	43.6	D						TR	0.89	54.7	D	TR	0.81	43.6	D	
	WB	DefL	0.50	38.5	D	DefL	0.54	40.7	D						DefL	0.61	46.5	D	DefL	0.53	37.7	D	
		T	0.47	33.1	C	T	0.47	33.1	C						T	0.44	32.2	C	T	0.43	29.5	C	
		R	0.43	33.7	C	R	0.43	33.7	C						R	0.43	33.7	C	R	0.35	28.5	C	
Overall Intersection		**-**	**0.79**	**29.9**	**C**	-	**1.08**	**31.6**	**C**						-	**0.84**	**32.7**	**C**	-	**0.84**	**28.9**	**C**	
8 Grand Concourse at E. 161st Street																							
Grand Concourse	NB	L	0.75	33.0	C	L	0.36	14.1	B	L	0.34	16.0	B	- Modify signal timing (reduce cycle length from 120 s to 90 s. NB/SB phase shifts from 67 s to 38 s; EB/WB phase shifts from 31 s to 30 s).	L	0.36	14.1	B	L	0.34	17.6	B	- Modify signal timing (reduce cycle length from 120 s to 90 s. NB/SB phase shifts from 67 s to 35 s; EB/WB phase shifts from 31 s to 33 s).
		TR	0.77	15.8	B	TR	0.77	15.7	B	TR	0.90	23.8	C		TR	0.77	15.7	B	TR	0.96	32.5	C	
Grand Concourse (Main)	SB	L	0.82	87.9	F	L	0.88	101.7	F	L	0.75	68.4	E		L	0.88	101.7	F	L	0.75	70.2	E	
		T	0.59	17.4	B	T	0.60	17.7	B	T	0.78	24.6	C		T	0.60	17.7	B	T	0.85	29.2	C	
Grand Concourse (Service)	SB	R	0.33	15.1	B	R	0.26	14.0	B	R	0.39	20.0	C		R	0.26	14.0	B	R	0.43	23.2	C	
E. 161st Street	EB	L	0.91	84.7	F	L	1.04	119.7	F	L	0.81	50.0	D		L	1.20+	120.0+	F*	L	0.96	71.2	E	
		TR	0.38	37.6	D	TR	0.54	41.7	D	TR	0.40	23.8	C		TR	0.52	41.4	D	TR	0.35	21.0	C	
	WB	L	0.86	66.0	E	L	0.51	42.1	D	L	0.39	24.3	C		L	0.51	42.3	D	L	0.36	21.6	C	
		TR	1.04	102.8	F	TR	0.88	67.2	E	TR	0.67	31.9	-		TR	0.88	67.2	E	TR	0.61	27.3	C	
Overall Intersection		**-**	**0.91**	**31.6**	**C**	-	**0.91**	**28.1**	**C**	-	**0.87**	**26.2**	**C**		-	**1.00**	**35.3**	**D**	-	**0.96**	**32.3**	**C**	
RIVER AVENUE																							
21 River Avenue at E. 165th Street																							
River Avenue	NB	LTR	1.04	120.0+	F*	LTR	1.20+	120.0+	F*	LTR	0.90	37.6	D	- Place "footed" lane delineators to allow NB River Avenue approach to have 9.5 ft. wide two travel lanes from curre one 19.0 ft. wide lane for this time period	LTR	1.20+	120.0+	F*	LTR	0.83	37.1	D	- Place "footed" lane delineators to allow NB River Avenue approach to have 9.5 ft. wide two travel lanes from curre one 19.0 ft. wide lane for this time period
	SB	LTR	0.54	18.8	B	LTR	0.54	18.7	B	LTR	0.63	20.5	C		LTR	0.54	18.7	B	LTR	0.54	18.8	B	
E. 165th Street	EB	LTR	0.81	41.6	D	LTR	0.81	42.1	D	LTR	0.89	44.6	D		LTR	0.81	42.1	D	LTR	0.81	41.6	D	
	WB	LTR	0.78	36.9	D	LTR	0.78	36.9	D	LTR	0.84	35.8	D		LTR	0.78	36.9	D	LTR	0.78	36.9	D	
Overall Intersection		**-**	**0.94**	**81.5**	**F**	-	**1.10**	**120.0+**	**F***	-	**0.89**	**36.9**	**D**		-	**1.05**	**120.0+**	**F***	-	**0.82**	**36.1**	**D**	
19 River Avenue at E. 164th Street																							
River Avenue	NB	LT	1.06	77.0	E	LT	1.20+	120.0+	F*	LT	0.85	20.2	C	- Place "footed" lane delineators to allow NB River Avenue approach to have 9.5 ft. wide two travel lanes for this tim period.	LT	1.20+	120.0+	F*	L	1.04	66.9	E	- Place "footed" lane delineators to allow NB River Avenue approach to have two 9.5 ft. wide travel lanes for this tim period.
		-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	T	0.78	21.5	C	
	SB	TR	0.12	6.8	A	TR	0.10	6.6	A	TR	0.10	6.6	A		TR	0.12	6.9	A	TR	0.13	7.9	A	
E. 164th Street	EB	LR	0.36	33.9	C	LR	0.52	41.8	D	LR	0.51	40.9	D		LR	1.05	120.0+	F*	L	0.74	39.9	D	
	WB	LTR	0.75	45.9	D	LTR	0.75	45.9	D	LTR	0.73	43.3	D		LTR	0.74	44.0	D	LTR	0.66	33.2	C	
Overall Intersection		**-**	**0.94**	**61.1**	**E**	-	**1.12**	**120.0+**	**F***	-	**0.81**	**25.8**	**C**		-	**1.20+**	**120.0+**	**F***	-	**0.91**	**38.8**	**D**	
15a River Avenue at E. 162nd Street (North)																							
River Avenue	NB	LT	1.17	120.0+	F*	T	0.87	44.6	D					- Mitigation not required.	T	0.56	28.8	C					- Mitigation not required.
	SB	TR	0.21	10.1	B	T	0.24	7.6	A						T	0.00	6.1	A					
E. 162nd Street	EB	LR	CLOSED See Note (8)			-	-	-	-						-	-	-	-					
Overall Intersection		**-**	**1.17**	**115.4**	**F**	-	**0.87**	**32.3**	**C**						-	**0.56**	**28.8**	**C**					
7 River Avenue at E. 161st Street																							
River Avenue	NB	LT	CLOSED See Note (9)			LT	0.70	53.4	D	LT	0.63	45.3	D	- Partially mitigated	L	0.64	45.3	D	L	0.57	39.9	D	- Partially mitigated.
		R				R	0.03	24.0	C	R	0.02	23.9	C	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	0.39	33.5	C	R	0.35	31.5	C	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
	SB	R	0.32	22.3	C	LT	0.49	32.5	C	LT	0.45	31.0	C		-	-	-	-	-	-	-	-	
		R	0.94	116.4	F	R	0.91	87.4	F	R	0.82	66.8	E		-	-	-	-	-	-	-	-	
E. 161st Street Main Road	EB	T	0.64	33.5	C	T	0.69	105.2	F	T	0.63	79.0	E		T	0.69	105.2	F	T	0.63	79.0	E	
	WB	T	0.52	52.4	D	T	0.93	120.0+	F*	T	0.84	120.0+	F*		T	0.93	120.0+	F*	T	0.84	120.0+	F*	
E. 161st Street Service Road	EB	TR	CLOSED See Note (11)			TR	0.51	29.4	C	TR	0.44	27.7	C		TR	0.44	28.8	C	TR	0.43	27.6	C	
	WB	TR	1.07	78.6	E	TR	1.03	105.1	F	TR	0.93	74.4	E		T	0.63	41.0	D	T	0.57	36.4	D	
Overall Intersection		**-**	**1.01**	**58.5**	**E**	-	**0.97**	**120.0+**	**F***	-	**0.88**	**113.1**	**F**		-	**0.80**	**120.0+**	**F***	-	**1.00**	**120.0+**	**F***	
6 River Avenue at E. 157th Street																							
River Avenue	NB	TR	FREE FLOW			LTR	1.07	87.8	F	LTR	0.85	27.8	C	- Enforce no parking restrictions on the east side of NB River Avenue approach for this time period.	LTR	1.07	87.8	F	LTR	0.85	27.6	C	- Enforce no parking restrictions on the east side of NB River Avenue approach for this time period.
	SB	LT	CLOSED See Note (6)			LTR	0.39	10.0	A	LTR	0.39	10.0	B	- Place "footed" lane delineators on NB approach to shift the center line 5ft. to the east and allow one 14 ft. wide NB travel lane, and two 12 ft. wide receiving lanes for this time period	LTR	0.04	6.3	A	LTR	0.04	6.3	A	- Place "footed" lane delineators on NB approach to shift the center line 5ft. to the east and allow one 14 ft. wide NB travel lane, and two 12 ft. wide receiving lanes for this time period
	EB	LR	CLOSED See Note (12)			R	0.60	23.5	C	R	0.24	14.5	B		R	0.60	23.5	C	R	0.60	23.5	C	
E. 157th Street	WB	-	-	-	-	LR	0.06	13.3	B	LR	0.06	13.2	B	- Make EB 157 St. approach one-way street.	LR	0.06	13.3	B	LR	0.06	13.3	B	
Overall Intersection		**-**	**-**	**-**	**-**	-	**0.89**	**52.6**	**D**	-	**0.61**	**20.1**	**C**		-	**0.89**	**63.0**	**E**	-	**0.76**	**25.1**	**C**	
5 River Avenue at E. 153rd Street																							
River Avenue	NB	LTR	1.20+	120.0+	F*	LTR	1.11	107.1	F	LTR	1.15	120.0+	F*	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue approaches for this time period	LTR	1.11	107.1	F	LTR	1.15	120.0+	F*	- Enforce No Parking restrictions on the east side of NB River Avenue and the west side of SB River Avenue approaches for this time period
	SB	LTR	1.09	100.3	F	LTR	1.20+	120.0+	F*	LTR	0.76	18.5	B		LTR	1.20+	120.0+	F*	DefL	0.79	32.6	C	
		-	-	-	-	-	-	-	-	-	-	-	-	- Place "footed" lane delineators to shift the center line 10 ft. to the east and allow three SB travel lanes and one NB	-	-	-	-	TR	0.52	13.6	B	- Place "footed" lane delineators to shift the center line 10 ft. to the east and allow three SB travel lanes and one NB
E. 153rd Street	EB	LTR	1.04	80.8	F	LTR	1.07	91.0	F	LTR	0.94	50.8	D	travel lane on River Avenue for this time period (NB approach will have one 10 ft. wide travel lane from its current	LTR	1.07	91.0	F	LTR	0.94	50.8	D	travel lane on River Avenue for this time period (NB approach will have one 10 ft. wide travel lane from its current
	WB	LTR	0.99	85.5	F	LTR	1.20+	120.0+	F*	LTR	1.01	75.1	E	one 12 ft. lane with parking, and SB approach will have three 10 ft. wide travel lanes from its current one 13 ft. lan	LTR	1.20+	120.0+	F*	LTR	1.01	75.1	E	one 12 ft. lane with parking, and SB approach will have three 10 ft. wide travel lanes from its current one 13 ft. lan
														- Enforce No Parking restrictions on WB 153rd Street to allow one 17 ft. travel lane for this time period.									- Enforce No Parking restrictions on WB 153rd Street to allow one 17 ft. travel lane for this time period.
Overall Intersection		**-**	**1.20+**	**120.0+**	**F***	-	**1.20+**	**120.0+**	**F***	-	**1.09**	**59.4**	**E**	- Modify signal timing (shift 3.0 s of green time from the EB/WB phase to the NB/SB phase).	-	**1.20+**	**120.0+**	**F***	-	**1.09**	**63.1**	**E**	- Modify signal timing (shift 3.0 s of green time from the EB/WB phase to the NB/SB phase).

TABLE B - 10
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD MITIGATED Weekend Post-Game (4:00 - 5:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Weekend Post-Game (4:00 - 5:00PM)				BUILD WITH DIVERSIONS MITIGATED Weekend Post-Game (4:00 - 5:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
1	**River Avenue and Exterior Street at E. 149th Street**																							
	Major Deegan Expressway NB Off Ramp	NB	DefL	1.20+	120.0+	F*	DefL	1.05	101.5	F					- Mitigation not required.	LTR	0.63	30.3	C					- Mitigation not required.
			TR	0.49	34.7	C	TR	0.50	35.4	D						-	-	-	-					
	River Avenue	SB	LTR	1.20	120.0+	F*	LTR	1.19	120.0+	F*						LTR	1.19	120.0+	F*					
	Exterior Street	NB	DefL	0.34	37.5	D	DefL	0.30	36.4	D						DefL	0.53	33.4	C					
			TR	0.20	35.8	D	TR	0.19	35.1	D						TR	0.19	28.4	C					
		SB	L	0.83	55.6	E	L	0.85	59.1	E						L	0.81	45.7	D					
			T	0.27	31.5	C	T	0.10	30.3	C						T	0.10	24.0	C					
	E. 149th Street	EB	L	0.46	29.0	C	L	0.46	29.0	C						L	0.42	27.2	C					
			TR	0.77	36.9	D	TR	0.77	36.9	D						TR	0.89	42.6	D					
		WB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*						L	0.52	29.6	C					
			TR	0.93	60.2	E	TR	0.93	60.3	E						TR	0.77	34.4	C					
	Overall Intersection		**-**	**1.20**	**92.2**	**F**	**-**	**1.14**	**86.2**	**F**						**-**	**0.95**	**36.1**	**D**					
	JEROME AVENUE																							
20	**Jerome Avenue at E. 165th Street**																							
	Jerome Avenue	NB	TR	0.74	18.0	B	TR	0.80	19.8	B	TR	0.77	17.4	B	- Modify signal timing (shift 2.0 s of green time from the WB phase to the NB/SB phase).	TR	1.06	61.9	E	TR	0.93	24.9	C	- Modify signal timing (shift 7.0 s of green time from the WB phase to the NB/SB phase).
		SB	LT	1.01	91.2	F	LT	1.05	105.1	F	LT	0.99	81.3	F		LT	1.20+	120.0+	F*	LT	1.00	83.6	F	- Prohibit parking on the north side of WB 165th Street 120 ft. away from the intersection for this time period.
	E. 165th Street	WB	LR	0.77	36.9	D	LR	0.77	36.9	D	LR	0.82	42.9	D		LR	0.77	36.9	D	LR	0.71	36.6	D	
	Overall Intersection		**-**	**0.90**	**45.6**	**D**	**-**	**0.79**	**50.0**	**D**	**-**	**0.79**	**42.0**	**D**		**-**	**0.95**	**88.7**	**F**	**-**	**0.86**	**42.2**	**D**	
18	**Jerome Avenue at E. 164th Street**																							
	Jerome Avenue	NB	TR	0.57	13.9	B	TR	0.62	15.0	B					- Mitigation not required.	TR	0.88	24.0	C	TR	0.95	37.1	D	- Modify signal timing (shift 7.0 s of green time from the NB/SB phase to the WB phase).
		SB	LT	0.55	13.9	B	LT	0.59	14.5	B						LT	0.65	16.2	B	LT	0.81	27.1	C	- Prohibit parking on the east side of NB Jerome Avenue 120 ft. away from the intersection for this time period.
	E. 164th Street	WB	LR	0.89	46.3	D	LR	0.97	60.1	E						LR	1.20+	120.0+	F*	LR	0.95	46.8	D	- Prohibit parking on the north side of WB 164th Street 120 ft. away from the intersection for this time period.
	Overall Intersection		**-**	**0.69**	**21.4**	**C**	**-**	**0.76**	**25.5**	**C**						**-**	**1.06**	**65.4**	**E**	**-**	**0.95**	**37.0**	**D**	
17	**Jerome Avenue at E. 162nd Street**																							
	Jerome Avenue	NB	LTR	0.51	12.5	B	LT	0.86	23.7	C	LT	0.79	18.0	B	- Modify signal timing (Shift 3.0 s of green time from ped only phase (former WB phase) to NB/SB phase.)	LT	0.89	25.9	C					- Mitigation not required.
			-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-					
		SB	LTR	0.79	19.3	B	TR	1.07	64.5	E	TR	1.01	42.7	D		TR	0.92	27.3	C					
	E. 162nd Street	WB	LTR	0.21	21.2	C	-	-	-	-	-	-	-	-		-	-	-	-					
	Overall Intersection		**-**	**0.57**	**16.5**	**B**	**-**	**1.07**	**48.2**	**D**	**-**	**1.01**	**32.8**	**C**		**-**	**0.92**	**26.6**	**C**					
9	**Jerome Avenue at E. 161st Street**																							
	Jerome Avenue	NB	LT	0.27	17.7	B	LT	0.28	18.0	B	LT	0.25	17.5	B	- Prohibit parking on SB Jerome Avenue to allow one additional travel lane for this time period.	LT	0.25	17.6	B	LT	0.22	17.1	B	- Prohibit parking on SB Jerome Avenue to allow one additional travel lane for this time period.
			R	0.61	31.7	C	R	0.49	26.4	C	R	0.48	25.5	C	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft.	R	0.49	26.4	C	R	0.48	25.5	C	- Place "footed" lane delineators on WB 161st Street to allow one 13.5 ft.wide exclusive left-turn lane and one 10.5 ft.
		SB	L	0.33	22.3	C	L	0.32	21.7	C	LT	0.32	21.7	C	wide left-thru lane.	L	0.41	26.4	C	L	0.41	24.6	C	wide left-thru lane.
			TR	0.93	49.8	D	TR	1.20+	120.0+	F*	TR	0.77	27.3	C		TR	1.14	108.5	F	TR	0.54	21.4	C	
	E. 161st Street	WB	-	-	-	-	-	-	-	-	L	0.97	45.9	D		-	-	-	-	L	0.84	29.2	C	
			LT	1.03	60.9	E	LT	1.20+	120.0+	F*	LT	0.91	44.8	D		LT	1.14	97.3	F	LT	0.83	33.7	C	
	Overall Intersection		**-**	**0.99**	**49.3**	**D**	**-**	**1.20+**	**120.0+**	**F***	**-**	**0.88**	**35.2**	**D**		**-**	**1.14**	**86.3**	**F**	**-**	**0.71**	**26.2**	**C**	
13	**Jerome Avenue at Ogden Avenue and Major Deegan Expressway Service Road**																							
	Ogden Avenue	SB	LR	0.74	38.5	D	LR	0.56	29.7	C	LR	0.58	31.2	C	- Modify signal timing (Shift 1.0 s of green time from SB phase to EB/WB phase.)	LR	0.56	29.7	C					- Mitigation not required.
	Jerome Avenue	EB	T	0.28	43.5	D	T	0.28	43.5	D	T	0.28	41.6	D		T	0.28	43.5	D					
		WB	TR	0.69	15.6	B	TR	1.04	50.6	D	TR	1.02	44.0	D		TR	0.89	23.2	C					
	Overall Intersection		**-**	**0.71**	**22.3**	**C**	**-**	**0.86**	**48.2**	**D**	**-**	**0.86**	**42.7**	**D**		**-**	**0.76**	**25.9**	**C**					
	MACOMBS DAM BRIDGE CORRIDOR																							
14a	**Macomb's Dam Bridge Approach at E.161st Street**																							
	Macomb's Dam Bridge Approach	NB	T	0.60	15.6	B	T	1.20+	120.0+	F*	T	1.20+	120.0+	F*	- Partially mitigated	T	1.08	77.0	E	T	0.98	43.6	D	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.
			-	-	-	-	R	0.60	15.9	B	R	0.54	14.2	B	- Place TEA to enforce no pedestrian spillback onto curbside lanes during non-pedestrian phase.	R	0.51	8.5	A	R	0.46	7.6	A	
		SB	T	1.15	120.0+	F*	LT	1.20+	120.0+	F*	LT	1.20+	120.0+	F*	- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	1.02	90.4	F	T	0.92	43.1	D	
	E. 161st Street	WB	LR	1.08	120.0+	F*	LR	1.11	120.0+	F*	LR	1.00	115.3	F		L	0.67	40.5	D	L	0.60	37.1	D	
	Overall Intersection		**-**	**0.79**	**113.4**	**F**	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.14**	**120.0+**	**F***		**-**	**0.98**	**67.1**	**E**	**-**	**0.88**	**36.2**	**D**	
10	**Major Deegan Expressway (I-87) Southbound Off Ramp at Macombs Dam Bridge**																							
	Major Deegan Expressway Southbound Off-Ramp	SB	LTR	1.09	120.0+	F*	LTR	1.09	120.0+	F*	L	0.47	22.1	C	- Partially mitigated.	LTR	1.09	120.0+	F*	L	0.56	28.4	C	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim
			-	-	-	-	-	-	-	-	LT	0.14	29.1	C	- Utilize the right most shaded 10 ft. wide emergency lane on the SB off-ramp as an additional travel lane for this tim	-	-	-	-	LT	0.17	37.7	D	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one
			-	-	-	-	-	-	-	-	R	0.90	45.6	D	period. (Place VMS on the SB approach to indicate one exclusive left-turn lane, one shared left-thru lane, and one	-	-	-	-	R	1.10	100.3	F	exclusive right-turn lane).
	Macombs Dam Bridge	EB	TR	1.12	120.0+	F*	TR	1.12	120.0+	F*	TR	1.14	120.0+	F*	exclusive right-turn lane).	TR	1.12	120.0+	F*	TR	0.96	66.5	E	- Modify signal timing (shift 6.0 s of green time from SB phase to EB/WB phase.
		WB	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	L	1.20+	120.0+	F*		L	1.20+	120.0+	F*	L	1.20+	120.0+	F*	
			T	1.10	93.0	F	T	1.17	119.8	F	T	1.17	119.8	F		T	1.17	119.8	F	T	1.02	61.0	E	
	Overall Intersection		**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**120.0+**	**F***		**-**	**1.20+**	**120.0+**	**F***	**-**	**1.20+**	**89.9**	**F**	
3	**Macombs Place at W. 155th Street**																							
	Macombs Place	NB	L	0.88	74.3	E	L	0.88	74.3	E	L	0.79	49.8	D	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only phase, and	L	0.88	74.3	E	L	0.79	49.8	D	- Modify signal timing and phasing plan: eliminate NB Macombs Pl. right-turn only/SB Macombs Bridge left-only
			T	0.25	15.4	B	T	0.25	15.4	B	T	0.23	9.0	A	eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian crossing. Reduce cycle	T	0.25	15.4	B	T	0.23	9.0	A	phase, and eliminate EB 155th St. right-turn only movement during NB Macombs Pl. phase to allow pedestrian
		SB	T	1.06	97.2	F	T	1.06	97.2	F	T	0.98	61.9	E	length from 120 s to 90 s [EB green time shifts from 40 s to 29 s; NB green time shifts from 24 s to 18 s; NB/SB green time	T	1.06	97.2	F	T	0.98	61.9	E	crossing. Reduce cycle length from 120 s to 90 s [EB green time shifts from 40 s to 29 s; NB green time shifts from
			R	0.98	53.7	D	R	1.05	71.9	E	R	0.72	10.8	B	shifts from 18 s to 28 s].	R	1.05	71.9	E	R	0.72	10.8	B	24 s to 18 s; NB/SB green time shifts from 18 s to 28 s]
	W. 155th Street	EB	L	1.11	120.0+	F*	L	1.11	120.0+	F*	L	1.05	117.4	F		L	1.11	120.0+	F*	L	1.05	117.4	F	
			R	0.19	15.5	B	R	0.19	15.5	B	R	0.28	22.7	C		R	0.19	15.5	B	R	0.28	22.7	C	
	Overall Intersection		**-**	**0.96**	**76.9**	**E**	**-**	**0.96**	**82.3**	**F**	**-**	**0.96**	**46.1**	**D**		**-**	**0.96**	**82.3**	**F**	**-**	**0.96**	**46.1**	**D**	
	OTHER																							
12	**Walton Avenue at E 161st Street**																							
	Walton Avenue	NB	LR	0.45	28.5	C	LR	0.31	24.0	C	LR	0.43	29.6	C	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.	LR	0.31	24.0	C	LR	0.43	29.6	C	- Restripe the SB Walton Avenue approach from one 24 ft. wide travel lane into two 12.0 ft. wide travel lanes.
		SB	LTR	0.91	51.6	D	LTR	0.89	48.5	D	LTR	0.49	24.0	C	[Measures reflect geometric and operational improvements needed for other peak periods, otherwise mitigation not	LTR	0.89	48.5	D	LTR	0.49	24.0	C	[Measures reflect geometric and operational improvements needed for other peak periods, otherwise mitigation not
	E. 161st Street	EB	LTR	0.74	26.3	C	LTR	0.80	31.1	C	LTR	0.76	27.1	C	needeed.]	LTR	0.89	41.4	D	LTR	0.85	35.3	D	needeed.]
		WB	LT	1.03	65.4	E	LT	0.68	19.9	B	LT	0.65	18.8	B		LT	0.67	19.7	B	LT	0.65	18.6	B	
	Overall Intersection		**-**	**0.98**	**51.0**	**D**	-	**0.84**	**33.2**	**C**	**-**	**0.66**	**23.4**	**C**		**-**	**0.89**	**36.1**	**D**	**-**	**0.71**	**25.9**	**C**	

TABLE B - 10
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD MITIGATED Weekend Post-Game (4:00 - 5:00PM)					BUILD WITH DIVERSIONS Weekend Post-Game (4:00 - 5:00PM)				BUILD WITH DIVERSIONS MITIGATED Weekend Post-Game (4:00 - 5:00PM)				
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
22	**Gerard Avenue at E. 165th Street**																						
	Gerard Avenue	NB	LTR	1.08	91.3	F	LTR	1.08	91.3	F					- Mitigation not required.	LTR	1.08	91.3	F	LTR	1.08	91.3	F	- Prohibit parking on the southside of EB 165 Street approach 120 ft. from the intersection to reduce friction for this
	E. 165th Street	EB	LT	0.77	17.6	B	LT	0.94	33.4	C						LT	1.06	63.2	E	LT	0.93	29.5	C	time period.
		WB	TR	0.67	14.0	B	TR	0.67	14.0	B						TR	0.67	14.0	B	TR	0.67	14.0	B	
	Overall Intersection		**-**	**0.89**	**45.2**	**D**	-	**0.99**	**49.1**	**D**						**-**	**1.07**	**60.4**	**E**	-	**0.99**	**46.7**	**D**	
4	**E. 157th Street at Major Deegan Expressway NB Ramp**																						
	Major Deegan Expressway NB Service Road	NB	T	0.87	39.7	D	T	0.27	24.0	C	T	0.27	24.0	C	- Modify signal timing (shift green, yellow, and all-red signal time from closed Major Deegan Expressway Off Ramp	T	0.27	24.0	C	T	0.27	24.0	C	- Modify signal timing (shift green, yellow, and all-red signal time from closed Major Deegan Expressway Off Ramp
	Major Deegan Expressway NB Off Ramp	-	-	CLOSED	See Note (5)		-	CLOSED	See Note (5)		-	-	-	-	to WB right signal time; WB phase green time shifts from 21.6 sec to 53.1 sec).	-	CLOSED	See Note (5)		-	CLOSED	See Note (5)		to WB right signal time; WB phase green time shifts from 21.6 sec to 53.1 sec).
	E. 157th Street	WB	R	1.20+	120.0+	F*	R	1.20+	120.0+	F*	R	0.80	17.3	B		R	1.20+	120.0+	F*	R	0.78	16.5	B	
	Overall Intersection		**-**	**1.03**	**90.9**	**F**	-	**1.20+**	**120.0+**	**F***	-	**0.63**	**18.3**	**B**		**-**	**0.84**	**120.0+**	**F***	-	**0.61**	**17.7**	**B**	
2	**Lenox Avenue at W. 145th Street**																						
	Lenox Avenue	NB	L	0.01	18.2	B	L	0.01	18.2	B					- Mitigation not required.	L	0.01	18.2	B					- Mitigation not required.
			LT	0.65	29.1	C	LT	0.65	29.1	C						LT	0.65	29.1	C					
			R	0.36	14.3	B	R	0.36	14.3	B						R	0.36	14.3	B					
		SB	LTR	1.15	120.0+	F*	LTR	1.15	120.0+	F*						LTR	1.15	120.0+	F*					
	W. 145th Street	EB	LTR	1.11	87.1	F	LTR	1.11	87.1	F						LTR	1.11	87.1	F					
		WB	L	0.04	14.9	B	L	0.04	14.9	B						L	0.04	14.9	B					
			TR	0.97	38.9	D	TR	0.99	43.6	D						TR	0.99	43.6	D					
	Overall Intersection		**-**	**1.04**	**63.5**	**E**	-	**1.05**	**64.9**	**E**						**-**	**1.05**	**64.9**	**E**					
25	**E. 157th Street at E. 153rd Street/Ruppert PL/Garage A**																						
	153rd Street	NB	-	-	-	-	LT	0.64	23.0	C					- Mitigation not required.	LT	0.60	22.3	C					- Mitigation not required.
	Garage A Access	SB	-	-	-	-	TR	0.57	16.7	B					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	TR	0.57	16.7	B					
			-	-	-	-	R	0.68	21.6	C						R	0.68	21.6	C					
	157th Street	EB	-	-	-	-	-	-	-	-						-	-	-	-					
	Overall Intersection		**-**	**-**	**-**	**-**	-	**0.66**	**20.1**	**C**						**-**	**0.65**	**19.8**	**B**					
31	**Ruppert Place at E. 161st Street**																						
	E. 161st Street	EB	-	-	-	-	T	0.53	27.7	C					- Mitigation not required.	T	0.51	27.6	C					- Mitigation not required.
		WB	-	-	-	-	T	0.52	27.4	C					- (Traffic signal is installed under the Build condition, and installation is justified from a signal warrant analysis).	T	0.51	27.3	C					
	Overall Intersection		**-**	**-**	**-**	**-**	-	**0.53**	**27.6**	**C**						**-**	**0.51**	**27.4**	**C**					
	UNSIGNALIZED																						
	RIVER AVENUE																						
15b	**River Avenue at Garage B**																						
	River Avenue	NB	-	-	-	-	LT	-	-	-					- Mitigation not required (Garage exit).	LT	-	-	-					- Mitigation not required (Garage exit).
	Garage B Access	EB	-	-	-	-	L	Beyond HCS Limit		F							L	Beyond HCS Limit						
							R	-	127.1	F						R	-	40.6	E					
	Overall Intersection		**-**	**-**	**-**	**-**	-	**Beyond HCS Limit**		**F**						**-**	**Beyond HCS Limit**						
16	**River Avenue at E.162nd Street (South)**																						
	River Avenue	NB	-	-	-	-	-	-	-	-	T	0.34	10.8	B	- Install signal control for this time period.	-	-	-	-	T	0.09	8.7	A	- Install signal control for this time period.
		SB	-	-	-	-	-	-	-	-	T	0.26	10.0	B		-	-	-	-	T	0.00	8.0	A	- (Traffic signal installation is justified from a signal warrant analysis).
	E. 162nd Street	WB	L	-	35.5	E	L	-	42.1	E	L	0.00	18.7	B		-	-	-	-	-	-	-	-	
			R	-	97.1	F	R	-	111.2	F	R	0.73	42.7	D		R	Free Flow	-	-	R	0.72	41.5	D	
	Overall Intersection		**-**	**-**	**96.7**	**F**	-	**-**	**110.8**	**F**	-	**0.49**	**17.5**	**B**		**-**	**-**	**-**	**-**	**-**	**0.33**	**29.5**	**C**	
30	**River Avenue at Garage D**																						
	River Avenue	SB	-	-	-	-	L	-	9.1	A					- Mitigation not required (Garage exit).	L	-	9.1	A					- Mitigation not required (Garage exit).
	Garage D Access	WB	-	-	-	-	LR	-	120.0+	F*						LR	-	120.0+	F*					
	Overall Intersection		**-**	**-**	**-**	**-**	-	**-**	**120.0+**	**F***						**-**	**-**	**120.0+**	**F***					
	MACOMBS DAM BRIDGE CORRIDOR																						
26	**Garage C West Access at Macomb's Dam Approach**																						
	Garage C West Access	SB	-	-	-	-	R	-	120.0+	F*					- Mitigation not required (Garage exit).	R	-	120.0+	F*					- Mitigation not required (Garage exit).
	Overall Intersection		**-**	**-**	**-**	**-**	-	**-**	**120.0+**	**F***						**-**	**-**	**120.0+**	**F***					
27	**Garage C East Access at Macomb's Dam Approach**																						
	Garage C East Access	SB	-	-	-	-	R	-	120.0+	F*					- Mitigation not required (Garage exit).	R	-	120.0+	F*					- Mitigation not required (Garage exit).
	Overall Intersection		**-**	**-**	**-**	**-**	-	**-**	**120.0+**	**F***						**-**	**-**	**120.0+**	**F***					
29	**Garage A Access at Macomb's Dam Approach**																						
	Garage A Access	NB	-	-	-	-	R	-	19.6	C					- Mitigation not required (Garage exit).	R	-	19.6	C					- Mitigation not required (Garage exit).
	Overall Intersection		**-**	**-**	**-**	**-**	-	**-**	**19.6**	**C**						**-**	**-**	**19.6**	**C**					
	OTHER																						
11	**Major Deegan Expressway (I-87) Southbound Exit Ramp at E. 153rd Street**																						
	Major Deegan Expressway Southbound Off-Ramp	NB	L	-	39.0	E	L	-	102.3	F	LR	0.31	24.0	C	- Operate currently installed signal as regular traffic signal for this time period.	L	-	81.6	F	-	-	-	-	- Operate currently installed signal as regular traffic signal for this time period.
			R	-	48.8	E	R	-	106.0	F	-	-	-	-		R	-	106.0	F	-	-	-	-	
			-	-	-	-	-	-	-	-	TR	0.72	15.5	B		-	-	-	-	LR	0.31	24.0	C	
	E. 153rd Street	EB	-	-	-	-	-	-	-	-	Defl	0.76	35.4	D		-	-	-	-	TR	0.72	15.5	B	
		WB	LT	-	11.9	B	LT	-	18.8	C	T	0.31	9.6	A		LT	-	17.6	C	-	-	-	-	
			-	-	-	-	-	-	-	-						-	-	-	-	DefL	0.64	25.9	C	
			-	-	-	-	-	-	-	-	-	**0.60**	**16.9**	**B**		-	-	-	-	T	0.27	9.2	A	
	Overall Intersection		**-**	**-**	**34.8**	**D**	-	**-**	**62.4**	**F**						**-**	**-**	**65.3**	**F**	**-**	**0.57**	**16.0**	**B**	
24	**Garage A East Access at E. 157th Street**																						
	Garage A East Access	SB	-	-	-	-	LR	-	9.5	A					- Mitigation not required.	LR	-	9.5	A					- Mitigation not required.
	E. 157th Street	EB	-	-	-	-	LT	-	7.2	A						LT	-	7.2	A					
	Overall Intersection		**-**	**-**	**-**	**-**	-	**-**	**9.5**	**A**						**-**	**-**	**9.5**	**A**					

TABLE B - 10
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD MITIGATED Weekend Post-Game (4:00 - 5:00PM)					BUILD WITH DIVERSIONS Weekend Post-Game (4:00 - 5:00PM)				BUILD WITH DIVERSIONS MITIGATED Weekend Post-Game (4:00 - 5:00PM)				
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build Mitigation Measures	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
28	**Garage C Access at E. 161st Street**																						
	Garage C Access	NB	-	-	-	-	LR	-	120.0+	F*					- Mitigation not required (Garage exit).	LR	-	120.0+	F*					- Mitigation not required (Garage exit).
	E. 161st Street	WB	-	-	-	-	L		7.5	A						L	-	7.5	A					
	Overall Intersection		-	-	-	-	-	-	**120.0+**	**F***						-	-	**120.0+**	**F***					
33	**Garage B Access at Jerome Avenue**																						
	Jerome Avenue	SB	-	-	-	-	LT	-	-	-					- Mitigation not required (Garage exit).	LT	-	-	-					- Mitigation not required (Garage exit).
	Garage B Access	WB	-	-	-	-	L	-	120.0+	F*						L	-	23.1	C					
							R	-	14.5	B						R	-	45.6	E					
	Overall Intersection		-	-	-	-		-	**120.0+**	**F***							-	**45.5**	**E**					
34	**Garage D Access at Gerard Avenue**																						
	Gerard Avenue	NB	-	-	-	-	LT	-	7.2	A					- Mitigation not required.	LT	-	7.2	A					- Mitigation not required.
	Garage D Access	EB	-	-	-	-	L	-	14.7	B						L	-	14.7	B					
	Overall Intersection		-	-	-	-	-	-	**11.0**	**B**						-	-	**11.0**	**B**					

YANKEE STADIUM EIS *ADDITIONAL LOCATIONS* -- WEEKEND POST-GAME

SIGNALIZED

1	**Gerard Avenue at E.149th Street**																						
	Gerard Avenue	NB	LTR	0.63	50.8	D										LTR	0.63	50.8	D					
		EB	DefL	0.98	68.4	E										DefL	0.98	68.4	E					- Mitigation not required.
			T	1.20+	120.0+	F*										T	1.20+	120.0+	F*					
		WB	TR	0.75	13.8	B										TR	0.75	13.9	B					
	Overall Intersection		-	**1.20+**	**92.3**	**F**										-	**1.20+**	**93.2**	**F**					
2	**Jerome Avenue/Cromwell Avenue at E. 167th Street/Edward Grant Highway**																						
	Jerome Avenue	NB	DefL	1.01	79.2	E										DefL	1.19	120.0+	F*	DefL	1.00	69.7	E	- Prohibit parking on the east side of NB Jerome Avenue approach and the west side of SB Jerome Avenue approach
			TR	0.88	50.9	D										TR	1.20+	120.0+	F*	T	0.90	43.2	D	120 ft. away from the intersection for this time period
		SB	LTR	0.9	56.8	E										LTR	0.90	56.8	E	LTR	0.72	33.3	C	- Restripe the south side of EB Grant Highway approach as follows:
	Cromwell Avenue	NB	R	0.04	24.7	C										R	0.04	24.7	C	R	0.25	21.8	C	- Shift the 6 ft. bike lane to the curb; remove the 4 ft. shaded lane; use the remaining 36 ft. for 3 travel lanes (shared
	Edward Grant Highway	EB	LTR	0.98	65.6	E										LTR	1.00	72.3	E	L	0.60	39.1	D	left-thru, shared right-thru, and right-turn only).
			-	-	-	-										-	-	-	-	TR	0.87	37.6	D	- Prohibit parking on the west side of the SB Jerome receiving lanes 120 ft. away from the intersection to gain good
	E. 167th Street	WB	L	0.51	32.9	C										L	0.51	32.9	C	LTR	0.45	29.0	C	transition from the EB bike lane
			TR	0.86	31.7	C										TR	0.79	25.7	C	R	0.59	34.3	C	- Relocate bus stop on the EB 167th Street approach from near side to far side.
																								- Reroute NB Jerome Avenue right-turns to Cromwell Avenue using signage.
	Overall Intersection		-	**0.91**	**55.0**	**D**										-	**1.03**	**120.0+**	**F***	-	**0.92**	**42.4**	**D**	- Modify signal timing and phasing plan: Maintain 90 s cycle (allocate 19 s of green time for WB lead phase, 23 s of green time for EB/WB phase, and 32 s of green time for NB/SB phase. NB right turn at Cromwell Street will operat with NB/SB Jerome Avenue phase).
3	**Edward Grant Highway/University Avenue at Washington Bridge On-Ramp**																						
	Edward Grant Highway/University Avenue	NB	L	1.01	35.9	D										L	0.86	16.5	B					- Mitigation not required.
			T	0.44	6.0	A										T	0.44	6.0	A					
		SB	LT	0.25	4.8	A										LT	0.26	4.9	A					
			R	0.42	6.4	A										R	0.42	6.4	A					
	Overall Intersection		-	**1.00**	**14.9**	**B**										-	**0.91**	**8.7**	**A**					
4a	**Edward Grant Highway/University Avenue at Washington Bridge Off-Ramp**																						
	Edward Grant Highway/University Avenue	NB	T	0.84	23.4	C										LT	0.62	10.0	B					
		SB	LT	0.73	22.0	C										L	0.59	10.7	B					
	Off-Ramp	EB	L	0.81	33.0	C										R	1.20+	120.0+	F*					
			R	0.30	19.0	B										0	0.50	32.7	C					
	Overall Intersection		-	**0.83**	**24.7**	**C**										**0**	**0.80**	**44.6**	**D**					
5	**River Avenue at E. 167th Street**																						
	River Avenue	NB	LTR	0.99	55.0	D										LTR	0.63	18.4	B	LTR	0.63	18.4	B	- Prohibit parking on the south side of EB E. 167th Street approach 120 ft. away from the intersection for this time
		SB	LTR	0.94	68.7	E										LTR	0.94	68.7	E	LTR	0.94	68.7	E	period.
	E. 167th Street	EB	LTR	0.94	55.2	E										LTR	0.97	61.4	E	LTR	0.85	40.8	D	
		WB	LTR	0.91	50.3	D										LTR	0.85	43.0	D	LTR	0.85	43.0	D	
	Overall Intersection		-	**0.97**	**55.2**	**E**										-	**0.95**	**45.9**	**D**	-	**0.90**	**39.2**	**D**	
6	**Jerome Avenue at E. 170th Street**																						
	Jerome Avenue	NB	LTR	1.01	55.7	E										LTR	1.11	85.7	F	LTR	0.97	42.3	D	- Prohibit parking on the east side of NB Jerome Avenue approach 120 ft. away from the intersection for this time
		SB	LTR	0.97	51.9	D										LTR	0.97	51.9	D	LTR	0.97	51.9	D	period.
	E. 170th Street		R	0.02	8.6	A										R	0.02	8.6	A	R	0.02	8.6	A	
		EB	LTR	0.86	43.2	D										LTR	0.86	43.2	D	LTR	0.86	43.2	D	
		WB	LTR	0.98	61.6	E										LTR	0.98	61.6	E	LTR	0.98	61.6	E	
	Overall Intersection		-	**1.00**	**53.5**	**D**										-	**1.06**	**64.4**	**E**	-	**0.97**	**48.7**	**D**	
7	**Jerome Avenue at E. 173rd Street**																						
	Jerome Avenue	NB	LTR	0.96	39.2	D										LTR	1.01	53.6	D	LTR	0.95	36.6	D	- Prohibit parking on the east side of NB Jerome Avenue approach 120 ft. away from the intersection for this time
		SB	LTR	0.98	46.8	D										LTR	0.98	46.8	D	LTR	0.98	46.8	D	period.
		EB	LTR	0.81	39.3	D										LTR	0.81	39.3	D	LTR	0.81	39.3	D	
	E. 173rd Street	WB	LTR	0.79	40.7	D										LTR	0.71	33.8	C	LTR	0.71	33.8	C	
	Overall Intersection		-	**0.91**	**42.1**	**D**										-	**0.93**	**47.6**	**D**	-	**0.91**	**40.4**	**D**	
8	**Jerome Avenue at Cross Bronx Expressway N. Service Road**																						
	Jerome Avenue	NB	T	0.88	39.7	D										T	0.78	30.0	C					- Mitigation not required.
			R	0.71	3.4	A										R	0.77	4.5	A					
		SB	LT	0.97	59.6	E										LT	0.97	59.6	E					
		WB	L	0.60	20.8	C										L	0.60	20.8	C					
	Cross Bronx Expressway N. Service Road		R	0.55	21.4	C										R	0.55	21.4	C					
	Overall Intersection		-	**0.78**	**25.7**	**C**										-	**0.77**	**23.6**	**C**					

TABLE B - 10
YANKEE STADIUM EIS -- *WEEKEND WITH DIVERSION*
POST GAME DEPARTURE PEAK HOUR COMPARISON AND MITIGATION: TRAFFIC LEVELS OF SERVICE

			NO BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD 2009 Weekend Post-Game (4:00 - 5:00PM)				BUILD MITIGATED Weekend Post-Game (4:00 - 5:00PM)				Build Mitigation Measures	BUILD WITH DIVERSIONS Weekend Post-Game (4:00 - 5:00PM)				BUILD WITH DIVERSIONS MITIGATED Weekend Post-Game (4:00 - 5:00PM)				Build with Diversion Mitigation Measures (Note 6: includes full Game-Day Traffic Mangement Plan)
	INTERSECTION & APPROACH		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS		Mvt.	V/C	Control Delay	LOS	Mvt.	V/C	Control Delay	LOS	
9a	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																							
	Jerome Avenue	NB	TR	1.04	65.0	E										TR	1.02	60.9	E					- Mitigation not required.
		SB	DefL	0.93	52.2	D										DefL	0.93	52.7	D					
			T	1.18	120.0+	F*										T	1.15	120.0+	F*					
	Cross Bronx Expressway S. Service Road	EB	L	0.89	37.3	D										L	0.89	37.3	D					
	Overall Intersection		-	**1.09**	**66.9**	**E**										-	**1.07**	**63.3**	**E**					
10	**Grand Concourse at E. 149th Street**																							
	Grand Concourse	NB	LTR	0.95	40.9	D										LTR	0.95	40.9	D					- Mitigation not required.
		SB	LT	0.98	49.6	D										LT	0.88	35.0	D					
			R	1.08	97.6	F										R	1.08	97.6	F					
	E. 149th Street	EB	LTR	0.78	35.8	D										LTR	0.74	33.9	C					
		WB	LTR	0.74	34.0	C										LTR	0.74	34.0	C					
	Overall Intersection		-	**0.95**	**45.9**	**D**										-	**0.93**	**42.4**	**D**					
	UNSIGNALIZED																							
4b	**Edward Grant Highway/University Avenue at Martin Luther King Jr. Boulevard**																							
	Martin Luther King Jr. Boulevard	EB	R	0.59	19.2	C										R	0.60	19.5	C					- Mitigation not required.
	Overall Intersection		-	**0.59**	**19.2**	**C**										-	**0.60**	**19.5**	**C**					
9b	**Jerome Avenue at Cross Bronx Expressway S. Service Road**																							
	Cross Bronx Expressway S. Service Road	EB	R	0.88	43.5	E										R	0.88	43.5	E					- Mitigation not required.
	Overall Intersection		-	**0.88**	**43.5**	**E**										-	**0.88**	**43.5**	**E**					

Notes
(1): Control delay is measured in seconds per vehicle.
(2): Level of service (LOS) for signalized intersections is based upon average control delay per vehicle for each lane group as listed in the 2000 Highway Capacity Manual -- TRB.
(3): Level of service (LOS) for unsignalized intersections is based upon control delay per vehicle for each minor-approach as listed in the 2000 Highway Capacity Manual -- TRB.
(4): Overall intersection V/C ratio is the critical lane groups' V/C ratio, not the weighted average of all the movements.
(5): During the weeknight and weekend post-game peak hours, the NB Deegan Expressway Exit 5 off-ramp is closed.

GAME-DAY TRAFFIC MANAGEMENT PLAN

(6): As part of the Game-Day Traffic Management Plan, a series of additional mitigation measures would be implemented beyond those listed under "Build Mitigation Measures," including:

· VMS signs would be placed at selected locations along the Major Deegan and Cross Bronx Expressways to divert a portion of stadium-bound traffic to reduce volumes at congested intersections near the stadium.

· River Avenue would be closed to vehicle traffic post-game between East 161st Street and the entrace/exit to Garage B.

· Left turns would be prohibited from southboud Macombs Dam Bridge approach to the eastbound East 161st Street service road and right, and right turns would be prohibited from the westbound East 161st Street service road approaching Macombs Dam Bridge approach.

· Operate the exit from Garage B at Jerome Avenue as right-turn out only, postgame.

APPENDIX C
TRAFFIC: VOLUMES MAPS

N

Jerome Ave.
E. 165th St.
SEE DETAIL 'C'
E. 164th St.
Sedgwick Ave.
Major Deegan Expressway
NB Service Rd.
Woodycrest Ave.
Anderson Ave.
SEE DETAIL 'A'
Macombs Dam Bridge
Macombs Dam Approach Rd.
E. 161st St.
Macombs Pl.
Ruppert Pl.
River Ave.
Gerard Avenue
Walton Avenue
Grand Concourse
SEE DETAIL 'B'
Ramp from Exterior St.
E. 157th St.
E. 158th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
Exterior St.
E. 151st St.
145th St. Bridge
Lenox Ave.
NB Exit 4
Major Deegan Expressway
Exterior St.

DETAIL 'C'

DETAIL 'A'

DETAIL 'B'

NOTE: NOT TO SCALE

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Figure C-1
Existing Traffic Volumes:
Weeknight Pre-Game Hour
Yankees Stadium EIS

N

Jerome Ave.
E. 165th St.
SEE DETAIL 'C'
E. 164th St.
Sedgwick Ave.
Ogden Ave.
Woodycrest Ave.
Anderson Ave.
Major Deegan Expressway
NB Service Rd.
SEE DETAIL 'A'
W. 155th St.
Macombs Dam Bridge
Macombs Dam Approach Rd.
E. 161st St.
River Ave.
Gerard Avenue
Walton Avenue
Grand Concourse
Macombs Pl.
Ruppert Pl.
SEE DETAIL 'B'
Ramp from NB Exit 5
E. 157th St.
E. 158th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
Exterior St.
E. 151st St.
W. 145th St.
145th St. Bridge
Lenox Ave.
NB Exit 4

DETAIL 'C'

DETAIL 'A'

DETAIL 'B'

NOTE: NOT TO SCALE

Figure C-2
Existing Traffic Volumes:
Weeknight Post-Game Hour

Yankees Stadium EIS

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

N

Jerome Ave.
E. 165th St.
SEE DETAIL 'C'
E. 164th St.
SEE DETAIL 'A'
Gerard Avenue
Walton Avenue
Grand Concourse
River Ave.
E. 161st St.
SEE DETAIL 'B'
E. 158th St.
E. 157th St.
Sedgwick Ave.
Ogden Ave.
Woodycrest Ave.
Anderson Ave.
Major Deegan Expressway
NB Service Rd.
SB Exit 5
Macombs Dam Bridge
Macombs Dam Approach Rd.
E. 161st St.
Macombs Pl.
Ruppert Pl.
Ramp from
NB Exit 5
E. 157th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
River Ave.
Exterior St.
E. 151st St.
River Ave.
W. 145th St.
145th St. Bridge
Lenox Ave.
Major Deegan Expressway
NB Exit 4
Exterior St.

DETAIL 'C'

DETAIL 'A'

DETAIL 'B'

NOTE: NOT TO SCALE

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Figure C-3
Existing Traffic Volumes:
Weekend Pre-Game Hour
Yankees Stadium EIS

N

Jerome Ave.
Sedgwick Ave.
Ogden Ave.
Woodycrest Ave.
Anderson Ave.
Major Deegan Expressway
NB Service Rd.
Macombs Dam Bridge
Macombs Dam Approach Rd.
Macombs Pl.
E. 161st St.
Ruppert Pl.
Ramp from Exterior St.
NB Exit 5
E. 157th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
River Ave.
Exterior St.
E. 151st St.
SEE DETAIL 'A'
River Ave.
Gerard Avenue
Walton Avenue
Grand Concourse
E. 165th St.
SEE DETAIL 'C'
E. 164th St.
SEE DETAIL 'B'
E. 161st St.
E. 158th St.
E. 157th St.
W. 145th St.
145th St. Bridge
Major Deegan Expressway
NB Exit 4
Exterior St.

DETAIL 'C'

DETAIL 'A'

DETAIL 'B'

NOTE: NOT TO SCALE

Figure C-4
Existing Traffic Volumes:
Weekend Post-Game Hour
Yankees Stadium EIS

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

N

Jerome Ave.
Sedgwick Ave.
Woodycrest Ave.
Anderson Ave.
Major Deegan Expressway
NB Service Rd.
Macombs Dam Bridge
Macombs Dam Approach Rd.
Macombs Pl.
E. 161st St.
Ruppert Pl.
Ramp from Exterior St.
E. 157th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
River Ave.
Exterior St.
E. 151st St.
145th St. Bridge
Lenox Ave.
NB Exit 4
Major Deegan Expressway
Exterior St.
E. 165th St.
E. 164th St.
SEE DETAIL 'C'
SEE DETAIL 'A'
River Ave.
Gerard Avenue
Walton Avenue
Grand Concourse
SEE DETAIL 'B'
E. 161st St.
E. 158th St.
E. 157th St.

DETAIL 'C'

DETAIL 'A'

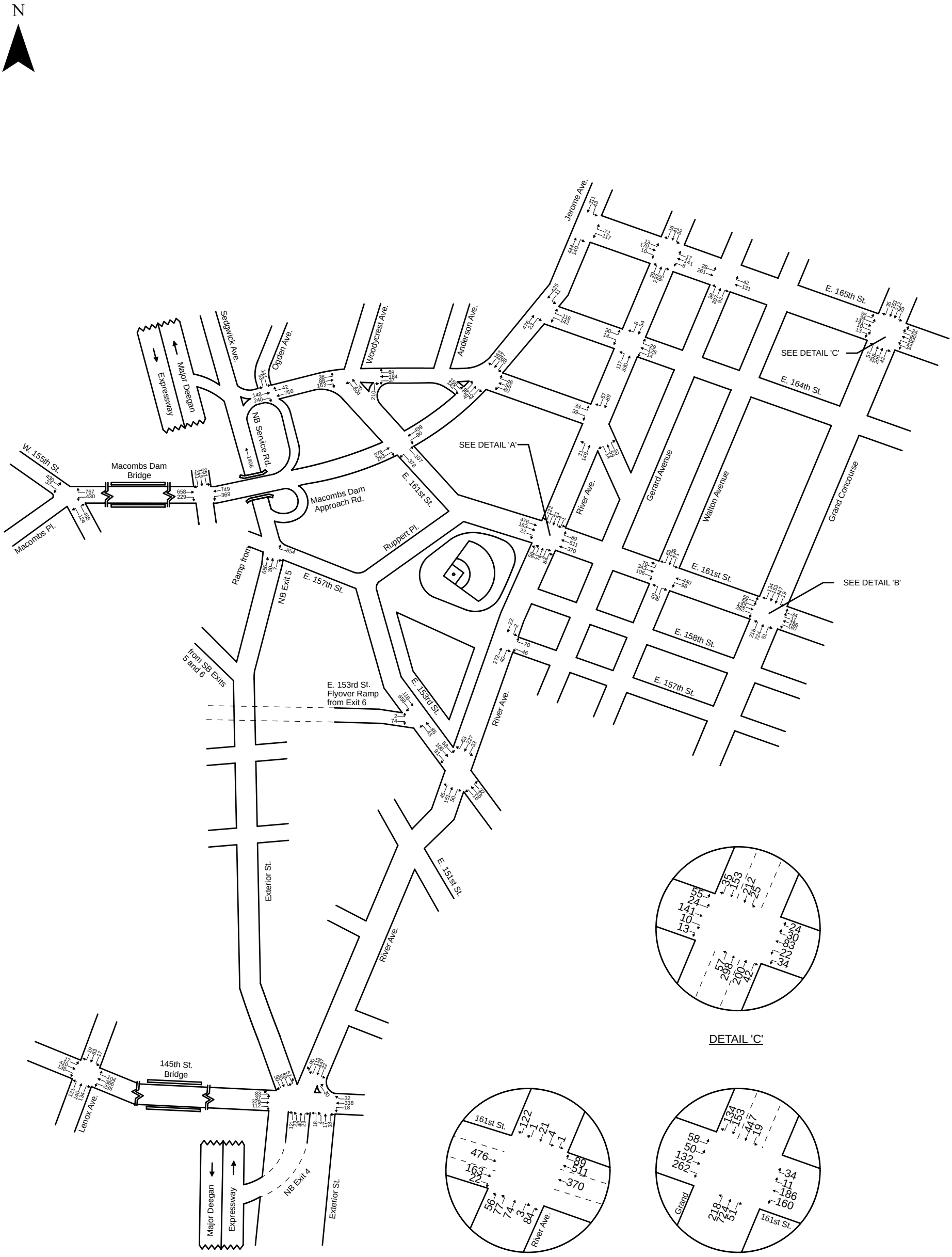
DETAIL 'B'

NOTE: NOT TO SCALE

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Figure C-5
No Build Traffic Volumes:
Weeknight Pre-Game Hour

Yankees Stadium EIS



NOTE: NOT TO SCALE

Figure C-6
No Build Traffic Volumes:
Weeknight Post-Game Hour

Yankees Stadium EIS

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

N

Jerome Ave.
Sedgwick Ave.
Ogden Ave.
Woodycrest Ave.
Anderson Ave.
Major Deegan Expressway
NB Service Rd.
SB Exit 5
Macombs Dam Bridge
Macombs Dam Approach Rd.
Macombs Pl.
E. 161st St.
Ruppert Pl.
Ramp from Exterior St.
E. 157th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
River Ave.
Exterior St.
E. 151st St.
W. 145th St.
145th St. Bridge
Lenox Ave.
NB Exit 4
Major Deegan Expressway
Exterior St.
E. 165th St.
E. 164th St.
SEE DETAIL 'C'
SEE DETAIL 'A'
River Ave.
Gerard Avenue
Walton Avenue
Grand Concourse
E. 161st St.
SEE DETAIL 'B'
E. 158th St.
E. 157th St.

DETAIL 'C'

DETAIL 'A'

DETAIL 'B'

NOTE: NOT TO SCALE

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Figure C-7
No Build Traffic Volumes:
Weekend Pre-Game Hour
Yankees Stadium EIS

N

Major Deegan Expressway
Sedgwick Ave.
Ogden Ave.
Woodycrest Ave.
Anderson Ave.
Jerome Ave.
E. 165th St.
E. 164th St.
SEE DETAIL 'C'
SEE DETAIL 'A'
NB Service Rd.
Macombs Dam Bridge
Macombs Dam Approach Rd.
E. 161st St.
Macombs Pl.
Ruppert Pl.
River Ave.
Gerard Avenue
Walton Avenue
Grand Concourse
SEE DETAIL 'B'
Ramp from NB Exit 5
E. 157th St.
E. 158th St.
from SB Exits 5 and 6
E. 153rd St. Flyover Ramp from Exit 6
E. 153rd St.
Exterior St.
E. 151st St.
W. 145th St.
145th St. Bridge
NB Exit 4

DETAIL 'C'

DETAIL 'A'

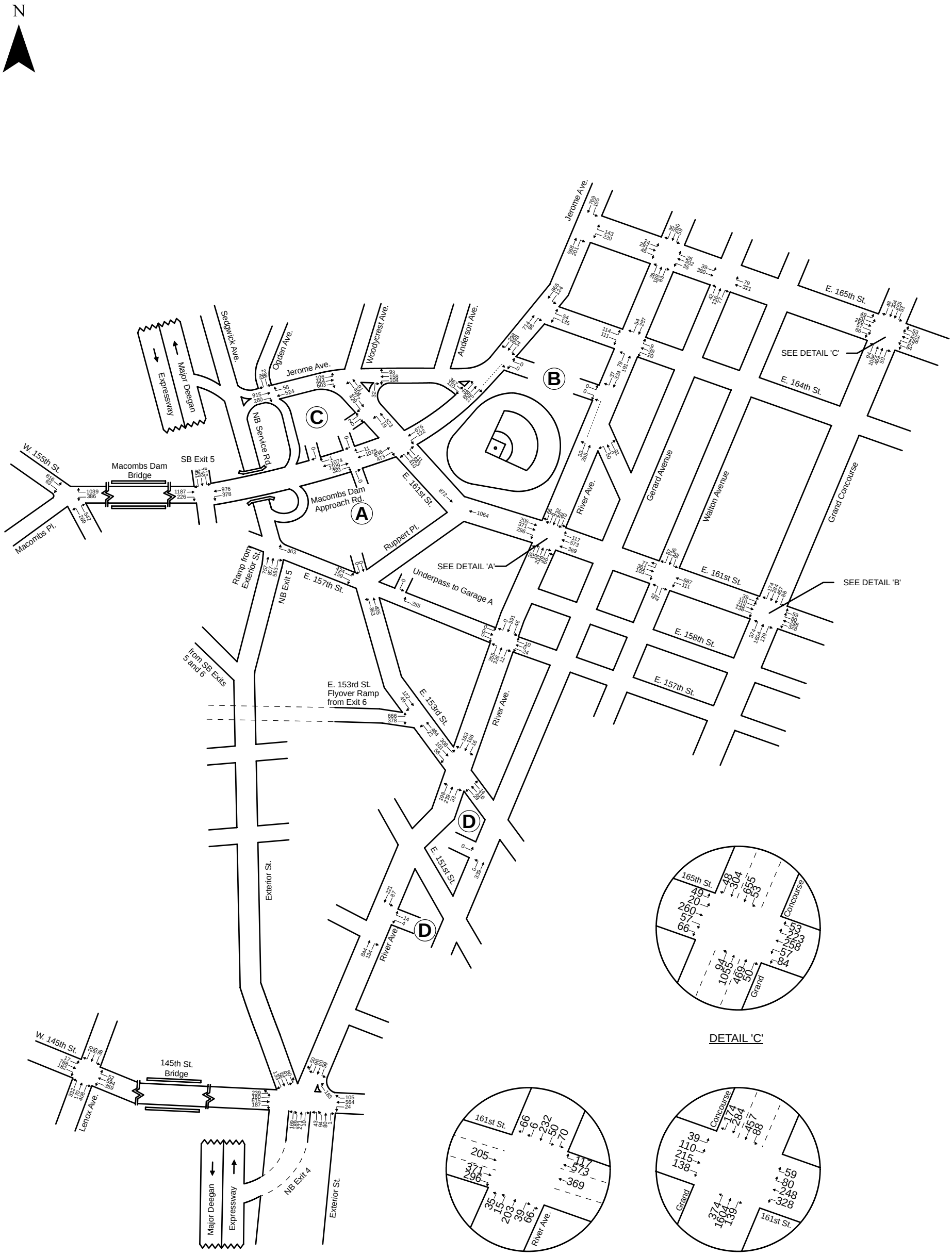
DETAIL 'B'

NOTE: NOT TO SCALE

Figure C-8
No Build Traffic Volumes:
Weekend Post-Game Hour

Yankees Stadium EIS

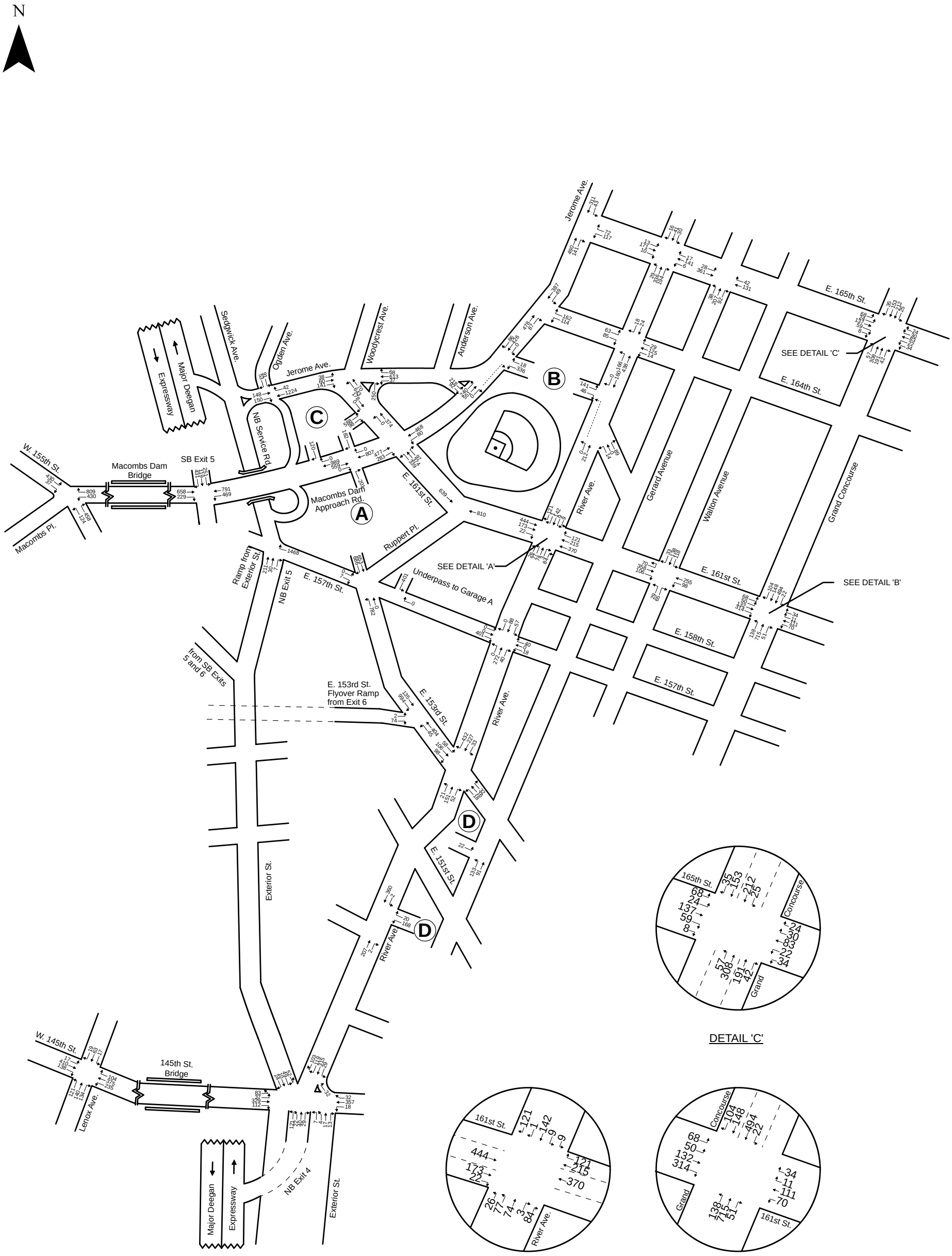
Eng-Wong, Taub & Associates
Traffic and Transportation Consultants



NOTE: NOT TO SCALE

Figure C-9
Build Traffic Volumes:
Weeknight Pre-Game Peak Hour
Yankees Stadium EIS

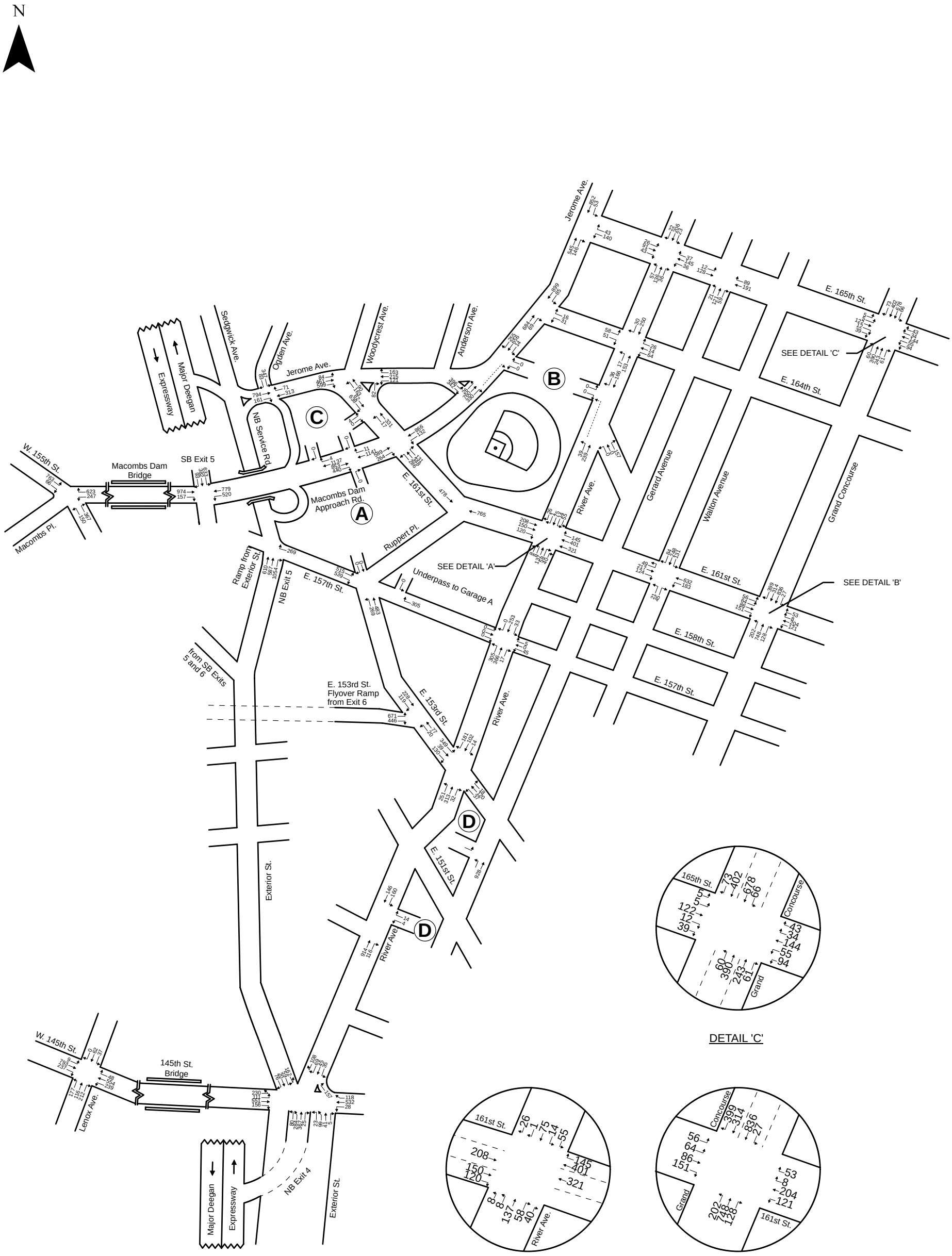
Eng-Wong, Taub & Associates
Traffic and Transportation Consultants



NOTE: NOT TO SCALE

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Figure C-10
Build Traffic Volumes:
Weeknight Post-Game Peak Hour
Yankees Stadium EIS



DETAIL 'C'

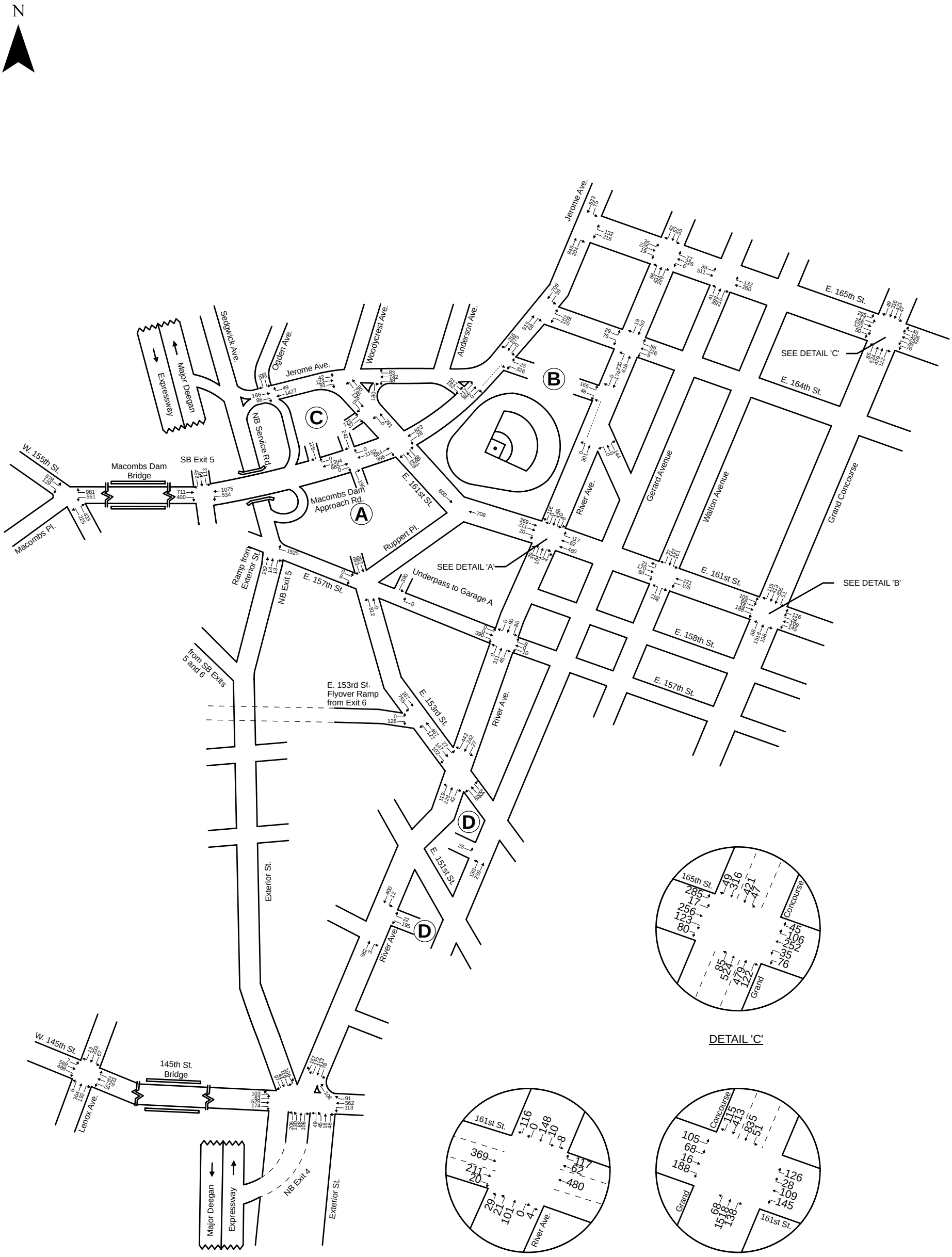
DETAIL 'A'

DETAIL 'B'

NOTE: NOT TO SCALE

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

Figure C-11
Build Traffic Volumes:
Weekend Pre-Game Peak Hour
Yankees Stadium EIS



NOTE: NOT TO SCALE

Figure C-12
Build Traffic Volumes:
Weekend Post-Game Peak Hour

Yankees Stadium EIS

Eng-Wong, Taub & Associates
Traffic and Transportation Consultants

APPENDIX D
CORRESPONDENCE

347 Madison Avenue
New York, NY 10017-3739
212 878-7000 Tel

Metropolitan Transportation Authority
State of New York

February 8, 2006

David Paget, Esq
Sive, Paget & Riesel, P.C.
460 Park Avenue
New York, N.Y. 10022-1906

Dear Mr. Paget :

This letter is to acknowledge that AKRF's memo dated February 3, 2006, which provides responses to the MTA's January 23, 2006 comments on the proposed Yankee Stadium Project Draft Environmental Impact Statement, satisfactorily addresses MTA's prior comments. We appreciate the fact that the stadium project sponsors will continue to coordinate with the MTA to ensure the effectiveness of the described measures regarding subway and bus service as it relates to the project, and if necessary, based on actual operations, provide any additional practicable mitigations measures that may be warranted.

Thank you for your attention to MTA's comments.

Very truly yours,

William Wheeler
Director of Special Project Development and Planning

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

Bernadette Castro
Commissioner

February 8, 2006

Claudia Cooney
AKRF
440 Park Avenue South
New York, NY 10016

Re: LWCF
Yankee Stadium
Bronx County
05PR02125

Dear Ms. Cooney:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO) for the proposed Yankee Stadium Project. Since the location of the proposed new stadium is on a portion of Macomb's Dam Park that was improved with funds from the Federal Land and Water Conservation Fund (LWCF) we are reviewing the project in accordance with Section 106 of the National Historic Preservation Act of 1966 and relevant implementing regulations.

We have reviewed the submitted Alternatives Analysis for the Bronx Terminal Market Buildings G&H. It is our understanding from this submission that the preferred alternative has been revised and it includes keeping building J and rehabilitating it as a tennis center. We are pleased to see that building J can be retained and rehabilitated. Further, moving the tennis center to the river location, will reduce the height of one of the parking garages that reduces the visual impacts to the National Register listed Macomb's Dam Bridge.

It is SHPO's opinion that the alternatives analysis for building G & H is appropriate. We concur that there are no prudent and feasible alternatives to demolition of these buildings. As you know, demolition of National Register buildings is by definition an Adverse Effect. As such, we have begun discussions developing a Memorandum of Agreement which will provide for proper mitigation measures to be incorporated into the work.

If you have any questions regarding this letter feel free to contact me at 518-237-8643 extension 3282. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Beth A. Cumming BAC
Historic Preservation Specialist – Technical Unit
(beth.cumming@oprhp.state.ny.us)

cc: Gina Santucci, NYC Landmarks Preservation Commission
Claudia Cooney, AKRF

New York City Department of Transportation
Iris Weinshall, Commissioner

Division of Traffic Planning
40 Worth Street, Room 928
New York, New York 10013
Tel: 212-676-1680 Fax: 212-442-7912
Web:www.nyc.gov/dot

To: Colleen Alderson, Assistant Director
Department of Parks & Recreation

From: Naim Rasheed, Director

Re: Yankee Stadium Project
Final Environmental Impact Statement
CEQR No.: 05-DPR-006X

Date: February 3, 2006

The Office of Project Analysis/CEQR has completed its review of the above referenced Final Environmental Impact Statement (FEIS). The proposed project is the construction of a new 54,000-seat capacity Yankee Stadium, construction of four new parking garages containing 4,735 parking spaces and the development of new and replacement recreational park facilities. The proposed stadium would be relocated across East 161st Street from the existing stadium, on a site bounded by East 161st Street on the south, Jerome Avenue on the west, East 164th Street on the north and River Avenue on the east, in the Bronx Community Board 4. East 162nd Street would be closed and demapped between River Avenue and Jerome Avenue, and would essentially serve as an entry/exit for one of the new parking garages being proposed as part of the proposed project. Ruppert Place would also be demapped. In addition, East 157th Street between River Avenue and Ruppert Place would be re-opened to vehicular traffic. The installation of traffic signals at Ruppert Place and East 161st Street, Macombs Dam Bridge approach and East 161st Street, East 153rd Street and East 157th Street at the entrance/exit for proposed Garage A, and River Avenue at East 162nd Street, are proposed as part of the project. In addition to the new crossings associated with the newly signalized intersections of the Macomb's Dam Bridge approach with East 161st Street and the Garage A entrance/exit with East 153rd/East 157th Streets, minor widenings of the north, south, and east crosswalks at the River Avenue and East 161st Street intersection would be needed as pedestrian mitigation measures. The proposed design for the extension of the existing waterfront pedestrian bridge to connect with the second level of Garage 8 and span over East 157th Street onto Ruppert Plaza is subject to the review and approval by DOT's Division of Bridges.

The proposed project identifies significant traffic impacts at the following locations:

- Macombs Place and West 155th Street;
- Macombs Dam Bridge Approach and East 161st Street;
- Macombs Dam Bridge and Major Deegan Expressway southbound off-ramp;
- Jerome Avenue/Ogden Avenue and the Major Deegan Expressway service road;
- Jerome Avenue and East 161st Street;

- Jerome Avenue and East 162nd Street;
- Jerome Avenue and East 164th Street;
- Jerome Avenue and East 165th Street;
- Major Deegan Expressway southbound exit Ramp and East 153rd Street;
- Major Deegan Expressway northbound ramp and East 157th Street;
- River Avenue and East 153rd Street;
- River Avenue and East 157th Street;
- River Avenue and East 161st Street;
- River Avenue and East 162nd Street;
- River Avenue and East 164th Street;
- River Avenue and East 165th Street;
- Walton Avenue and East 161st Street; and
- Grand Concourse and East 161st Street.

The proposed mitigation measures include signal timing modifications, restriping, parking regulation modifications, installation of new traffic signals, widening the Macombs Dam Bridge approach east crosswalk and the use of traffic enforcement agents (TEAs). In addition, a game-day traffic management plan would be implemented, which includes street closures, turn prohibitions and traffic diversion strategies using variable message signs (VMS) to divert traffic away from critical intersections. These measures would fully mitigate significant traffic impacts at the above locations, except for the partially mitigatible impacts at the locations of River Avenue and East 161st Street, Macombs Dam Bridge approach and East 161st Street, and Jerome Avenue/Ogden Avenue and the Major Deegan Expressway service road. At locations where restriping and signal modifications are not feasible, TEAs and temporary lane delineators will be used overriding signal timing and pavement markings. The design for the proposed widening of the Macombs Dam Bridge approach east crosswalk is subject to the approval of DOT's Division of Bridges.

The game-day management planning and proposed mitigation measures include the prohibition of left and/or right turns at some locations, post-game closure of River Avenue just north of East 161st Street, and the use of VMS to direct traffic to alternate routes to and from the proposed stadium. As a result, the traffic study area was expanded and additional significant traffic impacts were identified at the following locations:

- Gerard Avenue and East 165th Street;
- Grand Concourse and East 165th Street;
- Jerome Avenue/Cromwell Avenue and East 167th Street/Edward Grant Highway;
- Edward Grant Highway/University Avenue and the Washington Bridge off-ramp;

- River Avenue and East 167th Street;
- Jerome Avenue and 170th Street; and
- Jerome Avenue and East 173rd Street.

The proposed mitigation measures for these locations include signal timing modifications, restriping and parking regulation modifications which mitigate significant traffic impacts at the above seven locations.

The proposed mitigation measures appear reasonable and appropriate for the locations listed in this memorandum. The applicant should advise DOT six months prior to the completion and occupancy of the proposed project. Additionally, the applicant should submit all of the required drawings /design as per DOT specifications. Elements that involve physical changes to the street network must be subject to preliminary and final design to the satisfaction of DOT. DOT will investigate the feasibility of implementing these mitigation measures when the project is built and occupied in 2009.

If you should have any questions or need additional information, please call me at (212) 676-1680 or Michele Samuelsen at (212) 442-8053.

c: D/C M. Primeggia, C/B/O H. Perahia, B/C M. Forgione, B/C J. Palmieri, A/C V. Rosen, A/C J. Jaber, R. Kulikowski (OEC), H. Adasko (EDC), K. Zias (EDC), E. Athanailos, G. Soffian, F. Esposito, K. Kishore, R. Holcomb, J. Martin, S. Barkho, A. Hossain, R. Moehle, J. Girardi, J. Noto, D. Orlando, A. Olmsted, W. Lee, W. Yan, A. DiGuglielmo, H. Bashjawish, L. Forrester, M. Griffith, M. Bryant, M. Samuelsen, File.
c:/Samuelsen/YankeeStadium

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION ELEVEN
4740 21ST STREET
LONG ISLAND CITY, NEW YORK 11101
www.dot.state.ny.us

DOUGLAS A. CURREY, P.E.
REGIONAL DIRECTOR

PHILLIP ENG, P.E.
DEPUTY REGIONAL DIRECTOR

THOMAS J. MADISON, JR.
COMMISSIONER

February 3, 2006

Joshua Laird, Director of Planning
New York City Department of Parks and Recreation
830 Fifth Avenue
New York, NY 10021

Re: Yankee Stadium Project
PVMS

Dear Mr. Laird:

This letter is in referenced to the four (4) Portable Variable Message Signs (PVMS) proposed in the DEIS for the Yankee Stadium project that was forwarded to me by Eng-Wong Taub and Associates (EWT) on December 30, 2005.

Based on the responses provided to our comments on the PVMS issue, we can agree to operate the four (4) PVMS by our Joint Traffic Operations Center (JTOC). This agreement is with the understanding that the other questions related to the funding of the equipment including the furnishing, placement and maintenance of the PVMS will be determined in the future by the involved parties.

Sincerely,

Douglas A. Currey, P.E.
Regional Director

cc: M. Taub, Eng-Wong Taub & Associates, 2 Penn Plaza, NY, NY 10121
L. Malsam, Planning Supr., Reg. 11
F. Lai, RTE, Reg. 11
Files

THE POLICE COMMISSIONER
CITY OF NEW YORK

February 2, 2006

The Honorable Adrian Benepe
Commissioner
New York City Department of Parks and Recreation
The Arsenal
Central Park
New York, New York 10021

Dear Commissioner Benepe:

I am writing to provide information relative to the Environmental Impact Statement for the new Yankee Stadium.

This letter is to confirm that the New York City Police Department will provide management and control of game day traffic and pedestrian flows in the vicinity of the proposed new Yankee Stadium. Such operations, like those implemented currently for the existing stadium, and as detailed in the final Environmental Impact Statement for the proposed stadium, will include the deployment of traffic enforcement agents, selected street and lane closures, selected turn prohibitions and enforcement of parking regulations.

Sincerely,

Raymond W. Kelly
Police Commissioner

1 Police Plaza, New York, NY 10038 • 646-610-5410 • Fax: 646-610-5865
Website: http://nyc.gov/nypd

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DPR /05DPR006X — PROJECT NUMBER
09/26/05 — DATE RECEIVED

ROJECT YANKEE STADIUM REDEVELOPM

[ ] No architectural significance

[X] No archaeological significance

study area

[X] Designated New York City Landmark or Within Designated Historic District

[X] Listed on National Register of Historic Places

[X] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

OMMENTS The LPC is in receipt of the DEIS dated September 23, 2005. LPC defers to the SHPO regarding the identification, evaluation, and treatment of historic properties. The SHPO comments of July 15, 2005 and September 20, 2005 (attached) should be incorporated into the DEIS text.

cc: SHPO

Gina Santucci — SIGNATURE
10/12/05 — DATE

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DPR /05DPR006X
PROJECT NUMBER

08/25/05
DATE RECEIVED

PROJECT YANKEE STADIUM REDEVELOPM

[ ] No architectural significance

[X] No archaeological significance

study area

[X] Designated New York City Landmark or Within Designated Historic District

[X] Listed on National Register of Historic Places

[X] Appears to be eligible for National Register Listing and/or New York City Landmar Designation

[ ] May be archaeologically significant; requesting additional materials

COMMENTS

The LPC is in receipt of the preliminary DEIS dated 8/25/05. The text is acceptable for historic resources.

Regarding the list of potential architectural resources on page 6-13, LPC determinations are as follows:

1. Mullaly Recreation Center, LPC and S/NR eligible.
2. 1001 Jerome Ave., S/NR eligible.
3. Church of God, 923 Woodycrest Ave., LPC and S/NR eligible.
4. 876-878 Gerard Ave., no interest.
5. 58 E. 161 St., LPC and S/NR eligible.
6. 825 Gerard Ave., S/NR eligible.
7. West side of Walton Ave., rowhouses, S/NR eligible.
8. 675 Walton Ave., LPC and S/NR eligible.
9. 690 Gerard Ave., S/NR eligible
10. Oxford Knolls, 691 Gerard Ave., no interest.

cc: SHPO

G:\CEQRER\05dpr006x.pdeis august2005.wpd

Gina Santucci
SIGNATURE

08/26/05
DATE

OFFICE OF PARKS, RECREATION & HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

September 20, 2005

Joshua Laird
New York City Department of Parks & Recreation
830 Fifth Avenue, Room 403
New York, NY 10021

Re: LWCF
Yankee Stadium
Bronx County
05PR02125

Dear Mr. Laird:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO) for the proposed Yankee Stadium Project. Since the location of the proposed new stadium is on a portion of Macomb's Dam Park that was improved with funds from the Federal Land and Water Conservation Fund (LWCF) we are reviewing the project in accordance with Section 106 of the National Historic Preservation Act of 1966 and relevant implementing regulations.

Kathy Howe of our National Register Unit has provided Resource Evaluations. A copy is attached for your use. The Resource Evaluation states that Mullaly Recreation Center on Jerome Avenue in John Mullaly Park, Church of God at 923 Woodycrest Avenue, 876-878 Gerard Avenue/893-895 Walton Avenue, 58 East 161st Street, American Female Guardian Society and Home of the Friendless at 936 Woodycrest Avenue, 690 Gerard Avenue, 825 Gerard Avenue/90 East 158th Street, 1001 Jerome Avenue, 675 Walton Avenue and Oxford Knolls at 691 Gerard Avenue meet the criteria for listing on the State and National Registers of Historic Places. Further, she notes, that the Bronx County building is National Register Listed. The row houses at 615, 621, 625, 629, 633, 637 and 641 Walton Avenue do not appear to meet the National Register criteria.

Doug Mackey of our Archeology Unit has no further comments at this time.

We understand from the Preliminary Draft Environmental Impact Statement that the project proposes to demolish buildings G, H and J at the Bronx Terminal Market. As you note, the Bronx Terminal Market is eligible for listing on the National Register of Historic Places. Under the provisions of Section 106, demolition of National Register eligible buildings would constitute an Adverse Effect requiring the exploration of alternative sites, treatment, and/or plans. The intent of the exploration is to determine if there are any prudent and feasible alternatives to demolition such as the potential reuse of the existing buildings for concessions, locker rooms and comfort stations. If none can be identified, we would then enter into a formal agreement document which would identify proper mitigation measures to be incorporated into the work.

Mitigation measures could include an interpretive history, documentation/recordation, community outreach, salvage of certain buildings or building components and continued consultation with our office as the new areas are designed. Although Yankee Stadium is not considered National Register eligible due to alterations, many New Yorkers and baseball fans have developed a sentimental attachment to it. As such it may be appropriate to consider mitigation measures including the recordation of Yankee Stadium or salvage of certain building elements. From the proposed plans, it appears that the existing Yankee Stadium field will be retained, so perhaps it would be appropriate to consider salvaging elements and artifacts in situ as suggested in our July 15, 2005 letter. If that is not possible then perhaps certain elements and artifacts could be salvaged for creative reuse in the new stadium.

At this time, it is important to move ahead with a proper exploration of alternatives. This should include an evaluation of the existing buildings at the Bronx Terminal Market to determine if they can be incorporated into the proposed development. We would be glad to discuss this with you designer and other project personnel if that would be helpful.

We understand from the proposed plans that there may be significant effects to the National Register Listed Macomb's Dam Bridge, particularly at the approach span and from the proposed parking garages. As the designs are progressed we would like to review these possible effects.

As noted, an historic resource can be damaged from adjacent construction due to vibration or physical impact of construction equipment. As such, we would like to review construction protection plans for historic buildings within 90 feet of construction activity.

If you have any questions regarding this letter feel free to contact me at 518-237-8643 extension 3282. Please refer to the SHPO Project Review (PR) number in any future correspondences regarding this project.

Sincerely,

Beth A. Cumming BAC
Historic Preservation Specialist – Technical Unit
(beth.cumming@oprhp.state.ny.us)

cc: Gina Santucci, NYC Landmarks Preservation Commission
Claudia Cooney, AKRF

Attachments: Resource Evaluations

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

Bernadette Castro
Commissioner

RESOURCE EVALUATIONS

DATE: 8/31/05 STAFF: Kathy Howe

PROPERTY: Multiple addresses (see below) MCD: Bronx

PROJECT REF: 05PR02125 COUNTY: Bronx Co.

ELIGIBLE PROPERTIES:

Based on the information currently available, the following properties meet the criteria for listing on the State and National Registers:

Mullaly Recreation Center, Jerome Avenue, John Mullaly Park (00501.001382)
The Mullaly Recreation Center appears to meet Criterion C as an example of a Depression-era park structure serving recreational needs. The one-story brick building is symmetrical with tall round-arched windows with keystones, projecting entrance pavilions near each end, and a parapet ornamented with terra cotta banding. The entrances have classical surrounds with a terra cotta medallion of the Bronx County seal.

Church of God, 923 Woodycrest Avenue (00501.001383)
The Church of God appears to meet Criterion C as a local example of Late Gothic Revival design. Built in 1927, the brick church has many of the character-defining features of the style including pointed arch windows and doors, stained glass windows with tracery and drip molding, pinnacles crowning engaged piers, emphasis on verticality, and a lively, picturesque roofline.

876-878 Gerard Avenue/893-895 Walton Avenue (00501.001384)
This two-story brick and terra cotta commercial building at the corner of Gerard Avenue and Walton Avenue was built in 1927-28. Though changes have been made to the first floor storefronts, the building is notable under Criterion C for its highly ornate terra cotta ornamentation at the second floor which includes inventive horse heads, vertical rope moldings, human faces, and floral motifs.

58 East 161st Street (00501.001385)
This Art Deco building was constructed in 1936 as the Semi Earl Theatre. The building appears to meet Criterion C as an example of an Art Deco theater. Above the replacement marquee the upper façade emphasizes verticality. The auditorium is believed to be intact and now serves as a space for flea markets. The building may also meet Criterion A in the area of entertainment history.

American Female Guardian Society and Home for the Friendless, 936 Woodycrest Avenue (00501.001158)
The American Female Guardian Society meets Criterion C as an outstanding Beaux-Arts institutional building by prominent New York City architect William B. Tuthill. Tuthill's pavilion plan was carefully massed and terraced to disguise its size and was richly decorated in the fashionable Beaux-Arts style to resemble a large mansion rather than an institutional structure. Built in 1901-02, the property also meets Criterion A in the area of social history as one of New York City's important charitable institutions that served abandoned and needy children.

Art Deco/Art Moderne Apartment Buildings of the Bronx (Thematic Group/Potential MPDF):
The following Art Deco and Art Moderne apartment houses appear to meet Criterion C as intact, representative examples of the style that was immensely popular in the Bronx during the 1930s and early 1940s. Among the features that distinguish these buildings is the use of colored brick banding, stone, cast-stone, and/or terra cotta trim; geometric ornamentation in low relief; corner windows to maximize on natural light; vertical, column-like fenestration; and an emphasis on either verticality (for Art Deco) or streamlined horizontality (Art Moderne).

690 Gerard Avenue (00501.001377)
Six-story, Art Deco apartment house built in 1936. Exterior walls of buff-colored brick with darker-colored brick forming geometric patterns.

825 Gerard Avenue/90 East 158th Street (00501.001386)
Eight-story Art Deco apartment house built in the 1930s of tan brick with contrasting darker brick. Decorative terra-cotta (?) ornamentation at parapet.

1001 Jerome Avenue (00501.001387)
Eleven-story, Art Deco brick apartment building with stone base, erected in 1937. Verticality expressed by decorative brickwork and column-like arrangement of windows openings.

675 Walton Avenue (00501.001388)
Six-story, Art Moderne apartment house built ca. 1930s notable for its horizontal brick banding and rounded corner.

Oxford Knolls, 691 Gerard Avenue (00501.001376)
Oxford Knolls consists of three six-story Tudor Revival apartment buildings erected ca. 1930. The complex meets Criterion C as an example of Tudor Revival inspired residential design. Character-defining features of the style include the contrasting materials (brick, stone, stucco and false half-timbering), steeply pitched gables at the parapet, and crenellations.

INELIGIBLE PROPERTIES:

Row Houses at 615, 621, 625, 629, 633, 637, and 641 Walton Avenue (00501.001389)
This row of seven, mid-1880s Italianate style houses does not appear to meet the National Register criteria.

Please contact Kathy Howe at (518) 237-8643 ext. 3266 with any questions. Be sure to use the project reference number (PR) in all future correspondence.

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DPR/LA-CEQR-X — PROJECT NUMBER

03/29/05 — DATE RECEIVED

PROJECT YANKEE STADIUM REDEVELOPM

( ) No architectural significance

(X) No archaeological significance

( ) Designated New York City Landmark or Within Designated Historic District

( ) Listed on National Register of Historic Places

( ) Appears to be eligible for National Register Listing and/or New York City Landmark Designation

( ) May be archaeologically significant; requesting additional materials

COMMENTS For Archaeology only.

Amanda Sutphin — SIGNATURE

03/29/05 — DATE

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DPR /LA-CEQR-X 03/28/05
PROJECT NUMBER DATE RECEIVED

PROJECT YANKEE STADIUM REDEVELOPM

[ ] No architectural significance

[X] No archaeological significance

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

COMMENTS The LPC is in receipt of the draft scope of work for EIS (SEIS) dated 3/3/05. The text is acceptable for architecture. Yankee Stadium does not appear eligible for NYC landmarking. A 400' radius Sanborn map with listed and potential architectural properties should be provided for review and comment.

Gina Santucci 04/25/05
SIGNATURE DATE

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DPR /05DPR006X 07/26/05
PROJECT NUMBER DATE RECEIVED

PROJECT YANKEE STADIUM REDEVELOPM

[X] No architectural significance

[X] No archaeological significance

[ ] Designated New York City Landmark or Within Designated Historic District

[ ] Listed on National Register of Historic Places

[ ] Appears to be eligible for National Register Listing and/or New York City Landmark Designation

[ ] May be archaeologically significant; requesting additional materials

COMMENTS Concerning the Macomb's Dam Park District Office, the LPC concurs with the SHPO determination of non significance dated 7/11/05.

cc: SHPO

Gina Santucci 08/02/05
SIGNATURE DATE

05LPC00740X

THE CITY OF NEW YORK LANDMARKS PRESERVATION COMMISSION
1 Centre St., 9N, New York, NY 10007 (212) 669-7700

ENVIRONMENTAL REVIEW

DPR /05DPR006X — 06/16/05
PROJECT NUMBER — DATE RECEIVED

PROJECT YANKEE STADIUM REDEVELOPM

[X] No architectural significance

[X] No archaeological significance

study area only

[X] Designated New York City Landmark or Within Designated Historic District

[X] Listed on National Register of Historic Places

[X] Appears to be eligible for National Register Listing ~~and/or New York City Landmark Designation~~

[ ] May be archaeologically significant; requesting additional materials

COMMENTS The LPC is in receipt of the EAS, Positive Declaration, and scope of work for EIS dated 6/15/05. The documents are acceptable for historic resources. The LPC concurs with the 7/15/05 comments of the SHPO (attached).

cc: SHPO
NYC OEC
AKRF

Gina Santucci — 08/17/05
SIGNATURE — DATE

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

July 11, 2005

Amy Diehl
Architectural Historian
AKRF
440 Park Avenue South
New York, NY 10016

RE: Yankee Stadium Redevelopment Project
Evaluation of Macomb's Dam Park District Office
Bronx County, NY
05PR02125

Dear Ms. Diehl:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We are reviewing this project in accordance with Section 106 of the National Historic Preservation Act of 1966.

Based upon the documentation submitted, it is the SHPO's opinion that the Macomb's Dam Park District Office Building does not meet the criteria for listing to the National Register of Historic Places.

We look forward to receiving the draft Environmental Impact Statement for the Yankee Stadium Redevelopment Project. Please be sure to refer to the OPRHP Project Review (PR) number noted above in future correspondence regarding this project.

Sincerely,

Kathleen A Howe

Kathleen A. Howe
Historic Preservation Specialist

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

August 10, 2005

Claudia Cooney
AKRF, Inc.
440 Park Avenue south
New York, NY 10016

Dear Ms. Clooney,

Re: LWCF
Proposed Yankee Stadium Project
Bronx, Bronx County, New York
05PR02125

Thank your for requesting the comments of the New York State Historic Preservation Office (SHPO) with regard to the potential for this project to affect significant historical/cultural resources. SHPO has reviewed your recent submission which included the Geotechnical Summary report prepared by Mueser Rutledge Consulting Engineers in December 2004 and the Phase I Environmental Site Assessment prepared by Hillman Environmental Group , LLC in May 2001. Based on the material contained in these documents it appears the majority of the proposed project area was covered by an inlet to the Harlem River until the late 19th century and that the current land surface consists of extensive fill deposits placed over the last 100-125 years. Additionally, it appears that little historic development occurred in this vicinity prior to the construction of the original Yankee Stadium in the 1920s.

Therefore, the SHPO has no further archaeological concerns for this project. This determination and the supporting data should be included in the EIS under preparation for this project.

Please contact me at extension 3291, or by e-mail at douglas.mackey@oprhp.state.ny.us, if you have any questions regarding these comments.

Sincerely

Douglas P. Mackey

Douglas P. Mackey
Historic Preservation Program Analyst
Archaeology

F

OFFICE OF PARKS, RECREATION & HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189
518-237-8643

July 15, 2005

Claudia Cooney
Technical Director
AKRF
440 Park Avenue South
New York, NY 10016

Re: Yankee Stadium Redevelopment Project
Bronx County, NY
05PR02125

Dear Ms. Cooney:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO) regarding the eligibility of Yankee stadium for the State and National Registers of Historic Places. We have reviewed the information that you submitted in accordance with Section 106 of the National Historic Preservation Act of 1966.

Based upon the documentation that you submitted with your letter of June 10, 2005, it is the SHPO's opinion that Yankee Stadium does not meet the criteria for listing to the National Register of Historic Places due to its lack of integrity. While the contribution of the New York Yankees to the history of baseball in America is nationally significant, the mid-1970's rebuilding and remodeling work has dramatically compromised the historic design of the stadium.

The major change from the 1974-75 rebuilding included demolition of portions of the stadium and re-engineering of the structure allowing for removal of obstructive steel columns. The seating capacity was reduced and two-thirds of the bleacher seats were removed. Other changes included new seating, new scoreboard, removal of the original frieze, and relocation of the center-field monuments to a new location known as "Monument Park" created behind the left center-field wall between bullpens. The exterior of the stadium has been changed by the addition of three escalator towers.

While Yankee Stadium does not retain period integrity, the SHPO understands the sentimental value of the ballpark and its meaning to New Yorkers and baseball enthusiasts. The SHPO encourages City Parks to consider reusing the stadium structure or elements of it for recreational use. The special horseshoe-shaped plan, limestone façade, and Monument Park, for example, are features worthy of consideration in the redevelopment of the property. Additionally, the property's historical significance would justify interpretation as part of an exhibit in the new stadium and on the new website for the stadium. If certain elements and artifacts cannot be saved in situ at the original stadium they may be able to be salvaged for creative reuse in the new stadium. Though not required, the City may want to consider HABS/HAER level 2 documentation of the stadium which can be included in the New York State Archives and used for interpretative purposes.

Please let me know if you have any questions on our evaluation of Yankee Stadium. We look forward to receiving the draft Environmental Impact Statement for the Yankee Stadium Redevelopment Project and information on any other historic or cultural resources that may be impacted by the proposed project. Please be sure to refer to the OPRHP Project Review (PR) number noted above in future correspondence regarding this project.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director
Field Services Bureau

National Marine Fisheries Service
Habitat Conservation Division
Milford Field Office, 212 Rogers Avenue
Milford, Connecticut 06460

TO: Ms. Sandra Collins
Senior Scientist
AKRF
7250 Parkway Drive, Suite 210
Hanover, MD 21076

DATE: 1 June 2005

SUBJECT: **New York Yankees; Proposed New Baseball Stadium and Public Park/Esplanade; Borough of The Bronx, Bronx County, New York**

Diane Rusanowsky
(Reviewing Biologist)

WE have completed our review of the subject information request and offer the following preliminary comments pursuant to the Endangered Species Act, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered and Threatened Species

__XX__ No endangered or threatened species under the jurisdiction of NOAA Fisheries Service in the immediate project area.

_____ Endangered or threatened species under the jurisdiction of NOAA Fisheries Service's jurisdiction may be present in the project area. For details, please contact:

Ms. Mary Colligan
ARA for Protected Resources
One Blackburn Drive
Gloucester, MA 01930

Fish and Wildlife Coordination Act Species

___XX___ The following may be present in the general project area: Anadromous and resident fish, forage and benthic species in nearby aquatic habitats

Please contact the appropriate Regional Office of the New York State Department of Environmental Conservation to confirm the presence of anadromous or resident aquatic populations.
Habitat use by some species or life stages may be seasonal (e.g. over-wintering.)

Essential Fish Habitat

____XX____ Aquatic habitats in the project vicinity have been designated as Essential Fish Habitat (EFH) for one or more species. When details of the project are made available and permit applications have been made, conservation recommendations may be given. For a listing of EFH and further information, please go to our website at: http://www.nero.nmfs.gov/ro/doc/webintro.html . Based on the information provided to date, it is not possible to determine whether or not an EFH assessment will be necessary.

_____ No EFH presently designated in the immediate project area; however, impacts to anadromous fish populations would constitute an indirect adverse affect to piscivorous species for which EFH has been designated.

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **FAX:** (518) 402-8925
Website: www.dec.state.ny.us

Erin M. Crotty
Commissioner

April 7, 2005

Sandra Collins
A K R F Environmental Consultants
7250 Parkway Drive, Suite 210
Hanover, MD 21076

Dear Ms. Collins:

In response to your recent request, we have reviewed the New York Natural Heritage Program databases with respect to an Environmental Assessment for the proposed Yankee Stadium Replacement, in the Bronx Borough, area as indicated on the map you provided, located in New York City.

We have no records of known occurrences of rare or state-listed animals or plants, significant natural communities, or other significant habitats, on or in the immediate vicinity of your site.

The absence of data does not necessarily mean that rare or state-listed species, natural communities or other significant habitats do not exist on or adjacent to the proposed site. Rather, our files currently do not contain any information which indicates their presence. For most sites, comprehensive field surveys have not been conducted. For these reasons, we cannot provide a definitive statement on the presence or absence of rare or state-listed species, or of significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

This response applies only to known occurrences of rare or state-listed animals and plants, significant natural communities and other significant habitats maintained in the Natural Heritage Data bases. Your project may require additional review or permits; for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, at the enclosed address.

Sincerely,

Betty Ketcham jp

Betty A. Ketcham, Information Services
New York Natural Heritage Program

Enc.
cc: Reg. 2, Wildlife Mgr.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

March 9, 2005

Ms. Sandra Collins
Senior Scientist
AKRF, Inc.
7250 Parkway Drive, Suite 210
Hanover, MD 21076

Dear Ms. Collins:

This responds to your correspondence of March 1, 2005, requesting information on the presence of Federally-listed endangered or threatened species in the vicinity of the proposed replacement of Yankee Stadium, Borough of the Bronx, Bronx County, New York.

Except for the occasional transient individuals, no other Federally-listed or proposed endangered or threatened species under our jurisdiction are known to exist in the project impact area. In addition, no habitat in the project impact area is currently designated or proposed "critical habitat" in accordance with provisions of the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of Federally-listed and proposed endangered and threatened species in New York* is available for your information. If your project is not completed within one year from the date of this determination, we recommend that you contact us to ensure that the listed species presence/absence information for your proposed project is current.

The above comments pertaining to endangered or threatened species under our jurisdiction are provided pursuant to the ESA. This response does not preclude additional Service comments under other legislation.

For additional information on fish and wildlife resources or State-listed species, we suggest you contact the appropriate New York State Department of Environmental Conservation regional office(s),* and:

New York State Department of Environmental Conservation
New York Natural Heritage Program Information Services
625 Broadway
Albany, NY 12233-4757
(518) 402-8935

If you require additional information or assistance please contact Jill Olin of our Long Island Field Office at (631) 581-2941.

Sincerely,

David A. Stilwell

David A. Stilwell
Field Supervisor

*Additional information referred to above may be found at our website at: http://nyfo.fws.gov/es/esdesc.htm.

cc: NYSDEC, Long Island City, NY (Environmental Permits)
NYSDEC, Albany, NY (Natural Heritage Program)

APPENDIX E
NOISE ANALYSIS

Table E-1

Comparison of Calculated and Field Measured values

Receptor #	Time Period		Train Generated Noise, Leq	TNM Calculated Traffic Noise, Leq	Vendor Noise	Total, Leq (Train + Non-Adjacent Street)[1]	Field Measured Leq	Calculated Adjustment Factor
1	Weekend	Game	72.0	62.5		72.5	74.6	2.1
	Weekday	Game	72.6	65.0		73.3	70.5	-2.8
2	Weekend	Game	66.3	54.1		66.6	69.1	2.5
	Weekday	Game	66.3	58.0		66.9	71.7	4.8
3	Weekend	Game	64.1	54.7		64.6	63.4	-1.2
	Weekday	Game	64.1	53.9		64.5	67.1	2.6
4	Weekend	Game	62.6	54.8		63.3	63.3	0.0
	Weekday	Game	63.1	60.2		64.9	66.7	1.8
5	Weekend	Game	58.1	63.9		64.9	64.8	-0.1
	Weekday	Game	58.3	64.4		65.4	65.5	0.1
6	Weekend	Game	63.1	62.4		65.8	69.0	3.2
	Weekday	Game	63.6	61.6		65.7	67.0	1.3
7	Weekend	Game	59.8	59.9	65.3	67.3	67.7	0.4
	Weekday	Game	59.8	58.9	65.3	67.1	66.7	-0.4
8	Weekend	Game	58.4	63.2	65.3	67.9	71.5	3.6
	Weekday	Game	58.9	66.2	65.3	69.2	69.5	0.3

Note: [1] Based on logarithmic addition of Train Noise Level and Traffic Noise Level.

Table E-2
Yankee Stadium Noise Analysis Existing Conditions

Receptor Number	Time Period	Traffic L_{eq}	Train L_{eq}	Vendor L_{eq}	Adjust. Factor	Total L_{eq}
1	weekday-pre	64.2	73.4	0.0	-2.8	71.1
	weekday-post	61.6	70.7	0.0	-2.8	68.4
	weekend-pre	63.3	72.0	0.0	2.1	74.6
	weekend-post	62.8	72.0	0.0	2.1	74.6
2	weekday-pre	58.3	67.7	0.0	4.8	73.0
	weekday-post	55.5	65.0	0.0	4.8	70.3
	weekend-pre	56.4	66.3	0.0	2.5	69.2
	weekend-post	55.5	66.3	0.0	2.5	69.1
3	weekday-pre	58.0	65.5	0.0	2.6	68.8
	weekday-post	56.7	62.9	0.0	2.6	66.4
	weekend-pre	59.5	64.1	0.0	-1.2	64.2
	weekend-post	60.9	64.1	0.0	-1.2	64.6
4	weekday-pre	62.9	64.0	0.0	1.8	68.3
	weekday-post	67.5	61.3	0.0	1.8	70.2
	weekend-pre	65.0	62.6	0.0	0.0	67.0
	weekend-post	68.7	62.6	0.0	0.0	69.7
5	weekday-pre	65.9	59.5	0.0	0.1	66.9
	weekday-post	65.0	56.8	0.0	0.1	65.7
	weekend-pre	67.5	58.1	0.0	-0.1	67.9
	weekend-post	66.5	58.1	0.0	-0.1	67.0
6	weekday-pre	65.6	64.5	0.0	1.3	69.4
	weekday-post	65.3	61.8	0.0	1.3	68.2
	weekend-pre	63.3	63.1	0.0	3.2	69.4
	weekend-post	63.7	63.1	0.0	3.2	69.6
7	weekday-pre	62.5	61.2	65.3	-0.4	67.7
	weekday-post	60.9	58.6	65.3	-0.4	66.9
	weekend-pre	60.9	59.8	65.3	0.4	67.9
	weekend-post	60.1	59.8	65.3	0.4	67.7
8	weekday-pre	64.7	59.8	65.3	0.3	68.9
	weekday-post	60.7	57.1	65.3	0.3	67.4
	weekend-pre	62.8	58.4	65.3	3.6	71.4
	weekend-post	59.0	58.4	65.3	3.6	70.5

Note: Assumption: A 5 dBA correction for cobblestone surface at Site 7 was made.

Table E-3
Yankee Stadium Noise Analysis: Future No Build Conditions

Receptor Number	Time Period	Traffic L_{eq}	Train L_{eq}	Vendor L_{eq}	Adjust. Factor	No Build Total L_{eq}	Existing Total L_{eq}	Change
1	weekday-pre	64.4	73.4	0.0	-2.8	71.1	71.1	0.0
	weekday-post	61.8	70.7	0.0	-2.8	68.4	68.4	0.0
	weekend-pre	63.7	72.0	0.0	2.1	74.7	74.6	0.1
	weekend-post	62.9	72.0	0.0	2.1	74.6	74.6	0.0
2	weekday-pre	58.8	67.7	0.0	4.8	73.0	73.0	0.0
	weekday-post	56.0	65.0	0.0	4.8	70.3	70.3	0.0
	weekend-pre	57.5	66.3	0.0	2.5	69.3	69.2	0.1
	weekend-post	56.0	66.3	0.0	2.5	69.2	69.1	0.1
3	weekday-pre	58.3	65.5	0.0	2.6	68.9	68.8	0.1
	weekday-post	57.1	62.9	0.0	2.6	66.5	66.4	0.1
	weekend-pre	59.4	64.1	0.0	-1.2	64.2	64.2	0.0
	weekend-post	61.2	64.1	0.0	-1.2	64.7	64.6	0.1
4	weekday-pre	63.3	64.0	0.0	1.8	68.5	68.3	0.2
	weekday-post	68.5	61.3	0.0	1.8	71.1	70.2	0.9
	weekend-pre	65.6	62.6	0.0	0.0	67.4	67.0	0.4
	weekend-post	69.5	62.6	0.0	0.0	70.3	69.7	0.6
5	weekday-pre	66.4	59.5	0.0	0.1	67.3	66.9	0.4
	weekday-post	65.1	56.8	0.0	0.1	65.8	65.7	0.1
	weekend-pre	68.1	58.1	0.0	-0.1	68.4	67.9	0.5
	weekend-post	66.8	58.1	0.0	-0.1	67.2	67.0	0.2
6	weekday-pre	66.3	64.5	0.0	1.3	69.8	69.4	0.4
	weekday-post	65.5	61.8	0.0	1.3	68.3	68.2	0.1
	weekend-pre	63.7	63.1	0.0	3.2	69.6	69.4	0.2
	weekend-post	64.5	63.1	0.0	3.2	70.1	69.6	0.5
7	weekday-pre	62.9	61.2	65.3	-0.4	67.8	67.7	0.1
	weekday-post	61.0	58.6	65.3	-0.4	66.9	66.9	0.0
	weekend-pre	61.4	59.8	65.3	0.4	68.0	67.9	0.1
	weekend-post	60.7	59.8	65.3	0.4	67.8	67.7	0.1
8	weekday-pre	65.1	59.8	65.3	0.3	69.1	68.9	0.2
	weekday-post	60.3	57.1	65.3	0.3	67.3	67.4	-0.1
	weekend-pre	64.1	58.4	65.3	3.6	71.8	71.4	0.4
	weekend-post	59.6	58.4	65.3	3.6	70.6	70.5	0.1

Table E-4

Yankee Stadium Noise Analysis: Future Build Conditions

Receptor Number	Time Period	Traffic L_{eq}	Train L_{eq}	Vendor L_{eq}	Adjust. Factor	Build Total L_{eq}	No Build Total L_{eq}	Change
1	weekday-pre	64.1	73.4	0.0	-2.8	71.1	71.1	0.0
	weekday-post	63.9	70.7	0.0	-2.8	68.7	68.4	0.3
	weekend-pre	63.9	72.0	0.0	2.1	74.7	74.7	0.0
	weekend-post	65.6	72.0	0.0	2.1	75	74.6	0.4
2	weekday-pre	60.0	67.7	0.0	4.8	73.2	73.0	0.2
	weekday-post	57.0	65.0	0.0	4.8	70.4	70.3	0.1
	weekend-pre	58.3	66.3	0.0	2.5	69.4	69.3	0.1
	weekend-post	57.0	66.3	0.0	2.5	69.3	69.2	0.1
3	weekday-pre	58.6	65.5	0.0	2.6	68.9	68.9	0.0
	weekday-post	57.7	62.9	0.0	2.6	66.6	66.5	0.1
	weekend-pre	58.4	64.1	0.0	-1.2	63.9	64.2	-0.3
	weekend-post	61.8	64.1	0.0	-1.2	64.9	64.7	0.2
4	weekday-pre	66.8	64.0	0.0	1.8	70.4	68.5	1.9
	weekday-post	68.9	61.3	0.0	1.8	71.4	71.1	0.3
	weekend-pre	68.2	62.6	0.0	0.0	69.3	67.4	1.9
	weekend-post	69.5	62.6	0.0	0.0	70.3	70.3	0.0
5	weekday-pre	66.8	0.0	61.6	0.1	68.0	67.3	0.7
	weekday-post	66.0	0.0	61.6	0.1	67.4	65.8	1.6
	weekend-pre	68.3	0.0	61.6	-0.1	69.0	68.4	0.6
	weekend-post	67.0	0.0	61.6	-0.1	68.0	67.2	0.8
6	weekday-pre	68.2	61.5	65.3	1.3	71.9	69.8	2.1
	weekday-post	65.8	58.8	65.3	1.3	70.3	68.3	2.0
	weekend-pre	65.8	60.1	65.3	3.2	72.3	69.6	2.7
	weekend-post	64.6	60.1	65.3	3.2	71.8	70.1	1.7
7	weekday-pre		61.2	0.0	-0.4	60.8	67.8	-7.0
	weekday-post		58.6	0.0	-0.4	58.2	66.9	-8.7
	weekend-pre		59.8	0.0	0.4	60.2	68.0	-7.8
	weekend-post		59.8	0.0	0.4	60.2	67.8	-7.6
8	weekday-pre	67.9	59.8	0.0	0.3	66.8	69.1	-0.3
	weekday-post	65.0	57.1	0.0	0.3	66.0	67.3	-1.3
	weekend-pre	67.7	58.4	0.0	3.6	71.8	71.8	0.0
	weekend-post	64.2	58.4	0.0	3.6	68.8	70.6	-1.8

Notes:

Assumptions:

1. Add vendor/crowd noise at Sites 5 and 6.
2. Site 5 shielded by new stadium from train noise.
3. No vendor/crowd noise at Sites 7 and 8.
4. Site 7 has no traffic component.

Table E-5

Yankee Stadium Noise Analysis: Future Build Conditions with Mitigation

Receptor Number	Time Period	Traffic L_{eq}	Train L_{eq}	Vendor L_{eq}	Adjust. Factor	Build Total L_{eq}	No Build Total L_{eq}	Change
1	weekday-pre	64.1	73.4	0.0	-2.8	71.1	71.1	0.0
	weekday-post	62.1	70.7	0.0	-2.8	68.5	68.4	0.1
	weekend-pre	63.8	72.0	0.0	2.1	74.7	74.7	0.0
	weekend-post	64.6	72.0	0.0	2.1	74.8	74.6	0.2
2	weekday-pre	59.9	67.7	0.0	4.8	73.2	73.0	0.2
	weekday-post	56.7	65.0	0.0	4.8	70.4	70.3	0.1
	weekend-pre	58.0	66.3	0.0	2.5	69.4	69.3	0.1
	weekend-post	55.7	66.3	0.0	2.5	69.2	69.2	0.0
3	weekday-pre	58.4	65.5	0.0	2.6	68.9	68.9	0.0
	weekday-post	56.4	62.9	0.0	2.6	66.4	66.5	-0.1
	weekend-pre	59.0	64.1	0.0	-1.2	64.1	64.2	-0.1
	weekend-post	62.1	64.1	0.0	-1.2	65.0	64.7	0.3
4	weekday-pre	67.1	64.0	0.0	1.8	70.6	68.5	2.1
	weekday-post	69.8	61.3	0.0	1.8	72.2	71.1	1.1
	weekend-pre	67.7	62.6	0.0	0.0	68.9	67.4	1.5
	weekend-post	70.3	62.6	0.0	0.0	71.0	70.3	0.7
5	weekday-pre	66.7	0.0	61.6	0.1	68.0	67.3	0.7
	weekday-post	65.7	0.0	61.6	0.1	67.2	65.8	1.4
	weekend-pre	68.2	0.0	61.6	-0.1	69.0	68.4	0.6
	weekend-post	67.0	0.0	61.6	-0.1	68.0	67.2	0.8
6	weekday-pre	68.3	61.5	65.3	1.3	71.9	69.8	2.1
	weekday-post	65.0	58.8	65.3	1.3	69.9	68.3	1.6
	weekend-pre	65.5	60.1	65.3	3.2	72.2	69.6	2.6
	weekend-post	62.9	60.1	65.3	3.2	71.2	70.1	1.1
7	weekday-pre		61.2	0.0	-0.4	60.8	67.8	-7.0
	weekday-post		58.6	0.0	-0.4	58.2	66.9	-8.7
	weekend-pre		59.8	0.0	0.4	60.2	68.0	-7.8
	weekend-post		59.8	0.0	0.4	60.2	67.8	-7.6
8	weekday-pre	67.9	59.8	0.0	0.3	68.8	69.1	-0.3
	weekday-post	64.9	57.1	0.0	0.3	65.9	67.3	-1.4
	weekend-pre	67.8	58.4	0.0	3.6	71.9	71.8	0.1
	weekend-post	64.1	58.4	0.0	3.6	68.7	70.6	-1.9

Notes:

Assumptions:

1. Add vendor/crowd noise at Sites 5 and 6.
2. Site 5 shielded by new stadium from train noise.
3. No vendor/crowd noise at Sites 7 and 8.
4. Site 7 has no traffic component.

YANKEE STADIUM CONSTRUCTION - BARRIER QUIETER TRUCKS

Noise Results

Site	Location	Quietest Existing Leq(1)	Project-Generated Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	59.7	61.3	61.0	61.1	62.2	49.8	50.2	60.6	60.7	52.8	74.0	74.4	74.0	68.0	68.0	68.0	68.0	68.0	68.0
2	164 Street between Jerome and River Avenues	65.5	68.5	71.3	71.3	71.3	61.6	51.8	52.6	77.0	84.6	72.2	72.2	54.3	53.4	49.0	46.5	46.5	46.5	46.5	46.5
3	Jerome Avenue between 162 & 164 Streets	69.4	70.0	72.8	72.8	72.8	65.0	54.5	55.4	64.4	69.1	55.8	57.3	58.3	56.5	53.9	47.2	47.2	47.2	47.2	47.2

Site	Location	Quietest Existing Leq(1)	Build Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	71.3	71.4	71.4	71.4	71.5	71.0	71.0	71.4	71.4	71.1	75.8	76.0	75.7	72.8	72.8	72.8	72.8	72.8	72.8
2	164 Street between Jerome and River Avenues	65.5	70.3	72.3	72.3	72.3	67.0	65.7	65.7	77.3	84.6	73.1	73.0	65.8	65.8	65.6	65.6	65.6	65.6	65.6	65.6
3	Jerome Avenue between 162 & 164 Streets	69.4	72.7	74.4	74.4	74.4	70.7	69.5	69.6	70.6	72.3	69.6	69.7	69.7	69.6	69.5	69.4	69.4	69.4	69.4	69.4

Site	Location	Quietest Existing Leq(1)	Increased Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	0.3	0.4	0.4	0.4	0.5	0.0	0.0	0.4	0.4	0.1	4.8	5.0	4.7	1.8	1.8	1.8	1.8	1.8	1.8
2	164 Street between Jerome and River Avenues	65.5	4.8	6.8	6.8	6.8	1.5	0.2	0.2	11.8	19.1	7.6	7.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1
3	Jerome Avenue between 162 & 164 Streets	69.4	3.3	5.0	5.0	5.0	1.3	0.1	0.2	1.2	2.9	0.2	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0

YANKEE STADIUM CONSTRUCTION - NON MITIGATION

Noise Results

Site	Location	Quietest Existing Leq(1)	Project-Generated Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	60.4	62.3	62.0	62.0	64.3	52.7	53.0	62.1	62.1	56.7	76.3	77.1	76.3	69.9	69.9	69.9	69.9	69.9	69.9
2	164 Street between Jerome and River Avenues	65.5	72.4	74.2	73.9	73.7	65.1	62.9	63.0	81.1	85.1	76.9	76.9	57.2	55.7	51.2	48.4	48.4	48.4	48.4	48.4
3	Jerome Avenue between 162 & 164 Streets	69.4	73.8	75.7	75.4	75.2	67.6	64.7	64.8	70.7	73.2	69.4	68.2	61.3	58.7	56.4	49.1	49.1	49.1	49.1	49.1

Site	Location	Quietest Existing Leq(1)	Build Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	71.4	71.5	71.5	71.5	71.8	71.1	71.1	71.5	71.5	71.2	77.4	78.1	77.4	73.5	73.5	73.5	73.5	73.5	73.5
2	164 Street between Jerome and River Avenues	65.5	73.2	74.7	74.5	74.3	68.3	67.4	67.4	81.2	85.2	77.2	77.2	66.1	65.9	65.7	65.6	65.6	65.6	65.6	65.6
3	Jerome Avenue between 162 & 164 Streets	69.4	75.2	76.6	76.4	76.2	71.6	70.7	70.7	73.1	74.7	72.4	71.9	70.0	69.8	69.6	69.4	69.4	69.4	69.4	69.4

Site	Location	Quietest Existing Leq(1)	Increased Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	0.4	0.5	0.5	0.5	0.8	0.1	0.1	0.5	0.5	0.2	6.4	7.1	6.4	2.5	2.5	2.5	2.5	2.5	2.5
2	164 Street between Jerome and River Avenues	65.5	7.7	9.2	9.0	8.8	2.8	1.9	1.9	15.7	19.7	11.7	11.7	0.6	0.4	0.2	0.1	0.1	0.1	0.1	0.1
3	Jerome Avenue between 162 & 164 Streets	69.4	5.8	7.2	7.0	6.8	2.2	1.3	1.3	3.7	5.3	3.0	2.5	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0

YANKEE STADIUM CONSTRUCTION - QUIETER TRUCKS

Noise Results

Site	Location	Quietest Existing Leq(1)	Project-Generated Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	59.7	61.3	61.0	61.1	62.2	49.8	50.2	60.6	60.7	52.8	74.0	74.4	74.0	68.0	68.0	68.0	68.0	68.0	68.0
2	164 Street between Jerome and River Avenues	65.5	71.6	73.2	72.9	72.9	63.9	60.6	60.7	77.1	84.6	72.2	72.2	54.3	53.4	49.0	46.5	46.5	46.5	46.5	46.5
3	Jerome Avenue between 162 & 164 Streets	69.4	73.1	74.7	74.4	74.4	66.6	62.3	62.5	67.9	72.3	64.8	62.5	58.3	56.5	53.9	47.2	47.2	47.2	47.2	47.2

Site	Location	Quietest Existing Leq(1)	Build Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	71.3	71.4	71.4	71.4	71.5	71.0	71.0	71.4	71.4	71.1	75.8	76.0	75.7	72.8	72.8	72.8	72.8	72.8	72.8
2	164 Street between Jerome and River Avenues	65.5	72.6	73.9	73.6	73.6	67.8	66.7	66.8	77.4	84.6	73.1	73.0	65.8	65.8	65.6	65.6	65.6	65.6	65.6	65.6
3	Jerome Avenue between 162 & 164 Streets	69.4	74.7	75.8	75.6	75.6	71.2	70.2	70.2	71.7	74.1	70.7	70.2	69.7	69.6	69.5	69.4	69.4	69.4	69.4	69.4

Site	Location	Quietest Existing Leq(1)	Increased Noise Level																	
			2006			2007				2008				2009				2010			
			2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
1	158 Street between River & Gerard Avenues	71.0	0.3	0.4	0.4	0.4	0.5	0.0	0.0	0.4	0.4	0.1	4.8	5.0	4.7	1.8	1.8	1.8	1.8	1.8	1.8
2	164 Street between Jerome and River Avenues	65.5	7.1	8.4	8.1	8.1	2.3	1.2	1.3	11.9	19.1	7.6	7.5	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1
3	Jerome Avenue between 162 & 164 Streets	69.4	5.3	6.4	6.2	6.2	1.8	0.8	0.8	2.3	4.7	1.3	0.8	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0

APPENDIX F
ENVIRONMENTAL JUSTICE

Appendix F: Environmental Justice

A. INTRODUCTION

On February 11, 1994, President Clinton issued Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This Executive Order mandates that each federal agency "shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." The federal order also requires public outreach to low-income and/or minority populations that would be affected by a project.

The proposed project would require permits or approvals from one or more federal agencies, including a parkland conversion approval under Section 6(f) of the Land and Water Conservation Fund Act by the U.S. Department of the Interior (delegated to the National Park Service). Therefore, an analysis of the project's consistency with the federal environmental justice order was conducted.

The purpose of the environmental justice analysis is to identify any disproportionate significant adverse impacts on low-income and minority communities so that they can be mitigated to the maximum extent practicable. Accordingly, this appendix analyzes the project's potential impacts in terms of effects on minority and low-income populations, to determine whether it would have disproportionately high and adverse impacts on those populations. The chapter concludes that the proposed project would affect populations that are minority and/or low-income as well as those that are not, and the impacts to the minority and low-income populations would not be disproportionate. The appendix also describes the proposed project's public outreach program for the affected population.

B. METHODOLOGY

The environmental justice analysis for the proposed project follows the guidance and methodologies recommended in the federal Council on Environmental Quality's *Environmental Justice Guidance under the National Environmental Policy Act* (December 1997), which is summarized below. Although not applicable to the proposed project, reference was also made to the New York State Department of Environmental Conservation's Policy CP-29, "Environmental Justice and Permitting" as guidance in conducting this analysis.

CEQ GUIDANCE

The federal Council on Environmental Quality (CEQ), which has oversight of the federal government's compliance with Executive Order 12898 and NEPA, developed its guidance to assist federal agencies with their NEPA procedures so that environmental justice concerns are

effectively identified and addressed. Federal agencies are permitted to supplement this guidance with more specific procedures tailored to their particular programs or activities.

The CEQ methodology involves collecting demographic information on the area where the project may cause significant and adverse effects; identifying low-income and minority populations in that area using census data; and identifying whether the project's adverse effects are disproportionately high on the low-income and minority populations, in comparison to those on other populations. Mitigation measures should be developed and implemented for any disproportionately high and adverse effects. Any disproportionately high and adverse effects on minority and/or low-income populations should then be one of the factors the federal agency considers in granting approvals for a project.

METHODOLOGY USED FOR THIS ASSESSMENT

The assessment of environmental justice for the proposed project was based on the CEQ document described above. It involved three basic steps:

1) Compile population characteristics for areas where significant adverse effects may occur because of the project and identify locations with populations of concern for environmental justice (i.e., low-income and minority populations).

2) Identify the project's adverse effects on populations of concern; and

3) Evaluate the project's effects on populations of concern relative to its overall effects to determine whether any significant impacts on populations of concern would be disproportionate and adverse.

C. IDENTIFICATION OF LOW-INCOME AND MINORITY POPULATIONS WITHIN THE STUDY AREA

ESTABLISH STUDY AREA

The proposed project consists of development of the proposed stadium, four proposed parking garages, and approximately 27.05 acres of replacement recreational facilities and parkland, including 4.63 acres of new, publicly accessible open space. As described in this FEIS, the potential unmitigated significant adverse environmental impacts that could result from the proposed project are associated with historic resources, traffic, transit, pedestrians, and noise. The study area for the environmental justice analysis was defined to include all locations where potential significant impacts could occur and is based on the geographic units used by the U.S. Census Bureau. The U.S. Census Bureau collects information using various geographic units such as census tracts, block groups, and blocks. The study area includes all census block groups that have 50 percent or more of their area within ½ mile of the project site. As shown in Figure F-1, the study area extends approximately ½ mile from the project site into Manhattan and the Bronx. There are 47 census block groups in the Bronx portion of the study area and 21 census block groups in the Manhattan portion of the study area.

DETERMINE CHARACTERISTICS OF STUDY AREA POPULATION

The next step in the analysis is to determine whether low-income or minority populations are present in the study area. To identify minority and low-income populations within the study area, demographic information was obtained from the U.S. Census Bureau for the year 2000. For

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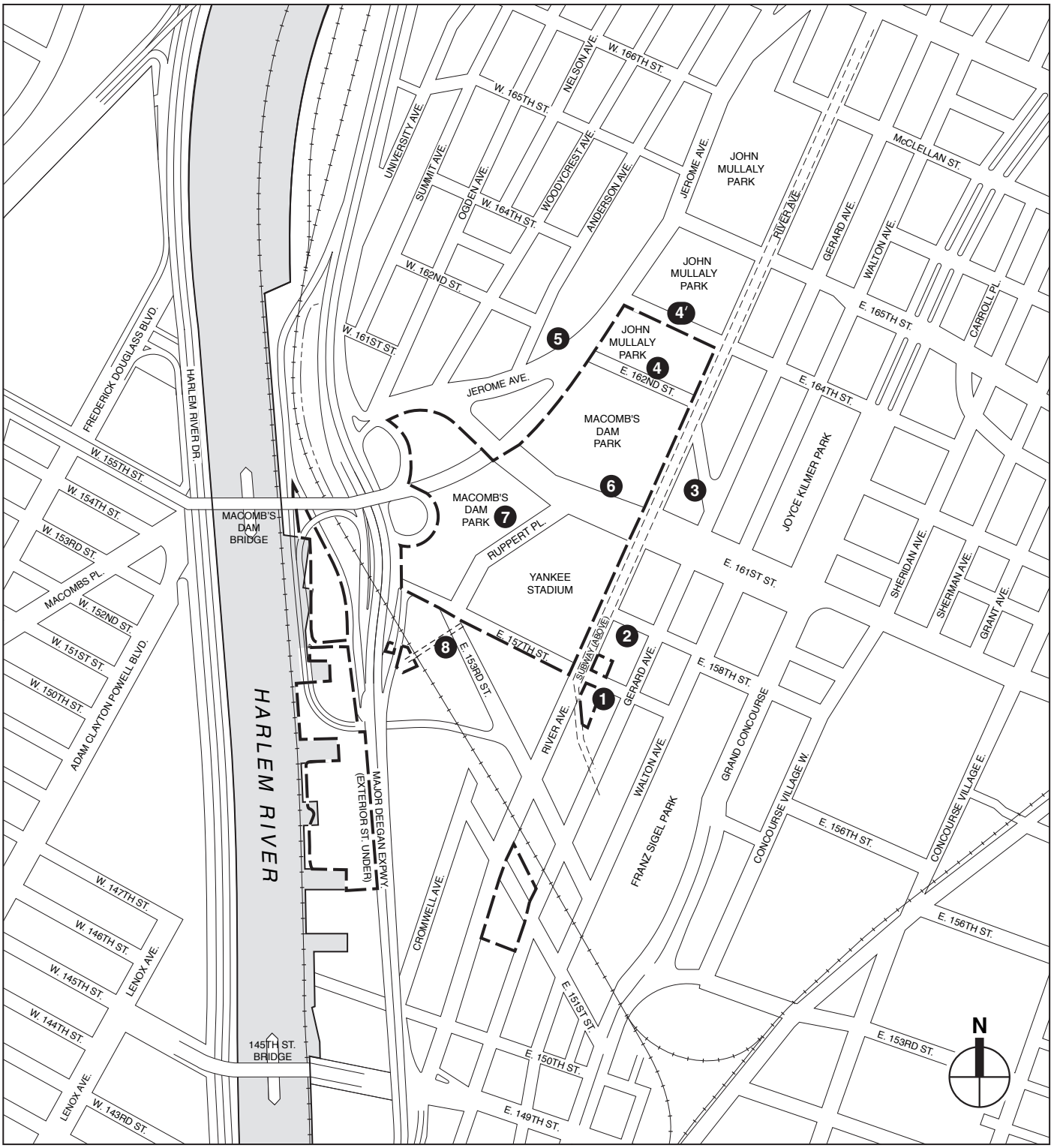

YANKEE STADIUM

Noise Receptor Sites
Figure E-1

the purposes of this analysis, demographic data relating to population, race, and poverty status were compiled for each of the block groups in the study area. In addition, data were compiled for New York City as a whole to allow for a comparison of study area characteristics to a larger reference area.

IDENTIFICATION OF MINORITY COMMUNITIES

In identifying minority residents within the study area, data from the U.S. Census Bureau were used to determine the population characteristics for the study area. The following information was collected for each census tract:

- *Racial and ethnic characteristics:* The population in each census tract block group in the study area was characterized using the following racial categories provided in the 2000 Census: White, Black, Asian, and "Other." "Other" includes residents of American Indian, Alaska Native, Native Hawaiian and Other Pacific Islander descent, as well as those respondents who did not identify with any listed racial groups (White, Black, Asian), or who indicated that they are of more than one race defined in the Census. In addition to racial characteristics, the 2000 Census also includes information on Hispanic origin, which is considered to be an ethnic rather than racial characteristic. People of this ethnic category can be any race.
- *Total percentage of minority population:* Because Hispanic residents may be of any race, people who characterized themselves as White, Black, Asian, and Other in the 2000 Census may be non-Hispanic or Hispanic. To determine the total number of minority residents in each block group, the number of Black (both Hispanic and non-Hispanic), Asian (Hispanic and non-Hispanic), Other (Hispanic and non-Hispanic), and Hispanic Whites were tallied.[1]

According to the CEQ guidance, a "minority community" is present when the percentage of minorities in the study area is "meaningfully greater" than the minority percentage of the general population or when the percentage of minorities in the community exceeds 50 percent. Therefore, for this analysis, any block group with a minority population of 50 percent or more was considered to be a minority community. This is the more conservative measure, since the minority population of the general population—i.e., New York City as a whole—is 65 percent.

IDENTIFICATION OF LOW-INCOME COMMUNITIES

The federal policy advises that low-income populations in an affected area be identified with statistical data from the U.S. Census. For purposes of this analysis, a low-income population is defined as one that is below the poverty threshold as defined by the U.S. Census Bureau. In determining an individual's poverty status, the Census Bureau considers income as well as family size and the presence of individuals below the age of 18. The poverty threshold increases as family size increases. In the 2000 Census, the poverty threshold was $13,290 for a family of three and $17,029 for a family of four.

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[1] Council on Environmental Quality, *Environmental Justice Guidance under the National Environmental Policy Act* (December 1997), page 25, defines minorities to include "American Indian or Alaskan natives, Asian and Pacific Islanders, Black, not of Hispanic origin, and Hispanic persons." However, as a conservative measure, persons who identify with more than one race or who do not identify with any racial group (defined as part of the "Other" category) are considered part of the minority population for analysis purposes.

Data were compiled on the percentage of persons in each block group in the study area living below the poverty threshold. While the CEQ guidance recommends use of poverty thresholds established in the Census to identify low-income populations, it does not specifically define what proportion of a population must be living below the poverty level for an area to constitute a low-income community. In the absence of federal guidance, New York State's guidance was followed for this analysis. NYSDEC's environmental justice policy defines a low-income community to be any area where the low-income population (i.e., percent living below the poverty threshold) is equal to or greater than 23.59 percent of the total population. Therefore, any block group with 23.59 percent or more of its population living below the poverty level was considered to be a low-income population in this analysis.

POPULATION CHARACTERISTICS OF THE STUDY AREA

Using the methodology described above, the study area is a low-income and minority population for the purpose of analyzing environmental justice. The characteristics of the study area are summarized in Table F-1 and described below. The Census recorded no residential population for two of the block groups: Tract 57, Block Group 2 in the Bronx, which is made up largely of industrial and institutional uses, and Tract 236, Block Group 9 in Manhattan, which covers a narrow strip of land along the Harlem River waterfront where no residences are located. Data on poverty status were collected from Census Summary File 3 data (a sample of housing units—about 1 in 6 households—that received the Census 2000 long-form questionnaire). For three block groups (Block Group 9 of Census Tract 53.01 in the Bronx, Block Group 3 of Census Tract 65 in the Bronx, and Block Group 9 of Census Tract 214 in Manhattan), no sample population data are available and there is thus no information on poverty levels provided in Table F-1, below.

According to the 2000 Census, the study area had a total population of 118,737 residents, of which non-Hispanic African-Americans represented 51 percent of the total population, followed by Hispanics (43 percent), Others (3 percent), Asians (1 percent), and Whites who are not Hispanic (1 percent). At the block group level, all of the block groups that make up the study area are also minority populations. With minorities making up approximately 99 percent of the total population (compared to 65 percent in New York City), the study area is a minority community.

As shown in Table F-1, approximately 37 percent of the residents in the study area live below the poverty level (compared to 21 percent in New York City). Therefore, the study area meets the NYSDEC's definition of a low-income community, which is used for this analysis. Of the 63 block groups for which poverty data are available, 10 are not below the low-income threshold. Therefore, overall the study area can be considered low-income.

Table F-1
Ethnicity and Income Characteristics of the Study Area Population

Area (Census Tract and Block Group)	Total Population	Race and Ethnicity (Percent)					Total Minority (Percent)[4]	Percent Below Poverty Level[5]
		Non-Hispanic White[1]	Non-Hispanic Black[1]	Non-Hispanic Asian[1]	Non-Hispanic Other[1,2]	Hispanic[3]		
Bronx Portion of Study Area								
CT 53.01, BG 9	34	6	44	0	0	50	94	NA
CT 57, BG 1	858	4	42	1	2	50	96	20
CT 57, BG 2	0	NA	NA	NA	NA	NA	NA	NA
CT 59.01, BG 1	1,895	3	24	12	4	56	97	34
CT 59.01, BG 2	3,077	2	31	0	2	65	98	38
CT 59.02, BG 1	2,682	3	37	1	2	58	97	25
CT 61, BG 1	4,039	2	80	0	2	16	98	16
CT 65, BG 3	25	8	24	0	0	68	92	NA
CT 65, BG 4	2,147	1	40	1	2	56	99	34
CT 67, BG 3	354	1	9	4	2	84	99	35
CT 67, BG 4	3,066	1	37	0	1	61	99	43
CT 69, BG 4	2,794	1	36	0	2	61	99	65
CT 173, BG 2	681	1	49	0	2	48	99	35
CT 173, BG 3	1,557	1	38	0	3	57	99	26
CT 173, BG 5	1,682	1	48	0	2	50	99	50
CT 175, BG 4	1,132	0	48	0	3	49	100	53
CT 181, BG 1	1,616	2	36	0	4	57	98	35
CT 181, BG 2	751	2	60	0	2	36	98	45
CT 181, BG 3	616	0	67	0	7	26	100	10
CT 181, BG 4	1,601	2	59	0	2	36	98	54
CT 181, BG 5	1,217	1	59	0	4	36	99	34
CT 181, BG 6	2,772	2	26	8	3	62	98	28
CT 183, BG 1	1,301	1	60	0	3	35	99	21
CT 183, BG 2	996	2	37	1	6	55	98	37
CT 183, BG 3	1,443	1	37	0	1	61	99	29
CT 183, BG 4	1,727	3	35	3	6	53	97	32
CT 183, BG 5	2,910	2	47	1	5	45	98	17
CT 193, BG 1	1,700	1	38	0	3	59	99	49
CT 193, BG 2	1,260	1	37	0	1	61	99	60
CT 193, BG 3	2,288	1	47	0	1	51	99	18
CT 195, BG 1	2,683	2	27	1	3	68	98	44
CT 195, BG 2	2,054	1	29	1	4	65	99	40
CT 195, BG 3	2,590	3	24	2	4	67	97	37
CT 197, BG 1	1,996	1	23	5	7	63	99	34
CT 197, BG 2	2,019	1	42	1	2	54	99	29
CT 197, BG 3	1,757	2	21	3	5	68	98	50
CT 197, BG 4	1,982	1	4	6	3	86	99	39
CT 187, BG 1	33	15	36	0	3	45	85	38
CT 189, BG 1	2,489	1	43	1	3	52	99	45
CT 189, BG 2	1,932	3	28	1	2	66	97	34
CT 189, BG 3	1,709	1	29	0	2	68	99	51
CT 189, BG 4	1,134	2	46	0	4	48	98	41
CT 199, BG 1	936	1	19	0	1	79	99	32
CT 199, BG 2	1,826	1	39	2	2	57	99	56

Table F-1 (cont'd)
Ethnicity and Income Characteristics of the Study Area Population

Area (Census Tract and Block Group)	Total Population	Race and Ethnicity (Percent)					Total Minority (Percent)[4]	Percent Below Poverty Level[5]
		Non-Hispanic White[1]	Non-Hispanic Black[1]	Non-Hispanic Asian[1]	Non-Hispanic Other[1,2]	Hispanic[3]		
Bronx Portion of Study Area (continued)								
CT 199, BG 3	825	0	18	0	2	79	100	42
CT 199, BG 4	2,038	1	35	1	1	62	99	34
CT 199, BG 5	2,255	1	42	1	3	53	99	38
Manhattan Portion of Study Area								
BG 1, CT 210	1,533	0	95	1	1	3	100	3
BG 1, CT 214	216	0	96	0	2	2	100	16
BG 2, CT 214	2,925	0	93	0	2	4	100	20
BG 9, CT 214	20	0	95	0	0	5	100	NA
BG 1, CT 230	2,858	1	83	0	4	12	99	45
BG 1, CT 231.02	990	1	77	0	3	19	99	53
BG 1, CT 232	1,087	0	66	1	3	30	100	32
BG 2, CT 232	2,842	1	72	1	2	24	99	50
BG 3, CT 232	2,043	0	74	2	2	22	100	46
BG 4, CT 232	2,372	1	83	0	2	14	99	36
BG 1, CT 234	1,519	1	86	0	5	8	99	34
BG 2, CT 234	2,011	1	74	1	4	21	99	34
BG 1, CT 235.01	2,209	2	64	0	3	31	98	42
BG 2, CT 235.01	1,289	2	60	0	3	35	98	17
BG 1, CT 235.02	2,040	1	68	0	5	26	99	43
BG 1, CT 236	3,873	0	92	0	2	5	100	21
BG 2, CT236	1,730	2	79	0	2	18	98	29
BG 3, CT 236	85	0	56	0	6	38	100	44
BG 9, CT 236	0	NA	NA	NA	NA	NA	NA	NA
BG 1, CT 239	1,230	3	67	1	3	27	97	39
BG 1, CT 243.02	7,386	1	67	1	2	29	99	52
Study Area Total	**118,737**	**1**	**51**	**1**	**3**	**43**	**99**	**37**
New York City	**8,008,278**	**44.7**	**26.6**	**9.8**	**18.9**	**27.0**	**65.0**	**20.8**

Notes:

[1] White, Black, Asian, and Other population may be Hispanic and non-Hispanic (see note 3). This table lists only Non-Hispanic population in these columns.

[2] "Other" includes residents of American Indian, Alaska Native, Native Hawaiian and Other Pacific Islander descent, as well as those respondents who did not identify with any listed racial groups (White, Black, Asian), or who indicated that they are of more than one race defined in the Census.

[3] The Hispanic category consists of those respondents who classified themselves in one of the several Hispanic Origin categories in the Census questionnaire. People of this ethnic group may be any race (see note 1).

[4] The total minority population includes all Blacks, Asians, Other, and Hispanic Whites.

[5] Percent of persons with incomes below established poverty level, as defined by the U.S. Census Bureau.

Source: U.S. Department of Commerce, Bureau of Census, U.S. Census of Population and Housing, 2000, SF1 for total population, race, and ethnicity; SF 3 for poverty.

D. SUMMARY OF SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACTS ON COMMUNITIES OF CONCERN

As described throughout the EIS, while the proposed project would include all practicable measures to mitigate any significant adverse impacts, impacts in the areas of historic resources, traffic, transit, and pedestrians, noise, and construction worker parking and traffic could not be fully mitigated. The significant adverse impacts identified in this EIS are summarized below.

TRAFFIC AND PARKING

The proposed project would not result in an increase in traffic trips over existing conditions and overall conditions are expected to be similar to those in the future without the proposed project. However, with the proposed project, trips to the stadium would be redistributed within the transportation network, resulting in increases in traffic congestion at some locations and improvements at others. The shift in motorists' travel patterns to and from the stadium would be created since some of the traffic destined for the four proposed garages would now exit the Major Deegan Expressway when arriving, and enter the Expressway when leaving, farther north than they do today. There would be a greater concentration of traffic on East 157th Street, Jerome Avenue, the Macomb's Dam Bridge Approach, and a portion of East 161st Street near Jerome Avenue, and on segments of the Expressway that lead to East 157th and East 161st Streets. There would be less traffic on Exterior Street and on the northbound Expressway exit ramp to East 149th Street. Some traffic improvements have been included as part of the proposed project to maintain safe and efficient vehicular and pedestrian flows, such as wider crosswalks, sidewalks, and additional green time at traffic signals, and a new signalized midblock crossing.

Many of the streets and intersections affected by the changed traffic patterns would not be able to accommodate substantially increased traffic loads and would be significantly impacted. Of the 34 intersections analyzed for the FEIS, 13 intersections in the pre-game period and 10 intersections in the post-game period were identified as locations where significant adverse impacts could occur. Standard traffic mitigation measures, including lane re-striping, turning prohibitions, exclusive turning lanes, signal timing or signal phasing changes, implementation of physical measures, parking regulation changes ("No Parking, Stadium Event" restrictions), lane signage changes, and the use of variable-message signs (VMS) to inform motorists about traffic conditions and other standard traffic engineering improvements, would be provided to address these traffic impacts.

In addition, an overall game-day traffic management plan was developed and fully analyzed during the period between the DEIS and FEIS. The plan would include traffic operations improvements, such as street closures, turn prohibitions, and traffic diversion strategies using variable message signs (VMS).

However, even with all of these strategies in place, the detailed traffic impact analyses conducted as part of the DEIS and this FEIS have indicated that there would be several local intersection areas where standard traffic capacity improvements applied in tandem with a game-day traffic management plan would likely not be sufficient to fully mitigate impacts. These locations are: (1) River Avenue and East 161st Street; (2) Macomb's Dam Bridge Approach and East 161st Street; (3) Jerome Avenue, Ogden Avenue, and the loop ramp to the Macomb's Dam Bridge; and (4) the Major Deegan Expressway's southbound off-ramp at Macomb's Dam Bridge. Impacts at these intersections would be unavoidable, significant, and adverse.

Despite these impacts, some traffic and parking benefits to the local community and residents would also result from the proposed project. The proposed project would provide thousands of new parking spaces in close proximity to the proposed stadium, thus reducing excessive traffic circulation pre-game by motorists circulating on local streets in search of hard-to-find parking spaces, especially on sellout game days. Additionally, the proposed project would eliminate some illegal parking on local streets and on the service road of the northbound Major Deegan Expressway since the parked cars could now be accommodated within off-street parking lots and garages. Traffic conditions would also improve at the multi-legged intersection of the northbound Major Deegan Expressway exit ramp at 149th Street, with River Avenue, Extension Street, and 149th Street—by shifting existing stadium-generated traffic away from the southern part of the traffic study area.

TRANSIT AND PEDESTRIANS

Similar to the project's effects on vehicular traffic, the FEIS analysis concluded that the proposed project would not result in an increase in transit or pedestrian trips over existing conditions; rather, these trips would be redistributed within the transportation network and would result in increases in pedestrian congestion in some locations and improvements in others, and congestion at certain subway stairways and improvements at others. Overall, conditions would be similar to those under existing conditions and in the future without the proposed project. The pedestrian redistribution would be largely due to the future location of the proposed stadium, the addition of nearby parking, and the provision of a dedicated pedestrian walkway along Ruppert Plaza.

Significant adverse transit and pedestrian impacts are anticipated for eight stairways at the 161st Street-Yankee Stadium station and four crosswalks along East 161st Street. These crosswalk locations include the new crosswalk at Ruppert Plaza and existing crosswalks at the River Avenue intersection, where congested levels are anticipated during critical game-day travel periods. Impacts would also occur at the River Avenue/East 161st Street intersection. Some of the River Avenue/East River 161st Street intersection's crosswalks would, however, experience noticeable improvements in level of service.

Mitigation of significant crosswalk impacts would include standard traffic mitigation measures implemented as part of the overall game-day traffic management plan. Impacts at the River Avenue/East 161st Street and the Ruppert Plaza/East 161st Street crossings would be mitigated with increased crossing space and the use of Traffic Enforcement Agents (TEAs).

While the total transit demand could be met by the combined capacity of all stairways serving Yankee Stadium patrons at the 161st Street-Yankee Stadium Station, the shift in pedestrian flow to access the proposed stadium would result in improved conditions at some stairways and deteriorations at others. The impacted stairways would require widenings of up to 5 feet to return operating levels to No Build or LOS C/D conditions. However, if these stairway widenings were undertaken, the added capacity would simply be taken up by subway riders circulating back to the most direct route. Because of the magnitude of the total pedestrian demand at the station, reasonable stairway widenings could not be achieved to avoid significant adverse impacts. However, a dispersion of subway riders to less congested stairways would be achieved with additional TEA management of pedestrian movements at the subway station to alleviate the projected impacts. The City and New York Yankees would coordinate with the Metropolitan Transportation Authority to ensure the effectiveness of the described measures, and, if necessary based on actual operations, would provide such additional practicable mitigation measures as may be warranted.

NOISE

Future noise levels with the proposed project at all sites would be less than 3.0 dBA (A-weighted decibels) higher than noise levels without the proposed project. Change of this magnitude would be barely perceptible, and based upon CEQR impact criteria, the changes would not be significant. At some sites there would be a decrease in noise levels, generally attributable to a decrease in vendor/crowd noise at the location, and/or changes in traffic.

At approximately 71.8 and 73-78 dBA, noise levels within the new parks proposed at River Avenue and at the Harlem River waterfront, which would be used by area residents, would be above the 55 dBA $L_{10(1)}$ noise level for outdoor areas requiring serenity and quiet contained in the CEQR noise exposure guidelines. (Existing noise levels at Macomb's Dam and John Mullaly Parks also exceed this guideline, with existing noise levels exceeding 66 dBA in several locations.) These high predicted noise levels are primarily a result of the noise generated by the elevated subway trains and vehicles on the elevated Major Deegan Expressway. These noise sources are independent of the proposed project, but based on CEQR criteria, the noise levels at these new parks would result in potentially significant noise impacts on users of these new parks.

There are no practical and feasible mitigation measures that could be implemented to reduce these noise levels to below the 55 dBA $L_{10(1)}$ guideline noise level. Noise levels in Macomb's Dam and John Mullaly Parks would be comparable to noise levels in a number of existing parks in New York City (such as portions of Central Park, Hudson River Park, Riverside Park, Van Cortlandt Park and Pelham Bay Park) that are also located adjacent to heavily trafficked roadways and the 55 dBA $L_{10(1)}$ goal for outdoor areas is generally not achieved in New York City parks, due to the level of activity present at most parks, except for park areas far away from traffic and other typical urban activities. In addition, in park areas with active recreation, typically noise generated by these activities is itself above the 55 dBA $L_{10(1)}$ guideline level.

HISTORIC RESOURCES

The analysis concluded that the proposed project could result in significant adverse impacts on Buildings G, H, and J of the Bronx Terminal Market site. These buildings are historic resources, so their demolition as part of the project would result in a significant adverse impact. Measures to mitigate the impact would be developed in consultation with the New York State Historic Preservation Officer (SHPO), and would be expected to include a Historic American Buildings Survey (HABS)-level photographic documentation and accompanying narrative. The mitigation measures developed with SHPO would be recorded in a Memorandum of Agreement to be entered into among NYCDPR, the National Parks Service, and SHPO and implemented in order to partially mitigate the effects of the proposed project on historic resources.

The analysis also found that the proposed stadium would result in adverse impacts to the historic Macomb's Dam Bridge Approach span between the Major Deegan Expressway and East 161st Street. Specifically, the development of Parking Garages A and C would obscure the bridge approach span from view and isolate it from its setting and relationship to the streetscape. However, these impacts are not expected to be significantly adverse, as the most prominent features of the Macombs Dam Bridge roadway system—the Macombs Dam Bridge Pratt truss spanning the Harlem River and the camelback truss spanning the Metro-North Railroad right-of-way—would remain unaltered by the proposed parking garages. To avoid adverse impacts to portions of the landmarked Macomb's Dam Bridge Approach resulting from the widening of the east crosswalk at East 161st Street and pedestrian and vehicular access points at the approach,

these elements would be designed in consultation with SHPO and the New York City Landmarks Preservation Commission (LPC) pursuant to the Memorandum of Agreement.

Within the study area, it is not expected that the proposed project would have significant adverse impacts to any known or potential architectural resources related to effects on views or historical context. Where there is potential for a construction-related impact, a Construction Protection Plan, pursuant to the Memorandum of Agreement, would be implemented to protect resources within 90 feet of proposed construction activities, including architectural resources in the project area and study area.

E. OTHER EFFECTS OF THE PROPOSED PROJECT

SOCIOECONOMIC CONDITIONS

Businesses currently operating in three warehouse buildings on the waterfront portion of the project site west of Exterior Street would be relocated in the future without the proposed project as part of the Gateway Center at Bronx Terminal Market project. These businesses are engaged in food wholesaling or the sale of related restaurant or grocery products, and they cater to a minority population. The customer base for the businesses located in the Bronx Terminal Market portion of the project area largely consists of restaurants and small grocery stores in Harlem, Washington Heights, and the South Bronx, as well as African, Caribbean, and Hispanic residents who live near the project area or in the larger metropolitan area. All of the ethnic food products sold at the market are currently available from at least two other wholesalers in New York City. In addition, most restaurant and grocery store customers in the South Bronx, Harlem, and Washington Heights purchase a majority of their ethnic food products directly from suppliers overseas or from importers near Port Newark. For these reasons, and because the businesses on the Bronx Terminal Market portion of the project area make up a small proportion of food wholesalers in The Bronx and citywide and would be relocated to other sites, their displacement is not considered a significant adverse impact.

Although the businesses in the project area serve a predominantly minority population, their displacement would not result in a significant adverse impact with respect to environmental justice. Most of the businesses are wholesale operations serving other businesses outside of the study area rather than residents of the adjacent neighborhoods. Customers travel from other parts of The Bronx or Manhattan, or even from elsewhere in the metropolitan region, to reach the businesses at the Bronx Terminal Market portion of the project site and could continue to do so if these businesses were relocated. The new locations of the wholesale suppliers currently at the Bronx Terminal Market may not be less accessible to customers than the current location. Additionally, there are other small groceries in the South Bronx that carry African and Caribbean products, some of which are supplied through direct importers or through other large wholesalers in Brooklyn, Queens, and New Jersey.

PUBLIC HEALTH

During construction of the proposed project, construction equipment would generate PM emissions from the combustion of fuel and from construction-related activities, such as earth moving. There may be a relationship between particulate matter and asthma, although the causes of asthma are not certain and the triggers for its exacerbation are only partially understood. Thus, the potential for emissions of $PM_{2.5}$ associated with the construction of the proposed project to have a significant adverse impact with respect to asthma was examined in the FEIS. The analysis

of fine particulate matter with an aerodynamic diameter less than 2.5 micrometers from construction-related mobile sources indicated that the incremental increases of $PM_{2.5}$ concentrations with the proposed project would be below the interim guidance levels employed by the New York City Department of Environmental Protection (NYCDEP), and therefore, the proposed project would not have significant $PM_{2.5}$ impacts. Likewise, the analysis concluded that diesel emissions from project-related truck traffic would not have a significant adverse impact on public health, including local asthma incidents. In addition, the proposed project would comply with New York City Local Law 77 that requires the use of ultra-low sulfur diesel (ULSD) and "best available technology" (BAT) for reducing emissions from non-road equipment greater than 50 horsepower. The law applies to "any diesel-powered non-road vehicle" that is owned by, operated by or on the behalf of, or leased by a City Agency." All builders under contract with NYCDPR would be required to follow Local Law 77. While not required, the private contractors constructing the proposed Yankee Stadium would also be required to meet the requirements of Local Law 77. Adherence to Local Law 77 would reduce the level of emissions from the on-site construction equipment and from the trucks transporting material to and from the construction sites.

The proposed project would also result in the emission of PM from stationary sources, such as natural gas burned for heat and hot water. In its stationary source analysis, the assessment indicated that the specific types and amount of $PM_{2.5}$ associated with the combustion of natural gas are not known to adversely impact health, and are expected to be benign at the concentrations that would be present in ambient air with the operation of the proposed project's combustion sources. Based on these analyses, the proposed project is not expected to result in significant adverse impacts on public health. Notwithstanding this, both the New York Yankees and the City are committed to undertaking the construction of the proposed project in a protective manner, employing techniques for reducing emissions and avoiding dust in connection with the related construction activities. Air quality conditions would be monitored throughout the construction period and a full-time health specialist would be employed by the New York Yankees to monitor conditions throughout the construction period. The New York Yankees would also appoint a project coordinator who would serve as an ombudsman to address local community concerns and would, among other things, interact with and respond to the community throughout the construction period.

VISUAL RESOURCES

In general, the proposed project would have a positive effect on visual resources, with new waterfront elements along the Harlem River, including the baseball fields, landscaped areas, and proposed esplanade, providing new public amenities and locations from which to view the river and its shorelines. In addition, the proposed project would retain the playing field, dugouts, and locker rooms under the field seats of the existing stadium and adapt it to a public baseball field with 3,000 seats called "Heritage Field." The proposed stadium would constitute a new visual landmark in the area, and the proposed new green areas and public plazas to be developed at the former and new stadium sites would also generate new visual resources in the area.

Although the proposed project would seek to retain mature trees where possible on East 164th Street and Jerome Avenue, it is expected that the removal of mature trees, which are approximately 40 feet tall, at the perimeters of Macomb's Dam and John Mullaly Parks could result in impermanent, unavoidable adverse impacts. Replacement trees would likely not reach the height of the existing trees for approximately 15-20 years. Since this impact would not be a permanent one and large trees are present in the other nearby portions of Macomb's Dam and

John Mullaly Parks in the study area, this change would not be significantly adverse. It is also expected that the development of Parking Garages A and C would obscure the Macomb's Dam Bridge Approach between the Major Deegan Expressway and East 161st Street, also resulting in adverse impacts to visual resources. Since the most prominent and distinguished portions of the bridge—namely, its two differently configured truss structures that are west of the project area—would remain unaffected, this change would also not be expected to be significantly adverse.

OPEN SPACE

Construction of the proposed stadium and parking garages would displace some of the existing recreational facilities and passive areas within Macomb's Dam and John Mullaly Parks, making them unavailable for various periods of time. Although the facilities would be replaced by new, permanent facilities, during construction almost all of the facilities would be unavailable for periods ranging from 3 months to 3½ years. The majority of the recreational facilities would be unavailable for periods of about 1 to 2 years. However, the soccer field in Macomb's Dam Park would be unavailable for scheduled games during a period of about 3½ years. NYCDPR operates 27 soccer fields in The Bronx and 7 within 3 miles of the existing Macomb's Dam Park soccer field. Time periods are available for scheduled soccer games at the nearby fields. Throughout the construction period, a temporary exercise track would remain available for local residents. Competitive track meets that currently use Macomb's Dam Park and could not be held at the replacement track would be held at other nearby tracks that meet standards. Overall, the interim unavailability of certain park facilities is not considered to be a significant adverse impact.

Upon completion, the proposed project would provide approximately 27.05 acres of replacement recreational facilities and parkland, including approximately 4.6-acres of new public open space, including parkland, which would serve the surrounding neighborhood and create public recreational access to the Harlem River. The proposed project would result in the creation of a publicly accessible waterfront park along the Harlem River with active recreational facilities, where there is presently no access. Thus, there would ultimately be a beneficial effect on the surrounding neighborhood's recreational facilities by creating new parkland and providing access to the waterfront.

NEIGHBORHOOD CHARACTER

The analysis concludes that as a result of the proposed project, there would be no change in the types of land uses or design and scale of development located in the study area; however, the location of the various uses would be reconfigured in different locations. The proposed stadium would be located closer than the existing stadium to the predominantly residential neighborhood located north of East 161st Street and west of Jerome Avenue. There would continue to be a mix of parking, parkland, and stadium uses, which are compatible with each other and consistent with the park designation of much of the area. The proposed project would not result in an increase in traffic and pedestrian trips over existing conditions. Rather, these trips would be redistributed within the transportation network. This redistribution would result in increases in traffic and pedestrian congestion in some locations and improvements in others. Overall, conditions would be similar to those in existing conditions and in the future without the proposed project. In addition, a Transportation Management Plan would be developed in consultation with the surrounding community. Similarly, noise levels would increase in locations closer to the proposed stadium and decrease in locations closer to the existing stadium and overall would not result in significant adverse noise impacts, except at project-created parks,

where noise levels would be similar to existing area parks, as well as other New York City parks.

Several of the traffic and pedestrian impacts would occur along Jerome Avenue and the Macomb's Dam Bridge Approach near East 161st Street. However, the increase in traffic and pedestrian levels in this largely residential area would, for the most part, be similar to existing conditions and those in the future without the proposed project and be of limited duration, occurring only during Yankees games. A comprehensive game day traffic management plan would also be developed to address all impacts in the pre and post-game peak periods in as effective a manner as possible. Therefore, these changes overall would not have significantly adverse impacts on neighborhood character.

F. BENEFITS FROM THE PROPOSED PROJECT

If fully developed, the proposed project would support the economic revitalization of this portion of The Bronx by creating a new stadium and introducing new and renovated open spaces to the area. The proposed project would create new employment opportunities and create economic and fiscal benefits to the City in the form of economic revitalization and tax revenue. Operation of the stadium is expected to create more than 700 new permanent jobs at the stadium and 200 permanent jobs elsewhere in New York City. Additionally, the proposed project is expected to generate approximately $6.6 million in additional tax revenues for the City, $7.6 million for the State, and $288,000 for the MTA in 2009. The total economic activity—including indirect and induced expenditures—that would result from operation of the stadium is estimated at $96.3 million annually in New York City. The net gain to the City (the capital savings on maintenance expenditures less foregone rent) would be approximately $77 million over the next 30 years.

Furthermore, as described above, there would also be transportation benefits at some locations and an overall increase in parkland acreage on the project site.

G. CONCLUSIONS CONCERNING DISPROPORTIONATE PROJECT IMPACTS ON COMMUNITIES OF CONCERN AND EQUITABLE DISTRIBUTION OF RISKS AND BENEFITS

Following CEQ's guidance, a project's effects fall disproportionately on a community of concern for environmental justice if 1) they are adverse and are predominantly borne by a minority population and/or low-income population; or 2) they will be suffered by the minority and/or low-income population and are appreciably more severe or greater in magnitude than the adverse effects that will be suffered by the non-minority or non-low-income population. The determination of disproportionate impacts to minority and/or low-income communities involves consideration of cumulative effects on communities of concern; mitigation and enhancement measures; and offsetting benefits to the affected minority and low-income communities.

The study area is a minority and low-income community. As detailed above, the proposed project would be expected to have significant adverse impacts that could not be fully mitigated in the following areas: historic resources, traffic, transit, pedestrians, noise, and construction traffic. Specifically, impacts that potentially would not be fully mitigated include traffic impacts at four intersections, transit impacts at four stairways, pedestrian impacts at five crosswalks, noise impacts at project-created parks, and the historic resources impact. These impacts would occur to low-income and minority populations.

As described above, while vehicular traffic and pedestrian impacts would occur, overall the proposed project would not result in an increase in traffic and pedestrian trips over existing conditions or conditions expected in the future without the proposed project. Affected intersections would also be concentrated in a limited area and impacts would occur only on game days and thus would not be permanent conditions. Overall, there would be no substantial change in neighborhood character as it relates to vehicular or pedestrian traffic, as traffic levels would not increase from existing and anticipated future conditions. While some residents would be negatively affected as they travel through intersections with increased traffic pre- and post-Yankee games, other residents will notice improvements as they travel through intersections that receive less traffic on game days as a result of altered travel patterns.

Furthermore, as the traffic impacts would occur during game days, impacts would occur to stadium attendees, local users of the roadways, as well as other persons at the affected intersections pre-and post-games. The impacts would thus occur to all persons traveling through the affected intersections, and not just residents of the environmental justice study area, although the nature of the impact would differ between user groups.

Like traffic trips, the total pedestrian trips during the peak pre-game and post-game periods would be similar to existing conditions, but the routes by which these trips would be made to and from the proposed stadium are expected to vary. People would walk different routes to and from the proposed stadium to parking garages, and those traveling by subway would circulate differently within the 161st Street-Yankee Stadium station and may choose to use different stairways. High concentration transit traffic areas would be redistributed and transit impacts would also occur largely to stadium attendees as most persons traveling on affected stairways pre- and post-game would be stadium patrons. As transit impacts would not only affect local residents and there would be no substantive change in station use from existing and expected future conditions, transit impacts would not constitute a significant disproportionate adverse impact. Pedestrian impacts would occur at the crossings leading to Yankee stadium and thus would largely affect stadium attendees, rather than residents of the environmental justice study area. Therefore, disproportionate significant adverse pedestrian impacts to an environmental justice community would not occur.

Mitigation to the maximum extent practicable would be developed to address any identified impacts. The redistribution of trips within the transportation network would also result in improvements at some locations. There is no predicted increase in traffic levels, solely a redistribution of affected intersections, walkways, and stairways. Therefore, since residents and visitors to the environmental justice study area would both be affected, there would be no disproportionate impacts to an environmental justice community related to transportation.

While noise levels would be above the 55 dBA guidance for parks space to be provided as part of the proposed project, the existing parks in the area, which are used by local residents, also exceed this threshold and there would be an overall open space benefit from the creation of new parkland and waterfront access.

The historic resources impact relates to demolition of buildings at the Bronx Terminal Market portion of the project site. This impact would occur to the residents of the study area and also to the larger community of New York City, as a loss to the city's built heritage. The buildings to be demolished are also not located in close proximity to area residents, but are separated from residential uses by more than 800 feet. Therefore, the historic impact would not constitute a disproportionate impact to the minority and low-income community present in the study area.

As described above, and throughout the FEIS, the proposed project would mitigate significant adverse impacts to the maximum extent practicable. This achieves the goal of the federal environmental justice policy, which is to identify and address disproportionately high and adverse human health or environmental effects on minority or low-income populations to the greatest extent practicable. Furthermore, as described above, the proposed project would bring notable benefits to the study area's population and the city. These include economic development, the creation of open space, visual improvements, and traffic and pedestrian improvements at certain area intersections. Overall, benefits and impacts of the proposed project would be experienced by both the environmental justice community and patrons of the stadium. Stadium visitors would have the beneficial use of a new stadium but would experience traffic, pedestrian, and transit impacts while commuting to the stadium. Residents of the environmental justice community would experience the same traffic and transit impacts while commuting to their residences, but would ultimately receive new and renovated parkland, visual improvements, and transportation improvements at some locations. Economic benefits from increased taxes would occur on a citywide basis. The proposed project on balance would not result in disproportionate significant adverse impacts to minority or low-income populations.

H. PUBLIC PARTICIPATION

Executive Order 12898 requires federal agencies to involve the public on project issues related to human health and the environment. In addition, CEQ guidance suggests that federal agencies should acknowledge and seek to overcome linguistic, cultural, institutional, geographic, and other barriers to meaningful participation. As described in this FEIS in Chapter 1, "Project Description," the proposed project underwent extensive public review as part of the City's Uniform Land Use Review Procedure (ULURP) and environmental review under the City Environmental Quality Review (CEQR) procedures. Both processes require public outreach to the affected communities and mandate public participation opportunities.

A public scoping meeting was held for the proposed project on July 18, 2005, and a final scope of work reflecting public comments made on the draft scope of analysis for the EIS was issued. In accordance with the final scope of work, an FEIS was prepared.

The lead agency, NYCDPR, issued a Notice of Completion and circulated the DEIS for public review on September 23, 2005. Publication of the Notice of Completion of the DEIS started a seven-month public review process under ULURP. As the proposed project has moved through ULURP, the public has had and will have a number of opportunities to comment on the project and the DEIS at public hearings held by Community Board 4, the Bronx Borough President, the City Planning Commission, and the City Council. Because the CEQR process is coordinated with land use review, the hearings on the DEIS and ULURP application were held jointly. The public could comment on the DEIS either in writing or at a public hearing. Public hearings on the proposed project were held by Community Board 4 on November 22, 2005, by the Bronx Borough President on December 12, 2005, and by the City Planning Commission on January 11, 2006. All substantive comments become part of the CEQR record and are summarized and responded to in this FEIS.

In addition to these required opportunities for public participation, the project sponsors have met and will continue to meet with local elected officials and any interested community groups to present the project and address issues. NYCDPR will also work with the local community as design plans are advanced for the replacement facilities. Therefore, the proposed project is

consistent with the federal Executive Order in terms of public outreach to environmental justice communities.

Compliance with the ULURP and CEQR requirements of the EIS as they relate to public participation both satisfies the federal policy's requirement for public participation and advances the overall goal of the policy by ensuring that decision-makers are considering the effects of the proposed project on low-income and minority populations. ✷

APPENDIX G
DRAFT MEMORANDUM OF AGREEMENT (MOA)

DRAFT

MEMORANDUM OF AGREEMENT
AMONG
THE NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION,
THE NATIONAL PARK SERVICE
AND
THE NEW YORK STATE HISTORIC PRESERVATION OFFICE
REGARDING
THE YANKEE STADIUM PROJECT
BRONX COUNTY

WHEREAS, the New York City Department of Parks and Recreation ("NYCDPR") proposes to allow for the development of a proposed stadium by the New York Yankees on portions of Macomb's Dam and John Mullaly Parks, and proposes to develop new parking and recreational facilities on other adjoining and nearby sites (the "Project");

WHEREAS, the Project would require approvals from City and State agencies, and NYCDPR is the lead agency in the preparation of the Environmental Impact Statement ("EIS") for the Project under the State Environmental Quality Act ("SEQRA") and the City Environmental Quality Review ("CEQR");

WHEREAS, the Project would require approvals from Federal agencies, including approval from the National Park Service ("NPS") to convert a portion of Macomb's Dam Park to non-recreational uses and to create substitute replacement facilities pursuant to Section 6(f) of the Federal Land & Water Conservation Fund Act ("LWCF"), and authorization to proceed under a Nationwide Permit from the U.S. Army Corps of Engineers ("USACOE") for certain activities related to the construction of a new waterfront park along the Harlem River, and therefore the Project is subject to review under Section 106 of the National Historic Preservation Act;

WHEREAS, NPS and the ACOE have agreed that NPS is the lead agency for review of the Project under the National Environmental Policy Act and for the Section 106 review;

WHEREAS, NPS, in consultation with the New York State Historic Preservation Office (SHPO), has determined the Areas of Potential Effect ("APE") for the Project for archaeological and historic resources as defined by 36 CFR 800.16(d), as depicted on the map presented as Exhibit A hereto;

WHEREAS, the Project received a number of comments on the plan for replacing recreational facilities and adding parkland and has resulted in the development of the Alternative Park Plan, which is the preferred park plan and is presented in Chapter 22, "Alternatives" of the Final EIS for the Project;

WHEREAS, this Agreement was developed with appropriate public involvement (pursuant to 36 CFR 800.2[d] and 800.6[a]) through scoping, public review and public hearings conducted to comply with all applicable legal requirements;

WHEREAS, SHPO has requested to be kept informed as plans are progressed for the entire project;

WHEREAS, the Project would result in the demolition of Yankee Stadium, which has been determined not eligible for listing on the State and National Registers of Historic Places by the New York State Historic Preservation Officer (SHPO), and therefore, its demolition would not adversely affect National Register listed and eligible properties;

WHEREAS, the Project would result in the demolition of the Macomb's Dam Park District Office, which has been determined not eligible for listing on the State and National Registers of Historic Places by SHPO, and, therefore, its demolition would not adversely affect Register listed and eligible properties;

WHEREAS, NYCDPR has consulted with SHPO and SHPO has concluded that there are no archaeological concerns for the Project;

WHEREAS, the APE contains five National Register eligible properties: the Macomb's Dam Bridge, Macomb's Dam Bridge Approach and Buildings G, H, and J of the Bronx Terminal Market located west of Exterior Street;

WHEREAS, the Project would affect the Macomb's Dam Bridge Approach through modifications to create connections to proposed parking garages A and C and to widen the east sidewalk at East 161st Street, and NYCDPR in consultation with SHPO has determined that these proposed alterations will affect this historic structure, but are not expected to result in an Adverse Effect;

WHEREAS, Building J of the Bronx Terminal Market would be retained and rehabilitated for park uses, including a tennis house, which would provide a comfort station, administrative space for the concession, and lockers and other amenities for the tennis players, and NYCDPR in consultation with SHPO has determined that the project's plan to retain and adaptively reuse Building J will affect this historic resource, but is not expected to result in an Adverse Effect;

WHEREAS, the Project would result in the demolition of Buildings G and H to create new parkland, and in consultation with SHPO, NYCDPR has determined that their demolition would constitute an Adverse Effect on historic properties;

WHEREAS, all prudent and feasible alternatives have been explored for the reuse of Buildings G and H in conjunction with the proposed new parkland; and

WHEREAS, the purpose of this Memorandum of Agreement ("MOA") is to ensure that appropriate mitigation measures are undertaken in conjunction with the development of the preferred park plan;

NOW, THEREFORE, as referenced in the EIS and in accordance with Section 106 of the National Historic Preservation Act, NYCDPR, NPS and SHPO agree that the Project shall be implemented in accordance with the Stipulations specified below:

STIPULATIONS

1. NYCDPR will consult with SHPO regarding the proposed modifications of the Macomb's Dam Bridge Approach, including providing for SHPO review drawings and other appropriate materials. Design plans shall be submitted to SHPO at the preliminary (35%) and pre-final (75%) completion stages for SHPO comment.

2. NYCDPR will consult with SHPO as the design for the rehabilitation and adaptive reuse of Building J of the Bronx Terminal Market is advanced, including providing SHPO with drawings and other appropriate materials. Design plans shall be submitted to SHPO at the preliminary (35%) and pre-final (75%) completion stages for SHPO comment.

3. The City of New York will undertake a Historic American Building's Survey (HABS) level photographic documentation of Bronx Terminal Market Buildings G and H. This documentation will be undertaken by a professional credentialed for preparing such reports. The HABS report will be submitted to SHPO for review and approval. Copies of the document will be provided to the Bronx Historical Society, the Museum of the City of New York, and two copies to SHPO (one for their records and one to be forwarded to the New York State Archives). Documentation shall include:
    a. Medium format photographs, negatives with the following views: All elevations, streetscapes showing the relationship of the Building G, H and J to their surroundings, and representative interior spaces. In addition, representative views of the Bronx Terminal Market complex will also be included.
    b. Photos shall be labeled as to view.
    c. A site history which will focus on the significance of the Bronx Terminal Market's role in the development of terminal markets in the United States. The City of New York will coordinate this effort with the applicant for the Gateway Center at the Bronx Terminal Market Project.

4. NYCDPR will include historical interpretation of the Bronx Terminal Market in its design of the waterfront park through a) the design of fencing along Exterior Street, and b) the use of historic plaque(s) or markers to illustrate the history and use of Buildings G, H, and J. Design plans for the fencing and interpretive

markers shall be submitted to SHPO at the preliminary (35%) and pre-final (75%) completion stages for SHPO comment.

5. A Construction Protection Plan will be prepared for historic resources within 90 feet of the Project as identified in the EIS, in coordination with a licensed professional engineer and developed and implemented in consultation with SHPO.

6. Any party to this MOA may propose an amendment hereto whereupon the parties will consult to consider such amendment. Any amendment must be agreed upon in writing by all parties to this agreement.

7. Amendments. Any signatory to this Agreement may propose to NPS that the Agreement be amended, whereupon NPS shall consult with the other signatories to this Agreement to consider such an amendment. 36 CRF 800.5(c) shall govern the execution of any such amendment.

8. Termination of the Agreement will be governed by 36 CFR 800.5(c): "If any signatory determines that the terms of a memorandum of agreement cannot be carried out, the signatories shall consult to seek amendment of the agreement. If the agreement is not amended, any signatory may terminate it. The Agency Official shall either execute a memorandum of agreement with signatories under paragraph (c) (1) of this section or request the comments of the Council under Section 800.7(a)."

This MOA shall take effect on the date it is signed by the last signatory and will remain in effect until the Stipulations set forth herein have been met.

NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION

BY:_____ DATE:_____
TITLE:_____

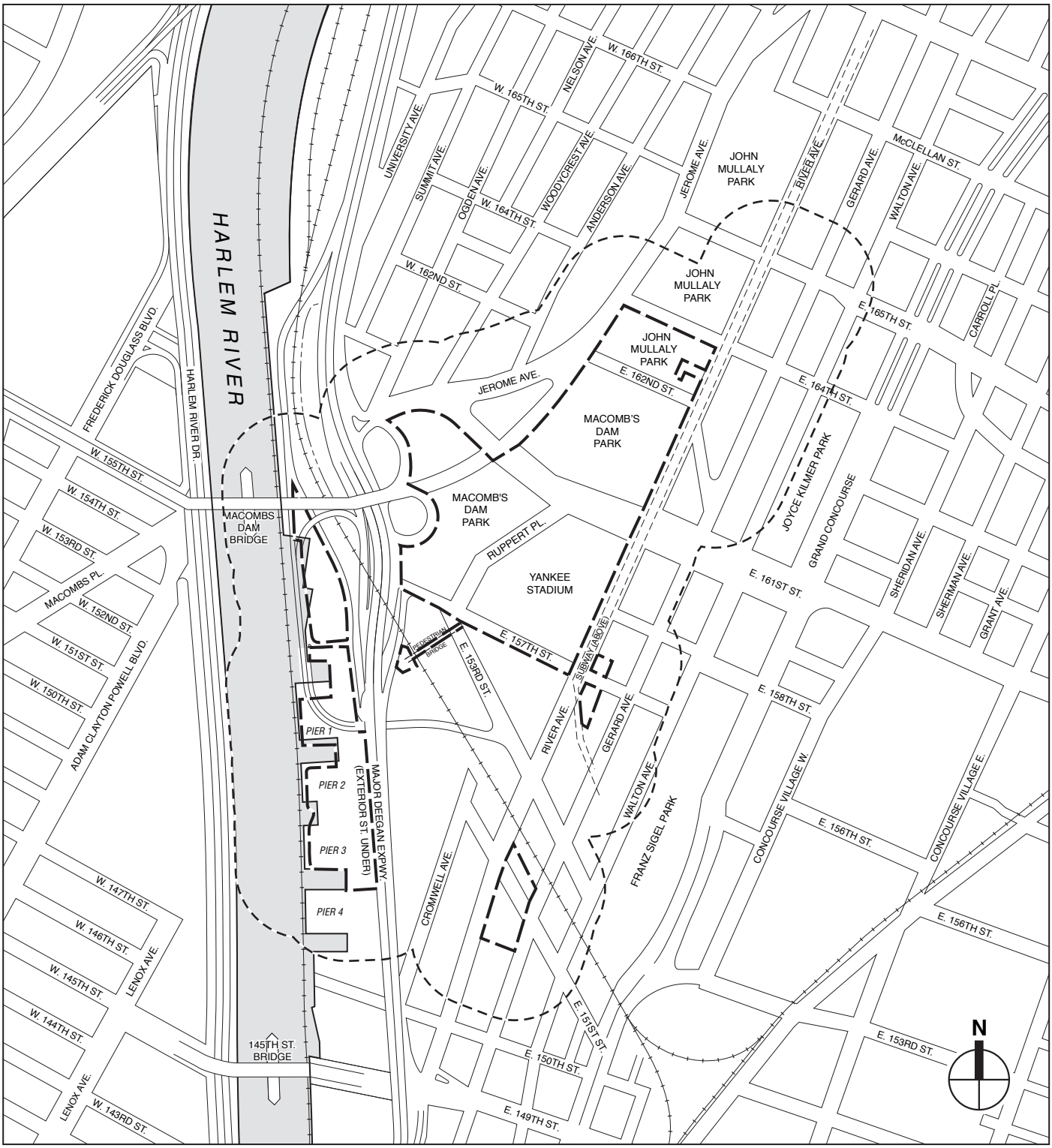
NATIONAL PARK SERVICE

BY:_____ DATE:_____
TITLE:_____

NEW YORK STATE HISTORIC PRESERVATION OFFICER

BY:_____ DATE:_____
TITLE:_____

2.8.06



Project Area Boundary and Archaeological Resources APE

Historic APE (400-Foot Perimeter)

0 400 1000 FEET

SCALE

Archaeological and Historic Resources Areas of Potential Effect (APEs)

Exhibit A

YANKEE STADIUM