



Permanent Citizens Advisory Committee to the MTA

GOING THE DISTANCE:

TRANSPORTATION MOBILITY IN THE NEW YORK METROPOLITAN REGION



October 2009

Executive Summary

The Permanent Citizens Advisory Committee (PCAC) to the Metropolitan Transportation Authority (MTA) represents the interests of the riders of the nation's largest public transportation system. PCAC is comprised of three rider councils: the Long Island Rail Road Commuter's Council (LIRRCC); the Metro-North Railroad Commuter Council (MNRCC); and, the New York City Transit Riders Council (NYCTRC). These councils, created by the New York State (NYS) legislature in 1981, are comprised of volunteer members who are recommended by local officials and appointed by the Governor.

One of the long-standing activities of the PCAC is providing timely research on issues relevant to riders. Our current investigation arises from a concern about the slow advancement of the MTA's smart card initiative — Smartcard Demonstration Project Phase I — and the desire for a status report on fare integration and connecting transit service across the region. PCAC had looked at the potential of automated fare policy at MTA in 2004 (*In your Pocket: Using Smart Cards for Seamless Travel*). In that study PCAC not only recommended that MTA make smart card a priority, but, "should also maintain regular contact with the Port Authority of New York and New Jersey (PANYNJ), NJ TRANSIT and Regional Interoperability Standard working groups to ensure that MTA smart card strategies are consistent with those planned for other regional transportation systems." However, since that report was written interoperability has become more than just fare convenience; it now includes physical and informational integration as well.

The Region

The NY Metro region is defined by the Census, based on commuting ties and social and economic integration with the New York City (NYC) core, as the New York-Newark-Bridgeport, NY-NJ-CT-PA Combined Statistical Area (30 counties).

The Agencies

The key transportation entities are: MTA, NJ TRANSIT, PATH/PANYNJ, Amtrak, Bee-Line Bus, Suffolk County Transit and several ferry services. Commuter rail is focused into NY Penn Station and Grand Central Terminal (GCT); the majority of the commuter bus traffic comes through the Lincoln Tunnel into the mid-town Port Authority Bus Terminal (PABT) or across the George Washington Bridge into the Port Authority's George Washington Bridge Bus Station (GWBBS) in Washington Heights, Upper Manhattan.

Service Integration

Choke Points

According to the MTA's recently released *Twenty Year Capital Needs Assessment 2010–2029*, many areas in the Tri-state region are currently experiencing choke points due to the tremendous ridership increases that have

occurred between 1990 and 2008: “During this time MTA ridership on all modes increased 55%.” These existing choke points will become even more stressed as the forecasts predict that the MTA’s annual ridership will grow from its current level of approximately 2.5 billion to almost 3 billion by 2030.

The complexity of travel patterns are also impacting the choke points as riders are no longer just geared to moving toward the city center during the morning peak and away during the evening peak. As Metro-North Railroad (MNR) has experienced, more of their ridership now travels off-peak, reverse peak and intra-county. Thus, choke points need to be addressed in a multi-directional manner.

Mega-Projects

Several regional projects are underway to address these choke points with assistance from the Federal Transit Administration (FTA):

- NJ TRANSIT’s Access to the Region’s Core (ARC) project will double its rail capacity into NYC by adding two additional tunnels under the Hudson River which will connect to a new mid-town Manhattan terminal under 34th Street.
- The MTA/Long Island Rail Road’s (LIRR) East Side Access project (ESA), utilizing an existing unused tunnel under the East River and building a new tunnel under Park Avenue, will double the capacity to the Core by bringing up to half of the LIRR trains into a new terminal under GCT.
- A concurrent MTA project, the new Second Avenue subway will divert as many as 213,000 daily riders from the swamped Lexington Avenue Line, the nation’s busiest and most overcrowded subway.

Key Choke Points Currently Not Addressed

Despite the magnitude and importance of the ARC and ESA projects for improving the “interoperability” of the region’s transportation, there are still many bottlenecks that have yet to be addressed. Some of the barriers are physical, some are financial and some are political or the lack of willingness to collaborate.

New York City

- The Queens Boulevard subway corridor (E/F/R/V) and the Flushing 7 line, the two primary transit arteries in Queens, are at capacity with more congestion forecast due to anticipated population and employment growth in the Borough.
- A link that will not happen as part of ARC, at least not for a while, will be that between NY Penn Station and GCT. The two commuter rail terminals are located more than a mile’s walk apart. This creates inconvenience in making transfers between MNR lines, other commuter rail lines and Amtrak.

Long Island

- The most immediate choke point on Long Island is the LIRR’s main trunk line where four branches feed into two tracks. This causes both tracks to be used

in the inbound direction during the morning peak and the outbound direction in the evening peak.

- Long Island also suffers from a choke point further out on the Main Line Corridor where there is only a single track between Ronkonkoma (the LIRR's busiest station after Jamaica and Penn) to Farmingdale. The single track again only allows for peak direction travel.

Staten Island

- The Staten Island West Shore travel corridor (Bayonne Bridge to the Staten Island Railway at Richmond Valley between the Arthur Kill and Richmond Avenue) presents significant obstacles to accessibility for travel on and off the island, including very long travel times and incomplete geographic coverage to areas of potential development.

Northern Counties in the MNR Region

- MNR runs two rail lines on the West Side of the Hudson River (Pascack Valley and Port Jervis) through a contract service with NJ TRANSIT. These two lines are single track, which precludes additional service as ridership climbs.
- The Tappan Zee Bridge, slated to be replaced with the ability to carry heavy rail, is a major car/bus choke point.

Progress in Service Integration

Recognition should be given to some small but promising initiatives in service integration: This fall (2009) MNR and NJ TRANSIT are providing joint service from Connecticut on MNR's New Haven Line, through Manhattan's Penn Station, to NJ TRANSIT's Northeast Corridor Secaucus Station. There, riders transfer to the new Meadowlands Rail Line to complete their journey to select Sunday football game service for Giants and Jets fans.

Also, in a long needed move, MTA/New York City Transit (NYCT) initiated integrated bus service from Staten Island to the HBLR 34th Street Station in Bayonne, New Jersey in 2007. The new limited stop route (S89) allows Staten Island residents to quickly reach the growing job market in Bayonne, Jersey City and Hoboken, as well as connect with the PATH train to Manhattan.

Recommendations for Service Integration

The following are recommendations to further advance mobility in the region:

Rail

- MTA should support and work for more inter-jurisdictional and inter-agency service across the region.
- MTA should continue to support and fund rail projects that remove "choke points" such as those on the LIRR Main Line Corridor, Port Jervis Line, and MNR service to NY Penn Station.

Bus

- MTA/NYCT should continue to work with NYCDOT on developing more Bus Rapid Transit (BRT) routes, particularly in areas such as Queens Boulevard and Staten Island.
- MTA should strongly press for more financial support for Long Island Bus (LIB) to greatly expand intra-island service, including BRT corridors to provide more north-south transit opportunities.
- MTA/NYCT should explore the possibility of developing BRT or express bus service from Queens and Brooklyn to the job centers in Nassau and Suffolk Counties.
- MTA/NYCT should support the suggestions and work as needed with the PANYNJ to achieve implementation of the recommendations of the Tri-State Transportation Campaign (TSTC) in their May 2009 report, “Express Route to Better Bus Service”. Most of these recommendations relate to the improvement of the PANYNJ’s two bus terminals, the Express Bus Lane (XBL) through the Lincoln Tunnel and bus loading and parking on the NYC streets.

Accessibility

- Across all modes and all agencies in the region there must be consistent and compatible ADA compliance. Travelers with physical disabilities, particularly those who use wheelchairs, have the biggest challenge in negotiating transfer points and different systems.

Seven Day Service

- All agencies must work to provide robust weekend service so that the use of public transportation will be attractive to travelers of discretionary trips. One of the biggest barriers to interoperability is that weekend services are greatly reduced across all systems. And yet, that is when a large number of people travel for personal or recreational purposes and are most in need of a well-integrated system. Currently, weekend service in some places doesn’t exist or is much less frequent; express service is eliminated and only local routes or trains operate; often there is a change in route patterns making connections more difficult, frequently with large wait times. Further, track work on the railroads and subways are often done on weekends and thus cause diversions, detours or cancellation of the already limited scheduled service. And, worst of all, the lack of good weekend service makes it easy to rationalize the use of the car.

Fare Integration

Similar to the physical layout of a system, a region’s fare policy also influences speed and convenience for transit riders. “Smart cards” decrease boarding times because the rider can just wave it past the reader, generally without the need to even remove the card from a wallet or handbag. They also allow riders to refill funds online.

As a model for MTA smart card efforts, the 2004 PCAC report discussed the efforts in implementing smart cards on PATH and three other cities' transit systems: Chicago (CTA), Washington, DC (WMATA) and the San Francisco Bay Area (BART, AC Transit, Muni, Caltrain, etc.). Five years later, it has become evident that the ease of transition into a smart card system is heavily dependent on the willingness of all major regional transit entities to cooperate, and how strictly the leading agency sticks to its pilot program and implementation timeline. PATH and the other agencies have made significant progress in utilizing smart card technology since 2004. MTA, however, which had no program in 2004, has encountered widespread difficulties in adopting a smart card system. NYCT has just finished the first phase of a smart card pilot program that began in 2006. The program — Smartcard Demonstration Project Phase I — catered exclusively to Citibank customers with MasterCard PayPass credit cards, debit cards, and key fobs, allowing them to wave their card in front of a contactless sensor at turnstiles on the Lexington Avenue subway line to make fare payments. While marketing only to customers of one bank, and involving only one subway line, the program was small, but showed potential.

By the end of 2009, MTA/NYCT hopes to begin a second phase of the pilot, which will involve holders of credit cards from various banks. The program will also involve several Manhattan bus lines, in addition to the Lexington Avenue subway line, to observe the program's ability to incorporate transfers. There will also be an effort to incorporate other types of fares such as senior/disabled reduced payments.

Recommendations for Fare Integration

- MTA must make a strong, sustained effort to not only expeditiously implement a "smart card" form of payment, but to push for a format that allows riders to move seamlessly across agencies and modes in the Region, i.e., a transit riders' "E-Z Pass".
- The MTA should establish a working group of internal staff and external advisors who will be tasked with monitoring the Smartcard Demonstration Project.
- MTA should also begin planning for a smart card pilot program involving MNR and LIRR. With a combined annual ridership of more than 170 million, and with many New York commuters transferring each day between the rail lines and bus or subway services, MNR and LIRR should be critical components of smart card integration.
- MTA should expand the concept of the CityTicket (weekend use of LIRR and MNR within NYC for a reduced price) to include late nights and morning hours, and work with NYC to create and fund a "Freedom Ticket" (fixed price travel on any MTA facility within a fare zone.)

- LIRR should work with the PANYNJ to offer a combined single ticket for Jamaica Station and the JFK AirTrain that can be purchased in ticket machines.
- A MetroCard ticket machine and fare information should be readily available to passengers exiting any terminal at JFK or LaGuardia Airports where buses stop.

Unified Transportation Information

Another piece of the regional mobility puzzle is the access to comprehensive, easily understandable, accurate and timely travel information. There are many ways to access information and retrieving it should be as convenient as possible, especially if someone is unfamiliar with the NY Metro Region. Current resources are: MTA Trip Planner; 511NY that allows a person to obtain information about travel within New York State; and travel alert links for MTA services, NJ TRANSIT, PATH and the Port Authority Bridges and Tunnels.

It is also important to remember that there are still people who do not have a computer or handheld devices that have internet access. Therefore, it is extremely important that NJ TRANSIT, LIRR and MNR list in their printed materials the telephone travel information numbers for connecting transportation agencies.

LIRR, MNR, NYCT and NJ TRANSIT also have travel information centers where one can call to obtain transit information and directions. However, none of these information centers are open 24 hours a day, seven days a week.

Recommendations for Unified Transportation Information

There is no question that regional travel information is available but making sure it is correct, consistent and accessible is the challenge at hand. To address these problems we make the following recommendations:

- Enhance and increase communication between all the transit agencies in the region and share information on an on-going basis to ensure that travel information is accurate and timely.
- Improve web travel planner programs to provide the most efficient trips, including routes where short walks between modes can shorten travel times.
- Create web travel planner programs that are specifically designed for travelers that have special ambulatory needs or need wheelchair access, and are available in formats for those with low vision.
- Make travel planning information accessible to mobile electronic devices.
- Reduce the telephone numbers needed to get travel information.
- Consider providing internet-based travel information kiosks at high volume stations so that riders can have access to travel information at all times.

- Move to standardize wayfinding signage across all transportation agencies in the New York Metro Region.
- Provide adequate accessible wayfinding signage.

Acknowledgements

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Introduction

The Permanent Citizens Advisory Committee (PCAC) to the Metropolitan Transportation Authority (MTA) represents the interests of the riders of the nation's largest public transportation system. PCAC is comprised of three rider Councils: the Long Island Rail Road Commuter's Council (LIRRCC); the Metro-North Railroad Commuter Council (MNRCC); and, the New York City Transit Riders Council (NYCTRC). These councils, created by the New York State (NYS) legislature in 1981,¹ are comprised of volunteer members who are recommended by local officials and appointed by the Governor.

One of the long-standing activities of the PCAC is providing timely research on issues relevant to riders. The selected topics are approved by the members, the most recent being ADA issues.² Our current investigation arises from a concern about the slow advancement of the MTA's smart card initiative and the desire for a status report on connecting transit service across the region. PCAC had looked at the potential of automated fare policy at MTA in their 2004 report, *In your Pocket: Using Smart Cards for Seamless Travel*³. In that study, PCAC not only recommended that MTA make smart card a priority, but, "should also maintain regular contact with the Port Authority of New York and New Jersey (PANYNJ), NJ TRANSIT and Regional Interoperability Standard working groups⁴ to ensure that MTA smart card strategies are consistent with those planned for other regional transportation systems."⁵ However, since that report was written interoperability has become more than just fare convenience; it now includes physical and informational integration as well.

In March of 2008, then Executive Director Lee Sander gave a State of the MTA address on the occasion of the MTA's 40th anniversary. He put considerable emphasis on the growing potential for seamless regional mobility. He called for "regional rail interoperability" and cited the growing interest in better West of Hudson and cross-Westchester County accessibility, proposed new airport connections, implementation of regional ticketing and a one fare media. "We have embraced the concept of breaking down institutional and political

¹ PCAC functions as the funding and staffing mechanism for the three councils and operates under a memorandum of understanding with the MTA. In the NYS legislation (S5451/A8180) passed May 7, 2009 that provides additional funding for MTA operations, the PCAC was given statutory standing and its members defined as those of the three rider councils.

² *Welcome Aboard: Accessibility at the MTA* (October 2008). http://www.pcac.org/wp-content/reports/2008_ADA_accessibility.pdf

³ See http://www.pcac.org/wp-content/reports/2004_Smart_Cards.pdf. PCAC also looked at shuttle services to train stations in a 2002 report, *You've Got Connections*. See http://www.pcac.org/wp-content/reports/2002_Connections.pdf

⁴ In 2004, the Regional Interoperability Standards for Electronic Fare Payment initiative was an attempt to move the industry away from the use of proprietary fare collection systems. These standards had been accepted as the basis for national fare collection standards then being developed by the American Public Transit Association (APTA), p.4.

⁵ Executive Summary, p. vii.

boundaries to improve service." He noted the success of the New York City Transit (NYCT) S89 buses that now travel to Bayonne, New Jersey so that passengers can connect with NJ TRANSIT's Hudson-Bergen Light Rail line (HBLR) to access destinations on the New Jersey Gold Coast or travel into Manhattan via the PATH (Port Authority Trans-Hudson) trains. Ridership gains were so great that NYCT had to add three daily round trips.

Mr. Sander emphasized how much better travel is becoming for riders even within the MTA system. He cited the impacts of current major construction projects: "The benefits of these ongoing mega-projects are familiar to many of you. What is not well understood is the way in which East Side Access and the Second Avenue Subway will unlock the potential of the MTA network in Brooklyn, Queens, and the Bronx, in addition to Manhattan." He explained that when the East Side Access project is completed Long Island Rail Road (LIRR) riders will have the option of traveling directly to Manhattan's east side via Grand Central Terminal (GCT); and employment on Long Island will become more attractive as a result of an improved reverse commute. In addition, Metro-North Railroad (MNR) will then be able to boost service by going into freed-up space at Penn Station and also by adding stations at Co-op City, Parkchester, and Hunts Point. This will mean faster Manhattan-bound service and better service for those traveling north to Westchester for jobs. The Second Avenue Subway, in addition to relieving overcrowding on the Lexington Avenue line, will act as a trunk line for new service to West Harlem, Brooklyn, Queens, and the Bronx. Sander pointed out the opportunities that will be created with a new Tappan Zee Bridge: transit capacity (train or bus rapid transit) across the bridge would provide direct travel from West-of-Hudson counties of Orange and Rockland to a connection with the MNR Hudson line as well as to the business centers in White Plains, Stamford, and Greenwich. He also mentioned that MTA is working with NJ TRANSIT and Amtrak to create regional commuter rail interoperability whereby routes are being identified for running MNR service to New Jersey and Long Island.

To be sure, Sander is not the first at MTA to advance regional mobility. Fifteen years ago MTA Chairman Peter Stangl pushed the "Fare Deal" program, as described in the MTA's 1994 Annual Report:

Fare Deal is the MTA's commitment to create a customer-friendly, integrated regional transportation network that improves mobility and the quality of life for metropolitan New York. It was created in 1992, endorsed by the state legislature in 1993, and fully funded in 1994.

Under Fare Deal MTA launched MetroCard, its first automated fare card. The Annual Report notes some important outcomes from this initiative:

Introducing MetroCard ... called for close collaboration between the MTA Card Company (MTACC), NYC Transit, and MTA Headquarters. ...

MTACC also worked with the LIRR and Metro-North to initiate MetroCard sales at ticket offices in the railroads' service areas. By requiring three kinds of ongoing working relationships among the MTA agencies, MetroCard is helping to advance a corporate culture that will support the further integration of our services. MetroCard makes it possible to price those services creatively and to allow our customers to travel on an MTA commuter railroad and city subways and buses with just one card in their pockets.

Along with an improved fare policy, a top priority under Fare Deal was the Capital Program and future infrastructure investment needs. It is revealing to read the following in the 1994 Annual Report and reflect on Sanders' presentation:

During the year we also made steady progress on the Long-Range Planning Framework, under which MTA agencies are studying various ways of expanding the regional rail network. Through this process, the MTA will be able to choose projects that improve regional mobility in the most cost-effective manner. Proposals studied in 1994 included bringing the LIRR to the East side of Manhattan, constructing the Second Ave. subway, utilizing Long Island City's intermodal connections, creating a new NYC Transit Brooklyn-to-Manhattan crossing, establishing direct rail service to Orange and Rockland counties, and building a rail link between western Queens, midtown Manhattan and New Jersey.

From this look back, it is clear that there has been a historic desire for interoperability for over a decade. And, although transportation agencies in the New York metropolitan region have been moving toward cooperation and integration of services, it has been at a painfully slow pace. The reasons vary and often are a combination of obstacles: lack of leadership or change in leadership at the agency, state or federal level; bureaucratic inertia; more pressing priorities; unforeseen events (9/11); technology challenges; and, inevitably, lack of funding resources. As a result, this paper not only describes the progress that *has been* made in providing a more seamless ride throughout the region, but it presses the MTA to move ahead expeditiously in fostering service, fare and travel information integration. This is particularly timely in light of the recently (June 18, 2009) proposed Surface Transportation Authorization Act of 2009 proposed by the U.S. House of Representatives Committee on Transportation and Infrastructure. This bill contains provisions for an expanded metropolitan mobility and access program to "provide funding for congestion relief plans designed to increase mobility and accessibility of people and freight in major metropolitan areas." There is also an emphasis on intermodalism to combat historic policies that "focus on individual modes of travel, rather than considering the transportation needs of an interconnected intermodal system."

This report looks at three major aspects of regional “interoperability”: service integration, fare integration and unified travel information. We begin with a brief description of the NY Metro region and its public transit providers. This sets the stage for an analysis of the various rail and bus connections to and within the region with the identification of problem “choke points” or bottlenecks. Part of this discussion highlights the future benefits of current regional transportation mega-projects.

The regional fare policy section is an update of the 2004 PCAC report, *In Your Pocket*, which looked at the progress made by major U.S. transit agencies in smart card technology usage. Finally, we consider the potential benefits of “unified travel information,” whereby the traveler can access regional trip planning assistance from a single source. Findings and recommendations follow each section.

The Region

The NY Metro region is defined by the Census, based on commuting ties and social and economic integration with the New York City (NYC) core, as the New York-Newark-Bridgeport, NY-NJ-CT-PA Combined Statistical Area (CSA).⁶ This area includes the following 30 counties⁷:

Connecticut:	Fairfield, Litchfield and New Haven
New Jersey:	Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex and Union
New York:	Bronx, Dutchess, Kings, Nassau, New York (Manhattan), Orange, Putnam, Queens, Richmond, Rockland, Suffolk, Westchester, Ulster
Pennsylvania:	Pike ⁸

According to Census estimates in 2007, 22 million people lived in the region,⁹ more than one in every fourteen Americans.¹⁰ NYC alone has a population in excess of 8 million, over 36% of the region's residents.

⁶ U.S. Census Bureau. <http://www.census.gov/population/www/cen2000/briefs/phc-t3/tables/tab03.pdf>. Census 2000 Redistricting Data. (P.L. 94-171). April 2, 2001.

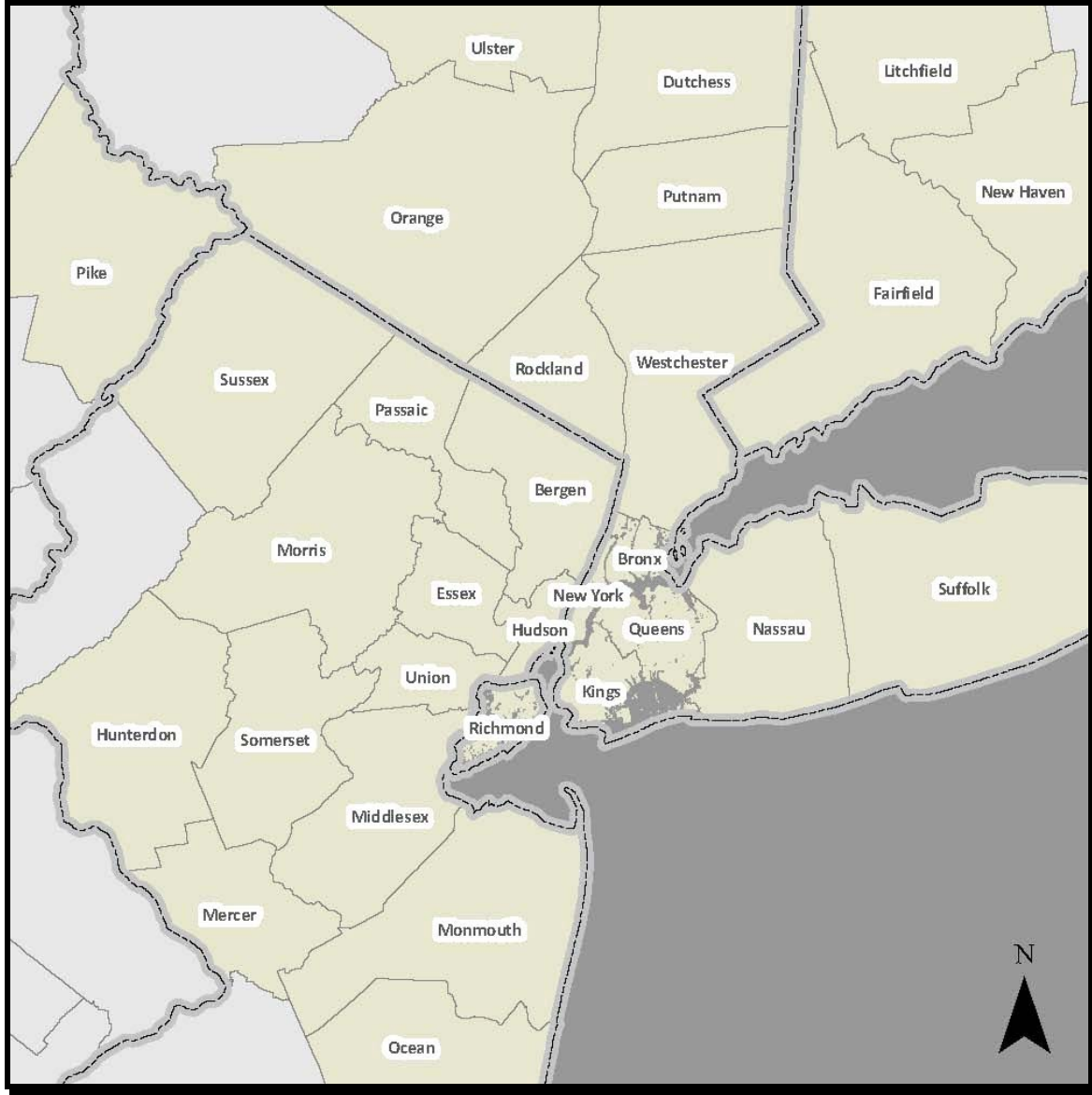
⁷ The Regional Plan Association (RPA) has a slightly different definition of the NY metropolitan region: 31 counties in NY, NJ, and CT (no PA). They also include Warren County, NJ and Sullivan County, NY.

⁸ Pike County, PA does not have local public transportation. The closest access to transit is Port Jervis, NY for the MNR service. Residents could also drive to a park-n-ride in New Jersey for commuter bus service.

⁹ U.S. Census Bureau. http://www.census.gov/population/estimates/metro_general/2007/CSA-EST2007-alldata.csv. 2007.

¹⁰ <http://www.prb.org/Publications/Datasheets/2007/2007WorldPopulationDataSheet.aspx> (2007 US population was 302.2 million).

Exhibit 1 — NY Metro Region CSA



Transportation Agencies Serving the Region

The following are the primary transit agencies in the region. Further details of these entities are described in Appendix A.

MTA

The MTA, is a public benefit corporation chartered by the NYS Legislature in 1965,¹¹ and serves as the umbrella organization for NYCT, MNR, LIRR, Long Island Bus (LIB), and Bridges and Tunnels (B&T). This is the largest public transportation provider in North America:

Table 1

MTA Totals at a Glance*	
2008 operating budget	\$10.8 billion
Average weekday ridership	8,505,966
Rail and subway lines, and bus routes	422
Rail and subway cars	8,934
Buses	6,346
Track miles	2,057
Bus route miles	3,903
Rail and subway stations	734
Employees	69,117
* Budget as of February 2008; other statistical information as of December 31, 2007.	

Source: MTA

NJ TRANSIT

NJ TRANSIT operates most of the commuter rail and bus service in New Jersey, but most of the service is focused in the NY Region as described above. All NJ TRANSIT commuter rail lines connect to NYC either directly or via transfers at Newark Penn Station or Secaucus Junction. NJ TRANSIT’s commuter rail lines have the nation’s third highest ridership, after LIRR and MNR. NJ TRANSIT bus lines, along with numerous private operators, deliver commuters through the Lincoln Tunnel into the Port Authority Bus Terminal (PABT).¹²

¹¹ <http://www.mta.info/mta/network.htm>

¹² http://www.njtransit.com/hp/hp_servlet.srv?hdnPageAction=HomePageTo

Amtrak

Amtrak, the nation’s intercity rail service, runs two long distance rail lines through NYC — the Northeast Corridor Line and the Empire Line. Coming from New Jersey, using the original 1910 Hudson River tunnels, the Northeast Corridor Line stops at NY Penn Station, crosses through the East River Tunnels into Queens (NYC), moves across the Hell Gate Bridge into the Bronx (NYC), and continues towards New Rochelle and Connecticut. The Empire Line moves north from NY Penn Station along the Hudson through Manhattan and the Bronx enroute to Albany and Syracuse. Amtrak owns and operates NY Penn Station, but shares its use with NJ TRANSIT and LIRR.¹³

Exhibit 2 — Amtrak Route in NY Metro Region



Source: Amtrak

¹³ www.amtrak.com

Port Authority of NY and NJ (PANYNJ)

PANYNJ is responsible for maintaining the bridges (George Washington, Verrazano, Goethals, Outerbridge Crossing and Bayonne) and car/truck tunnels (Lincoln, Holland) between New York and New Jersey. It also operates the PATH (Port Authority Trans-Hudson) rail service between Midtown and Lower Manhattan in New York, and Newark, Harrison, Jersey City and Hoboken in New Jersey. The PATH utilizes two former railroad tunnels under the Hudson River, one going to the World Trade Center site,¹⁴ one going to Midtown at 33rd and 6th Avenue, a block from Penn Station. The AirTrain service to JFK and Newark Liberty Airports is also under the PANYNJ. Lastly, the Port Authority is responsible for the PABT in Midtown Manhattan, used by 7,000 buses and 200,000 commuters each weekday, and the George Washington Bridge Bus Station (GWBBS) in Washington Heights, Manhattan, with 18,000 commuters each weekday.¹⁵

Bee-Line Bus

Westchester County's Bee-Line Bus service is one of the most robust bus networks in the Region. The system's 64 routes are mostly concentrated in the more urban southern portion of the county. However, all but the county's smallest, most rural communities have at least rush hour service. Bee-Line is a public/private partnership whereby Westchester County owns the buses and private companies operate the routes. Its annual ridership is 32.4 million.¹⁶

Transport of Rockland

The Transport of Rockland (TOR) provides bus service within Rockland County, New York, with stops at MNR West of Hudson stations in Rockland County and service (Tappan ZEEExpress) to the Tarrytown and White Plains MNR rail stations in Westchester County.¹⁷

Dutchess Loop

The Loop provides public transit service to Dutchess County through fixed routes and demand services of Dial-A-Ride and Paratransit. LOOP runs a Commuter Train Connection bus service in cooperation with MNR. Three stations, Beacon, New Hamburg and Poughkeepsie are supported by this commuter bus service.¹⁸

Putnam Transit

Putnam Transit, supported by Putnam County, serves the eastern portion of the County through five routes that include stops at the MNR Harlem Line stations.¹⁹

¹⁴ The Port Authority owns the World Trade Center site as well.

¹⁵ Port Authority website <http://www.panynj.gov/CommutingTravel/bus/html/gwb.html>

¹⁶ According to Larry Salley, Commissioner, Westchester County Department of Transportation. See http://www.westchestergov.com/gettingaround_transit.htm

¹⁷ <http://www.co.rockland.ny.us/PublicTrans/index.htm>

¹⁸ <http://www.dutchessny.gov/CountyGov/Departments/Planning/PLLoopbus.htm>

¹⁹ <http://www.putnamcountyny.com/PART/>

Orange County

Orange County, NY is served by Coach USA/Shortline for both commuter service to PABT and GWBBS, and travel within the County. NJ TRANSIT also offers service from Warwick, New York through New Jersey into PABT. There is also local service in Newburgh by the Newburgh Beacon Bus Service and in Middletown by the Middletown Transit Corp.²⁰

Ulster County

The Ulster County Transportation Department operates the Ulster County Area Transit (UCAT) service which provides bus transportation throughout Ulster County with limited service to Orange County (Newburgh) and connecting service to Dutchess County (Poughkeepsie).²¹

Suffolk County Transit (SCT)

SCT operates 53 routes across Suffolk County with a fleet of 180 buses.²²

Hampton Jitney

Hampton Jitney, headquartered in Southampton, NY, Long Island, serves the eastern end of Long Island with upscale bus service to Manhattan for commuters and weekend visitors.²³

Ferries

A number of ferry services operate within the NY Metro area, often connecting with rail and/or bus transportation (see Appendix A):

- NY Waterway
- New York Water Taxi
- Liberty Water Taxi
- SeaStreak
- Staten Island Ferry
- Bridgeport & Port Jefferson Steamboat Company

Regional Service Integration

Commuter Rail Connections to the Core

Manhattan initially became the core of the NY Metro Region largely because of its strong access to water. With the Hudson River, and subsequently the Erie Canal to the North, and the Atlantic Ocean to the West, New York's harbor has served as an important point in trade routes. However, just as this access to water has helped the city's transportation needs, it also creates complications for

²⁰ <http://www.ocny.com/transportation/bus.php>

²¹ <http://www.ulstercountyny.gov/ucat/>

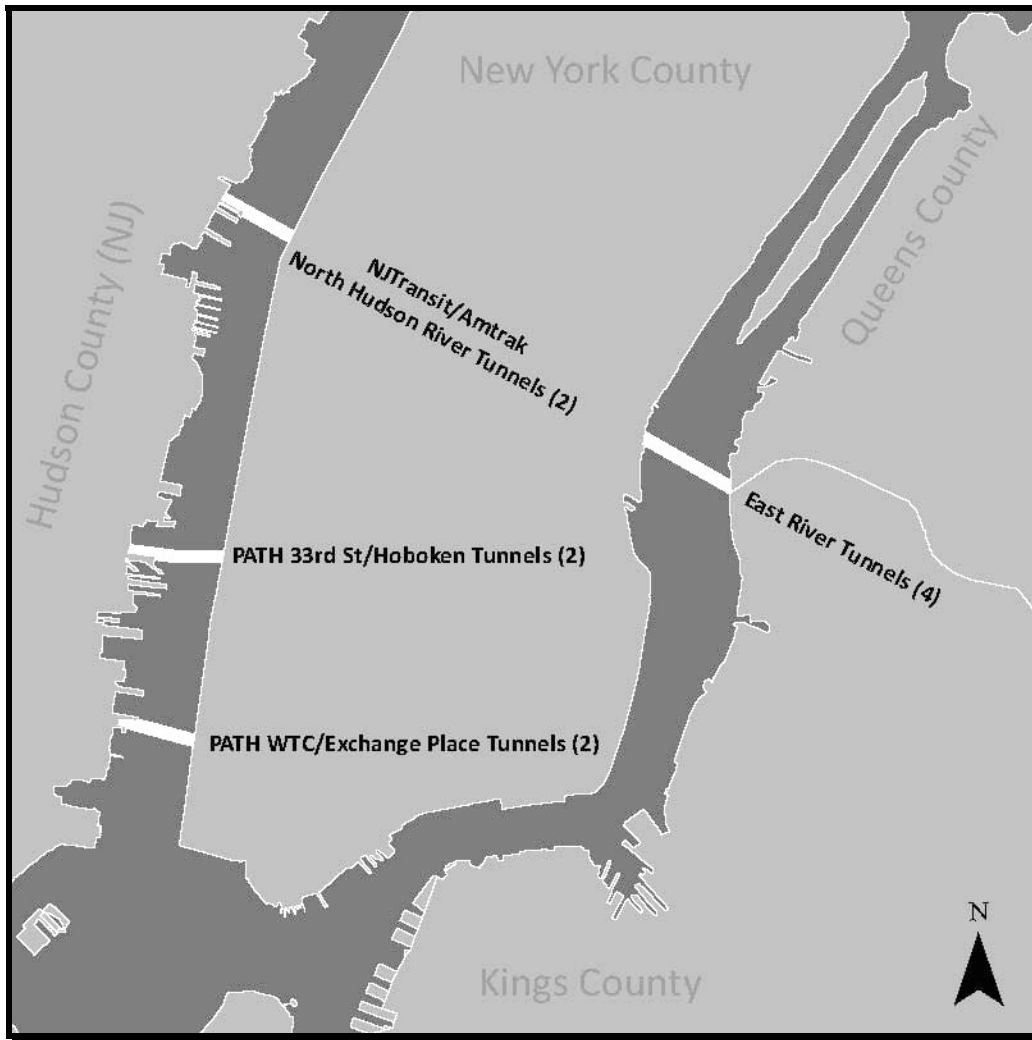
²² <http://www.sct-bus.org/>

²³ <http://www.hamptonjitney.com/cgi-bin/nav.cgi?page=home.html>

ground modes. As such, the investments in connecting Manhattan to the surrounding land through bridges and tunnels have been immense.

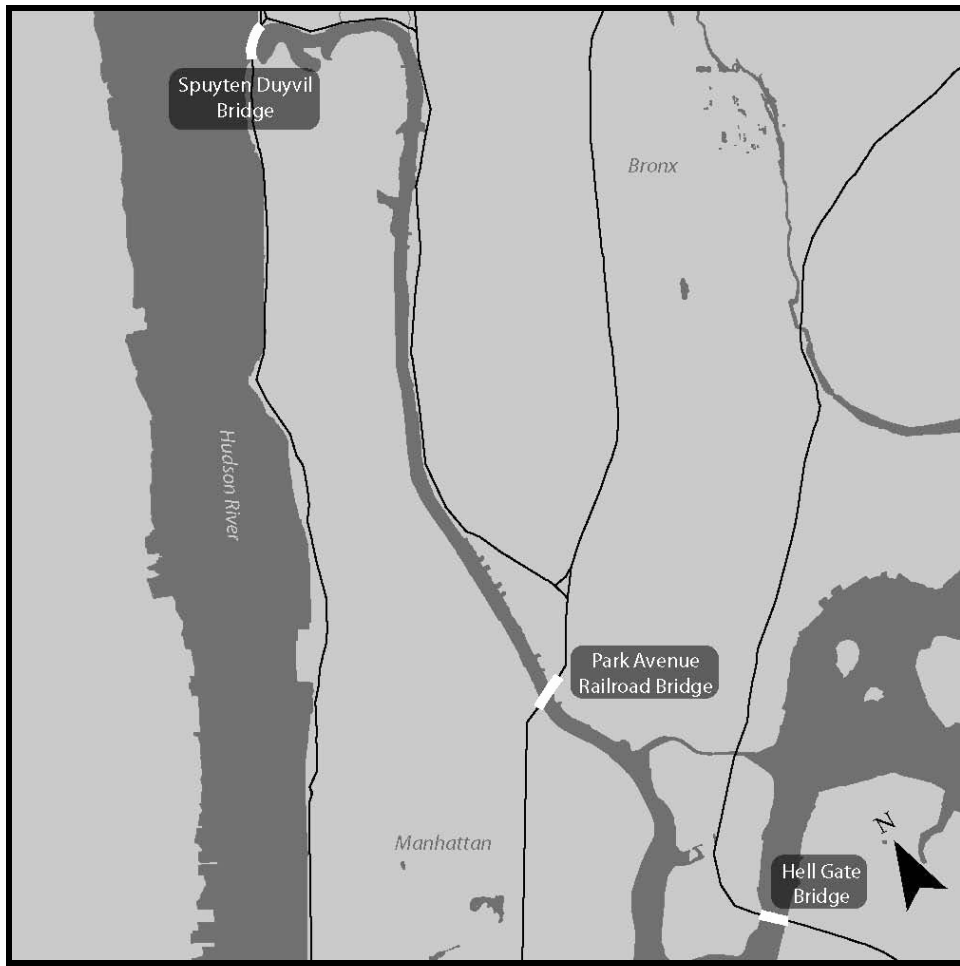
Presently, 10 tunnels connect regional rail travelers to Manhattan (see Exhibit 3A below): Under the Hudson River there are the four PATH tunnels and the two Amtrak tunnels to Penn Station, also used by NJ TRANSIT; under the East River there are four Amtrak tunnels that are employed by both the LIRR for its normal operations into NYC and NJ TRANSIT to lay up trains in the Sunnyside Yards in Queens.

Exhibit 3A — Rail Access to the Core: Tunnels



In addition, there are three bridges which help connect Amtrak and commuter rail to Manhattan (See Exhibit 3B below). The Park Avenue Railroad Bridge across the Harlem River is used exclusively by MNR trains. The second connector bridge, the Spuyten Duyvil Bridge, connects Manhattan to the Bronx above the Spuyten Duyvil Creek, which sits in between the Hudson and Harlem Rivers. This is an exclusive Amtrak crossing as part of its Empire Service to Albany and other upstate destinations. The third bridge, Hell Gate, is also an Amtrak crossing (Northeast Corridor line) between Randall’s Island, Manhattan, and Astoria Queens.

Exhibit 3B — Rail Access to the Core: Bridges



At this point it is useful to point out the limited compatibility of equipment used by the four railroads. NJ TRANSIT and Amtrak are the most closely aligned. They take electrical power from catenaries (overhead wires). Amtrak owns the line infrastructure from Manhattan to Washington DC, which comprises its Northeast Corridor service. NJ TRANSIT utilizes the same tracks for its Northeast Corridor service from Trenton.

The LIRR, however, operates its equipment using a “third” rail for electric power (similar to the NYCT subways). In some areas of Long Island the tracks have not been electrified and there the Rail Road uses diesel powered or dual mode (diesel/electric) engines.

MNR uses third rail electric and dual mode engines on its Hudson and Harlem Lines; but the New Haven Line uses a combination of third rail (for travel out of GCT to Mount Vernon East) and catenary trackage from there on.²⁴ Amtrak also operates on the same New Haven line tracks once it reaches New Rochelle, New York after crossing the Hell Gate Bridge. Interestingly, it is only the NJ TRANSIT electric locomotive power that is capable of running under the various catenary systems over three separate railroads (NJ TRANSIT, Amtrak and MNR’s New Haven line) using different power supplies.

Commuter Bus Access to the Core

The heaviest bus traffic in the region is through the Lincoln Tunnel due to the location of the PABT (See Exhibit 4A). Located in the heart of NYC, the PABT is the world's busiest bus terminal, the region's primary ground transportation facility, and the largest bus terminal in the United States. The terminal is located one block west of Times Square, occupying the blocks between Eighth and Ninth Avenues, from 40th to 42nd Streets. In 2008, an estimated 58.3 million passengers flowed through the PABT on more than 2.2 million bus movements. On a typical weekday, nearly 200,000 passenger trips passed through the PABT on 7,000 bus movements.²⁵

The Lincoln Tunnel is the world's first three-tube underwater vehicular tunnel facility between Midtown Manhattan and central New Jersey. The tunnel's three tubes provide important flexibility in traffic handling with the ability to change the six lanes to four lanes in one direction or three lanes in each direction by converting the center tube to a two-way operation. During the weekday morning peak period (between 6:00 am and 10:00 am) the Port Authority operates a 2.5 mile exclusive bus lane (XBL). The XBL carries roughly 690–700 peak hour

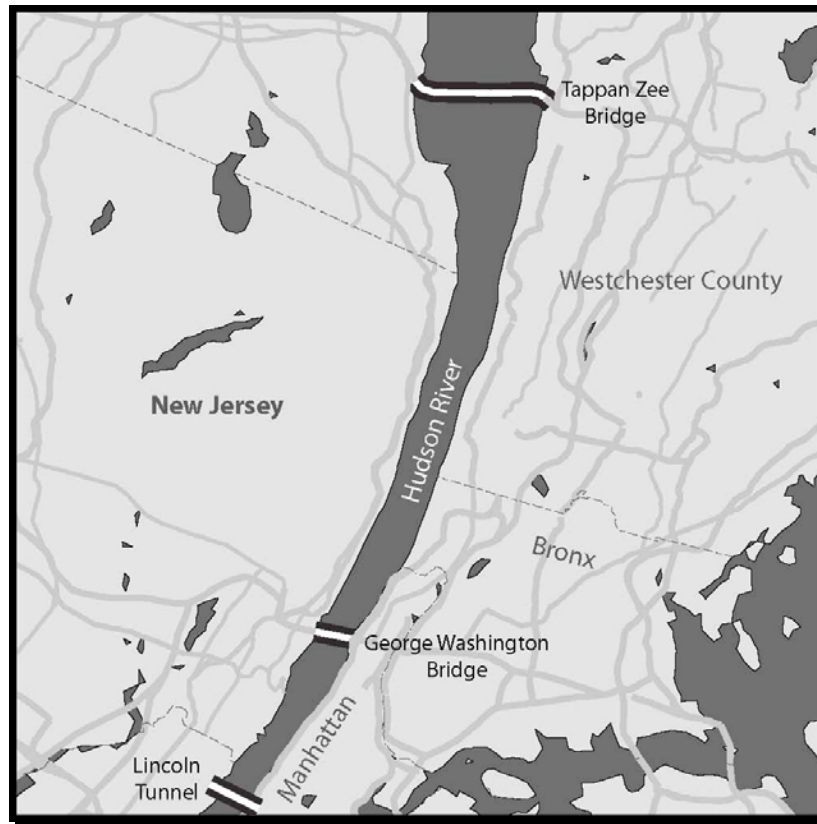
²⁴ Both the catenary and third rail overlap for a quarter of a mile between Mount Vernon East and Pelham to facilitate this changeover.

²⁵ See <http://www.panynj.gov/CommutingTravel/bus/html/pa.html>

buses or almost one bus every five seconds. Ninety-one percent of these buses travel to the PABT. As a result, the XBL and the PABT are close to capacity.²⁶

The GWBBS located in the Washington Heights area of Upper Manhattan, occupies a two-block site between 178th and 179th Streets, and Fort Washington and Wadsworth Avenues. The bus station features a pedestrian walkway that connects travelers with the 175th Street "A" line subway station. In 2008, an estimated 5.2 million passengers flowed through the GWBBS on more than 324,000 bus movements; on a typical weekday, approximately 18,000 riders on 1,000 bus movements. This bus station is fed from the west by the George Washington Bridge (GWB). This two-level bridge crosses the Hudson River between upper Manhattan (West 178th Street) and Fort Lee, New Jersey and forms part of Interstate Highway I-95.

Exhibit 4A — Commuter Bus Access to the Core: Hudson River



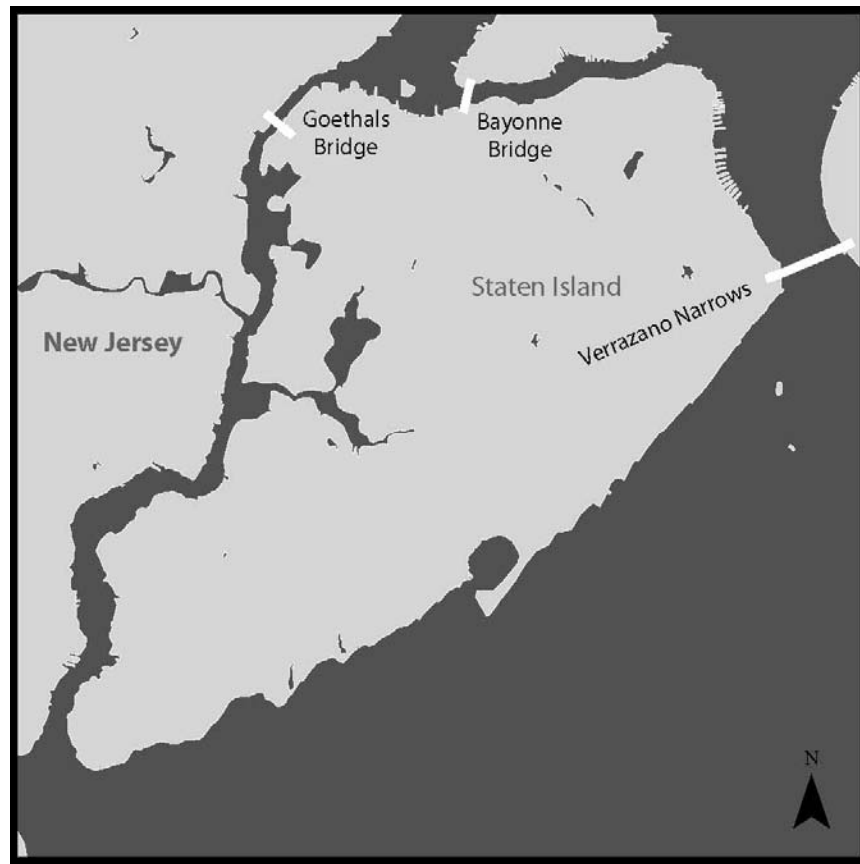
²⁶ <http://www.arctunnel.com/about/>

The Tappan Zee Bridge (I287, part of the NY Thruway), from Rockland County, NY across the Hudson into Westchester County, is used by the previously mentioned Tappan ZEEexpress bus service from Rockland County which serves the MNR Tarrytown and White Plains train stations (See Exhibit 4A).

It should be noted that the other major connector from NJ to Manhattan is PANYNJ's Holland Tunnel, from Jersey City to Canal Street in NYC. However, commercial vehicles are prohibited from entering NYC via the Holland Tunnel and are encouraged to use the Lincoln Tunnel and George Washington Bridge as alternatives.²⁷

Other bridges from NJ to NYC operated by the PANYNJ are the Outerbridge Crossing, the Goethals Bridge and the Bayonne Bridge, all of which connect to Staten Island (SI) (See Exhibit 4B below). NYCT uses the Goethals Bridge to run express bus service from SI to Manhattan through the Lincoln Tunnel and NYCT runs bus service (S89) from SI over the Bayonne Bridge to the 34th Street HBLR station.

Exhibit 4B — Commuter Bus Access to the Core: Staten Island



²⁷ See <http://www.panynj.gov/CommutingTravel/tunnels/html/holland.html>

Transit Access within NYC

NYCT Subway Bridges and Tunnels

Many subway tracks also cross into Manhattan from the outer boroughs. There are 10 subway tunnels and two subway carrying bridges (Manhattan and Williamsburg) that cross the East River between Manhattan and Brooklyn (See Exhibit 5A). There are three tunnels and one bridge (Broadway Bridge) that serve subway lines from Manhattan into the Bronx (Exhibit 5B). There are also the North and South Channel bridges that carry the A and C subways in the Rockaways (Exhibit 5C).

Exhibit 5A — Subway Bridges and Tunnels: East River

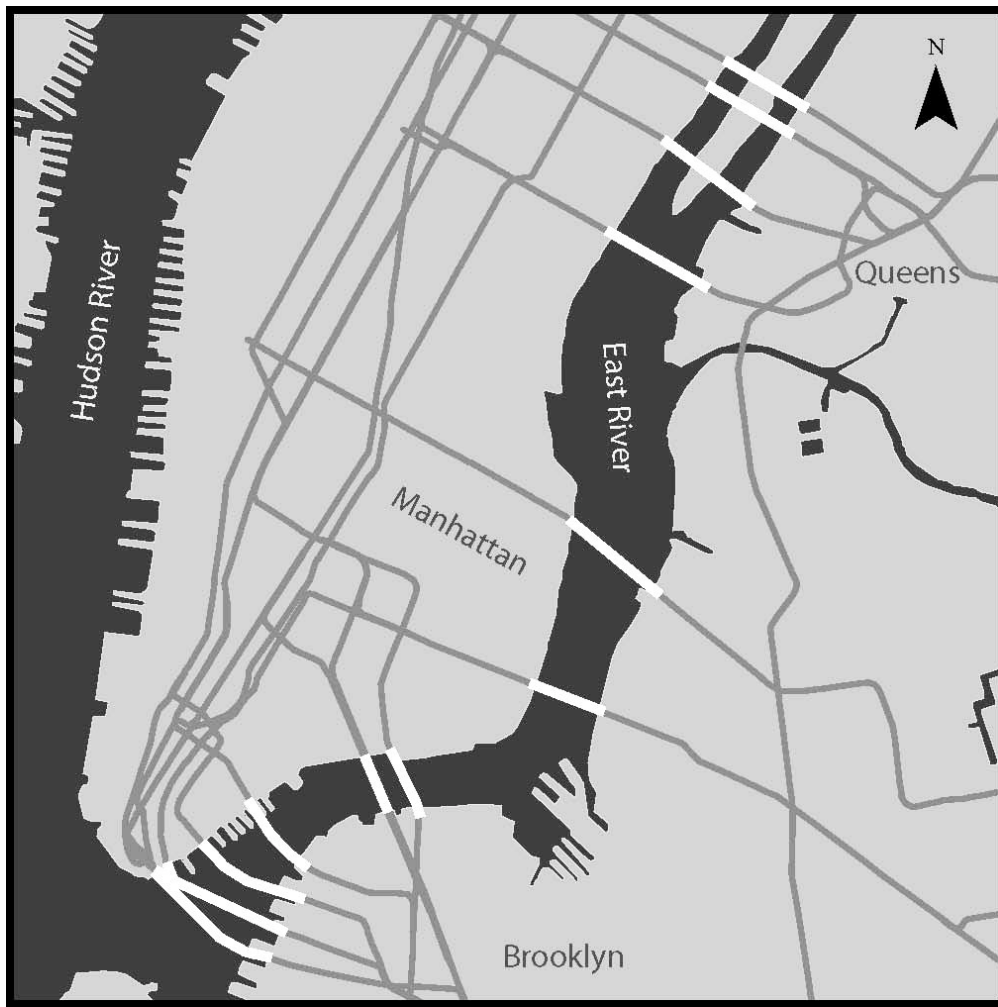


Exhibit 5B — Subway Tunnels and Bridges: Harlem River

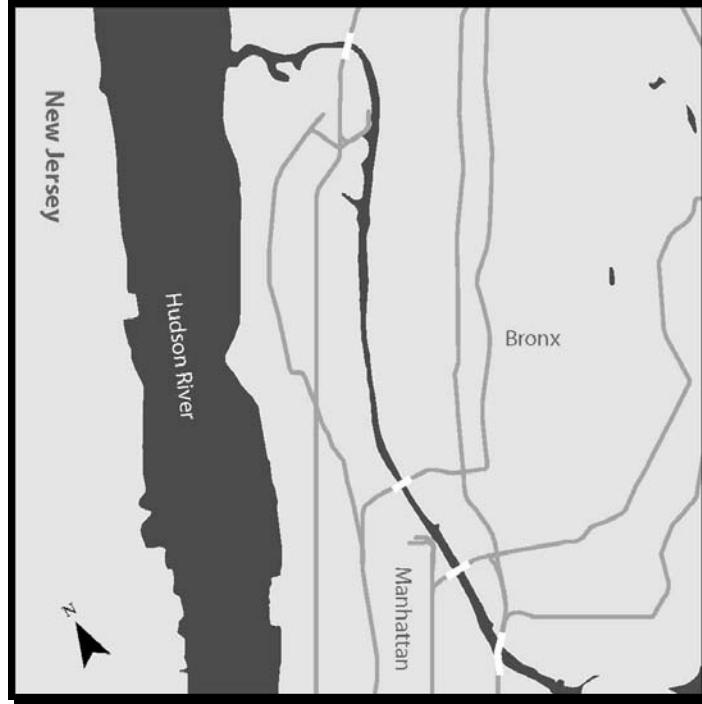


Exhibit 5C — Subway Bridges: The Rockaways



NYCT Bus Bridges and Tunnels

Within NYC, buses traverse numerous bridges and one tunnel (Brooklyn Battery) to connect the outer boroughs with Manhattan and each other.

Exhibit 6A — Bus Bridges and Tunnel: East River and Harlem River

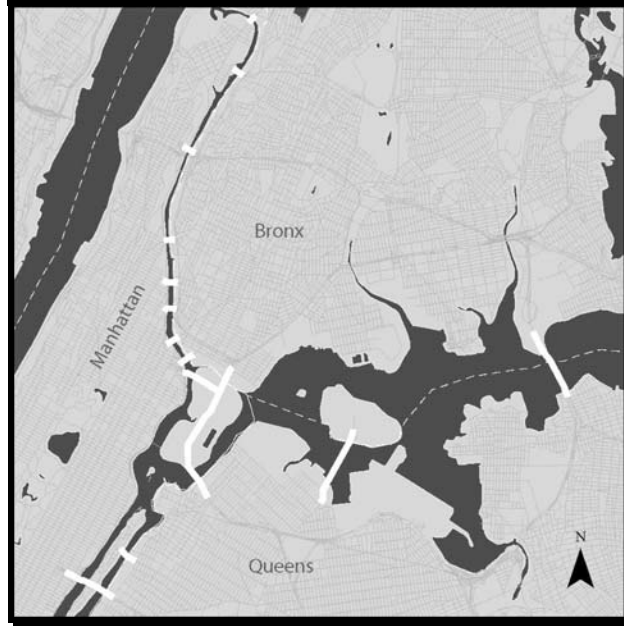


Exhibit 6B — Bus Bridges: Brooklyn and Staten Island



Long Island Intra-island Mobility

While the LIRR permeates most areas of Long Island (10 Branches) the direction of travel is mostly east-west. As noted previously, not all of the system is electrified and the far eastern areas, known as “diesel territory”, are subject to slower speeds and frequent breakdowns.²⁸ Supplemental mobility, particularly for north-south travel, is provided by Long Island Bus (LIB)²⁹ in Nassau County and SCT and HART in Suffolk County. These systems are thin in both geographic coverage and level of service. There have been many calls for the expansion of LIB and SCT systems and their merger into a regional bus system under the aegis of the MTA.³⁰ As part of its MTA 2010–2014 Capital Program, the MTA will perform a study of all the bus providers in its service area to assess and recommend the best region-wide operating and funding scheme for these services.³¹

Rail Service Integration/Choke Points/Missing Links

Two issues central to improving rail integration in the region are relieving choke points or bottlenecks along rail lines, and upgrading inter-suburban connectivity. According to the Regional Plan Association (RPA), investments in relieving choke points, also known as bottlenecks, are more effective for lowering total travel times than focusing on European-style high speeds in unchoked areas.^{32,33} According to the MTA’s recently released *Twenty Year Capital Needs Assessment 2010–2029*, many areas in the Tri-state region are currently experiencing choke points due to the tremendous ridership increases that have occurred between 1990 and 2008: “During this time MTA ridership on all modes increased 55%”.³⁴ These existing choke points will become even more stressed

²⁸ See PCAC’s 2008 Annual Performance Review of the MTA for a discussion of the LIRR diesel fleet: <http://www.pcac.org/reports/mtaassessments/>

²⁹ LIB is financed by Nassau County which owns the fleet and facilities. However, NYCT’s Department of Buses operates the system.

³⁰ See the Ravitch Commission’s recommendations on creating a regional bus system: http://www.ny.gov/governor/press/pdf/press_1204082.pdf

³¹ <http://www.mta.info/mta/capitalprogram.html>

³² Hagler, Yoav. “Breaking up Bottlenecks from Tracks to Ticketing.” Spotlight Vol. 8, Number 10. Regional Plan Association. <http://www.rpa.org/2009/05/spotlight-vol-8-no-10-breaking-up-bottlenecks-from-tracks-to-ticketing.html>. May 27, 2009.

³³ Hagler gives this example: The Baltimore and Potomac Tunnels, opened in 1873, still today serve Amtrak and commuter rail trains. The tunnels’ grades are too steep, and their turns are too sharp. As such, the top speed in the tunnels is 30 mph. Though it may be counter intuitive, upgrading just a two-mile stretch of track in a choked tunnel like this such that trains could go 90 mph instead of 30 mph would save nearly three minutes in travel time. Making the same 60 mph improvement, from 90 mph to 150 mph, would actually require upgrading 10 miles of track to reach the same three minute time savings. Going from 150 mph to 210 mph would require an entire 27 miles of track to achieve the same three minute reduction. As such, Amtrak’s plan to upgrade most of the southern half of the Northeast Corridor to allow speeds of 150 mph in unchoked areas might not be as effective an investment as upgrading or providing alternatives for older, slower tunnels such as those under Baltimore, or the Amtrak Tunnels under the Hudson.

³⁴ p. 78

as the forecasts predict that the MTA's annual ridership will grow from its current level of approximately 2.5 billion to almost 3 billion by 2030.³⁵

In describing the need for new tunnels under the Hudson River (Access to the Region's Core or ARC), NJ TRANSIT mirrors the MTA dilemma:

NJ TRANSIT's ridership has quadrupled since 1984....Trains are very crowded and there is no room to grow. This crisis threatens the economic prosperity of both New Jersey and New York and the region's ability to attract good employers, and diminishes the quality of life for commuters and residents alike...This year alone, NJ TRANSIT will provide 44 million passenger trips to Penn Station New York, a staggering 150-percent increase in just the last 10 years. As in many instances, sober realities accompany progress and expansion. With rising gas prices driving record high ridership, the NJ TRANSIT rail network has reached its practical capacity during peak periods, and we must now come to terms with the limitations of the century-old infrastructure that carries all commuter rail trains between New Jersey and New York ... In short, today's century-old passenger rail system under the Hudson River, which connects New York and New Jersey has reached its capacity, and serves as a bottleneck that affects our region's mobility, health and economic future. The ARC project will break this bottleneck.³⁶

The complexity of travel patterns are also impacting the choke points as riders are no longer just geared to moving toward the city center during the morning peak and away during the evening peak. As MNR has experienced, more of their ridership now travels in the off-peak hours due to a tremendous increase in reverse peak and intra-county travel. Thus choke points need to be addressed in a multi-directional manner.

Mega-Projects

Several regional projects are underway to address these choke points with assistance from the Federal Transit Administration. As mentioned above, NJ TRANSIT's ARC project will double its rail capacity by adding two additional tunnels into a new Midtown Manhattan terminal under 34th Street. The MTA also has several projects underway to alleviate regional choke points. LIRR's East Side Access (ESA) project, utilizing an existing unused tunnel under the East River³⁷ and building a new tunnel under Park Avenue, will double the capacity to

³⁵ p. 79

³⁶ <http://www.arctunnel.com/about/>

³⁷ This East River tunnel is the lower level of a bi-level tunnel used by F subway line that enters Manhattan under East 63rd St. 2015 is the original projected completion date; however, recent engineering reports have indicated the construction may be extended as late as 2019 (MTA CPOC meeting July 27, 2009). Unfortunately, the size of this tunnel will not accommodate the LIRR bi-level cars.

Midtown Manhattan by bringing up to half of the LIRR trains into a new terminal under GCT. The project will reduce daily commuter travel time by up to 40 minutes per passenger, reduce crowding and improve travel options throughout the LIRR network. The latter includes more access from Midtown to JFK via Jamaica and the AirTrain, easy transfers to MNR East of Hudson service, and more capacity for reverse commutes to job centers on Long Island.

A concurrent project, the Second Avenue Subway, will divert as many as 213,000 daily riders from the swamped Lexington Avenue line, the nation's busiest and most overcrowded subway.³⁸ The new line will reduce travel times by 10 minutes or more from the Upper East Side to Midtown. This will also provide the capacity needed to handle the influx of new riders at GCT when ESA is completed.

Train to the Game

The biggest step forward in regional service integration came this fall (Sunday, September 20th) when MNR and NJ TRANSIT provided joint service on MNR's New Haven Line, through Manhattan's Penn Station, to NJ TRANSIT's Northeast Corridor Secaucus Station. There, riders transferred to the new Meadowlands Rail Line to complete their journey to select Sunday³⁹ football Giants and Jets football games. Specifically, the route took passengers from Connecticut, into Westchester County, stopping at Rye and Larchmont, before diverting onto Amtrak rails, where they split from MNR tracks at an interlocking just south of New Rochelle.⁴⁰ The trains then followed the Amtrak rails through the Bronx, over the Hell Gate Bridge into Queens and under the East River to Penn Station. The train used a NJ TRANSIT locomotive operated by MNR crews to Penn Station where NJ TRANSIT crews will take over for the remainder of the journey.⁴¹

Bus Service Integration

As previously discussed, regional bus service flows into the core in great numbers from NJ to the Port Authority hubs in Midtown and Upper Manhattan. Limited bus service also comes into the northern Bronx from Westchester County. This integration has been on-going for many years. However, of note is the fall 2007 breakthrough for the reverse process: an MTA bus going outside of NYC into New Jersey to deliver passengers. In a long needed move, MTA/NYCT initiated a bus service from Staten Island to the HBLR 34th Street Station in Bayonne, New Jersey. The new limited stop route (S89) allows Staten Island

³⁸ MTA's Twenty Year Capital Needs Assessment 2010–2029, p. 81.

³⁹ Games with 1:00 pm kickoff. There are 10 such games currently scheduled for the 2009 season. Evening games cannot be accommodated as NJ TRANSIT would not have sufficient time to put their trains in place for the morning rush hour service.

⁴⁰ Saeed, Khurram. "Metro-North to run trains to 10 Jets, Giants games in the 2009 season." Journal News. <http://www.lohud.com/article/20090629/NEWS01/906290331>. June 29, 2009.

⁴¹ Saeed.

residents to quickly reach the growing job market in Bayonne, Jersey City and Hoboken, as well as connect to the PATH train to Manhattan. Hudson County residents also now have access to jobs in Staten Island. It also improves traffic flow over the Bayonne Bridge and on state and local roads in the region.⁴²

Riders of the service can buy a joint monthly ticket for service on both the MTA/NYCT bus route and the HBLR. According to NYCT reports, daily ridership on the service is close to 1,000 persons per day.

Choke points currently not addressed

Despite the magnitude and importance of the ARC and ESA projects for improving the “interoperability” of the region’s transportation, there are still many bottlenecks that have yet to be addressed. Some of the barriers are physical, some are financial and some are political or the lack of willingness to collaborate.

New York City

- The Queens Boulevard subway corridor (E/F/R/V) and the Flushing 7 line, the two primary transit arteries in Queens, are at capacity with more congestion forecast due to anticipated population and employment growth in the Borough. MTA is calling for a “Queens Corridor” evaluation to consider such options as Bus Rapid Transit (BRT).⁴³ PCAC concurs and would like to see the consideration of a Freedom Ticket⁴⁴ program or the capacity of the LIRR Port Washington Branch increased through the extension of station platforms, both in order to shift subway riders to the LIRR.
- A link that will not happen as part of ARC, at least not for a while, will be that between NY Penn Station and Grand Central Terminal.⁴⁵ The two commuter rail terminals are located more than a mile’s walk apart. This creates inconvenience in making transfers between MNR lines and other commuter rail lines.⁴⁶ A partial solution to this Penn Station-GCT gap would be to allow MNR trains from the Hudson and New Haven Lines access to Penn Station via

⁴² MTA press release 7/16/2007.

⁴³ *Twenty Year Capital Needs Assessment*, pp. 83–84.

⁴⁴ As the name implies, this ticket allows customers to use any MTA facility that meets their needs, be it bus, subway, or commuter rail, within a given zone.

⁴⁵ To build the ARC tunnels further into Manhattan would put them unacceptably close to Manhattan’s current water supply tunnel. However, this tunnel is being replaced in another location. When it is finished NYC may give NJ TRANSIT permission to press on to GCT.

⁴⁶ If someone needs to travel from say, Metropark, NJ to Stamford, CT, they must travel for about 45 minutes on NJ TRANSIT to Penn Station NY, spend fifteen minutes taking two different subway lines to GCT, and finally take MNR for 44 minutes to Stamford. Accounting for the time needed for the various transfers involved in the journey, the total trip would most likely take two hours. Adding together the NJ TRANSIT, MNR, and subway fares, the trip would cost \$19.50 one-way or \$28.25 during the peak hour. One could also move between these destinations on Amtrak, which would cost two to three times as much but would save thirty minutes in travel time and eliminate the hassle of transferring.

existing tracks now used by Amtrak.⁴⁷ Heading south, MNR Hudson Line trains would continue south on Amtrak's Empire Line into Penn Station, with possible new station stops at 125th Street and 62nd Street on the West side. New Haven Line trains would access Penn Station by branching onto Amtrak's Hell Gate Bridge tracks at New Rochelle. MNR envisions possible new station stops at Co-op City, Parkchester, and Hunts Point in the Bronx as part of this project.

Long Island

- The most immediate choke point on Long Island is the LIRR's main trunk line where four branches feed into two tracks. This causes both tracks to be used in the inbound direction during the morning peak and the outbound direction in the evening peak. This will remain the case even after East Side Access is completed. The need for a third track on the Main Line Corridor is the only way to increase the capacity needed to accommodate reverse peak riders and intra-island service. Bus rapid transit (BRT), buses operating in their own dedicated lane with signal priority, is now being touted as a solution to some of the transit needs on Long Island. There are numerous north-south roadways that lend themselves to that use, i.e. the Route 110 Corridor. BRT or some form of an express bus service from Queens and Brooklyn into Nassau and Suffolk Counties should also be considered for improving reverse commutes to Long Island. They could provide temporary relief until long-term Main Line LIRR capital projects on the LIRR, such as a third track between Queens Village and Hicksville and a second track between Farmingdale and Ronkonkoma (see below) are completed.
- Long Island also suffers from a choke point further out on the Main Line Corridor where there is only a single track between Ronkonkoma (the LIRR's busiest station after Jamaica and Penn) to Farmingdale. The single track again only allows for peak direction travel. Travel has also increased on the Montauk branch and as families move further out to more affordable areas.

Staten Island

- The Staten Island West Shore travel corridor (Bayonne Bridge to the SIR at Richmond Valley between the Arthur Kill and Richmond Avenue) "presents significant obstacles to accessibility for travel on and off the island, including very long travel times and incomplete geographic coverage to areas of potential development."⁴⁸ It has been suggested that a BRT loop around the island would greatly increase public transportation access and reduce auto congestion.

⁴⁷ This description is taken from the MTA Penn Station Access Study. <http://www.mta.info/mta/planning/psas/overview.htm#StudyDevelopment>, 2009. This proposal, of course, does not solve the problem of a transfer to GCT from the west.

⁴⁸ *Twenty Year Capital Needs Assessment*, p. 85.

Northern Counties in the MNR Region

- MNR runs two rail lines on the West Side of the Hudson River (Pascack Valley and Port Jervis) through a contract service with NJ TRANSIT. These two lines are single track, which precludes additional service as ridership climbs. In anticipation of those pressures, a second track addition to the Port Jervis line is needed. Another incentive to enlarge the Port Jervis capacity is the PANYNJ's interest in increasing airline service from its Stewart Airport, just north of the Salisbury Mills-Cornwall station.⁴⁹
- The Tappan Zee Bridge, slated to be replaced with the ability to carry commuter rail, is a major car/bus choke point. However, plans for BRT are underway to reduce this traffic clog and recruit more drivers out of their cars and onto public transportation.⁵⁰

Findings and Recommendations

In sum, the NY Metro region is greatly blessed with a multitude of public transportation options. The connections that can be made among and between the various services are numerous. MNR's connecting services program is an outstanding example of mobility can be improved. The current tunnel projects at the Hudson and East Rivers will greatly enhance travel flexibility for future generations. Service integration — crossing jurisdictional lines — is slowly making some progress. The NYCT bus service to Bayonne and the joint MNR-NJ TRANSIT Meadowlands game service are strong efforts in the right direction.

Still, there are many more actions that can be taken to advance interoperability:

Rail

- MTA should support and work for more inter-jurisdictional and inter-agency service across the region.
- MTA should continue to support and fund rail projects that remove “choke points” such as those on the LIRR Main Line Corridor, Port Jervis Line, and MNR service to NY Penn Station.

Bus

- MTA/NYCT should continue to work with NYCDOT on developing more BRT routes, particularly in areas such as Queens Boulevard and Staten Island.
- MTA should strongly press for more financial support for LIB to greatly expand intra-island service, including BRT corridors to provide more north-south transit opportunities.

⁴⁹ MNR, West of Hudson Regional Transit Access Study, <http://www.mta.info/mta/planning/whrtas/contact.htm>

⁵⁰ <http://www.tzbsite.com/>

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- MTA/NYCT should explore the possibility of developing BRT or express bus service from Queens and Brooklyn to the job centers in Nassau and Suffolk Counties.
 - MTA/NYCT should support the suggestions and work as needed with PANYNJ to achieve implementation of the recommendations of the Tri-State Transportation Campaign (TSTC) in their May 2009 report, “Express Route to Better Bus Service”. Most of these recommendations relate to the improvement of the PANYNJ’s two bus terminals, the XBL through the Lincoln Tunnel and bus loading and parking on the NYC streets. These recommendations are contained in Appendix B.

Accessibility

- Across all modes and all agencies in the region there must be consistent and compatible ADA compliance. Travelers with physical disabilities, particularly those who use wheelchairs, have the biggest challenge in negotiating transfer points and different systems.

Seven Day Service

- All agencies must work to provide robust weekend service so that the use of public transportation will be attractive to travelers of discretionary trips. One of the biggest barriers to interoperability is that weekend services are greatly reduced across all systems. And yet, that is when a large number of people travel for personal or recreational purposes and are most in need of a well-integrated system. Currently, weekend service in some places doesn’t exist or is much less frequent; express service is eliminated and only local routes or trains operate; often there is a change in route patterns making connections more difficult, frequently with large wait times. Further, track work on the railroads and subways are often done on weekends and thus cause diversions, detours or cancellation of the already limited scheduled service. And, worst of all, the lack of good weekend service makes it easy to rationalize the use of the car.

Regional Fare Integration

Similar to the physical layout of a system, a region’s fare policy also influences speed and convenience for transit riders. For instance, many systems, including the MTA, still operate exclusively through cash, tokens, tickets or magnetic stripe card technology. These systems tend to suffer from longer boarding times, the need for customers to wait in line at ticket booths without the ability to refill their fares online, and the need to waste time purchasing different fare media from different regional agencies. “Smart cards” decrease boarding times because the rider can just wave it past the reader, generally without the need to remove the card from a wallet or handbag. They also allow riders to refill funds online.

A smart card program can either be an open payment system (accepting bank credit/debit cards) or an in-house proprietary system. With technology available to use the same smart card on various services not only in a region, but throughout the entire country, smart cards create the possibility of not having to purchase different fare media from different agencies.⁵¹ And, with compatibility between readers, the contactless credit/debit card generates the prospect of never needing to buy fare media at all.⁵²

Smart Card Background

As explained in the Introduction, PCAC did a study in 2004, *In Your Pocket: Using Smart Cards for Seamless Travel*, detailing reasons why MTA should push for a smart card system in their buses and subways:

- Lower fare card equipment and turnstile maintenance costs.
- Faster customer boarding times with contactless smart card technology, improving overall service delivery.
- Automated reload and recharge capabilities via the Internet, telephone, and credit card link purchase options increase customer convenience and encourage system ridership.
- Additional ridership data will allow planning operations to more accurately address customer travel patterns and conserve agency resources.
- The ability to use one card on multiple transportation modes saves the customer time used to research travel information and purchase individual tickets.
- Smart card technology enables transit agencies to better control, monitor, and influence ridership patterns through congestion pricing techniques.
- Outsourcing smart card procurement, distribution, and clearinghouse functions streamlines agency system operations and financial accounting and reduces the amount of cash handled by agency personnel.

As a model for MTA smart card efforts, the 2004 report discussed the efforts in implementing smart cards of PATH and three other cities' transit systems. Five years on, it has become evident that the ease of transition into a smart card system is heavily dependent on the willingness of all major regional transit entities to cooperate, and how strictly the leading agency sticks to its pilot program and implementation timeline.⁵³

⁵¹ Wronski, Richard. "RTA looks into riders using cell phones instead of tickets or transit cards." *Chicago Tribune*. <http://archives.chicagotribune.com/2009/may/26/local/chi-fare-phone-26may26>. May 26, 2009.

⁵² This goal is essentially an E-Z Pass system for public transportation. E-Z Pass works up and down the East Coast (and some Mid-West areas) moving motorized vehicles quickly through toll plazas utilizing a credit card based refill system. It also provides a detailed record of transactions useful for business expense documentation. See www.e-zpassny.com

⁵³ Farhan Ahmad explains that transit systems must also present a compelling business case to the financial services companies in order to get them to invest in a transit payment system: "By

It has also become clear that gaining the cooperation of a region's commuter rail services is a particular challenge. Because their current means of ticket collection tends to involve the on-board use of paper tickets or cash, commuter rail agencies have been hesitant to commit to smart card systems. Whereas buses and subways can just place the smart card readers next to the current magnetic stripe card readers at subway platform and bus entrances, commuter rail implementation requires more significant changes to the way in which fares are collected. Different potential approaches include placing readers on seatbacks that light up when the customer taps his card on it, or having conductors use hand-held devices to read cards.⁵⁴ Agencies could also simply change the boarding procedures, such that the customer must tap the card at a turnstile in order to reach the train platform, and then tap at a turnstile again after leaving the train so that he may be correctly charged for the distance traveled. As such, the train would operate similarly to current subway procedures.

Though smart card implementation on commuter rail may require more planning than necessary with subway and bus services, commuter rail is too important to ignore. This is particularly true in the NY Metro Region, where the top three commuter rail agencies are located.⁵⁵

PCAC 2004 Report Update

Chicago

At the time of the 2004 PCAC report, the Chicago metropolitan region had already taken great strides with the use of smart cards for transit.⁵⁶ The Chicago region only has three regional transit agencies: Pace suburban bus services; Chicago Transit Authority (CTA), managing the City's subway and buses; and Metra, the commuter rail service. The three agencies are overseen by one financial body, the Regional Transportation Authority (RTA). The specific offerings of Chicago Card and Chicago Card Plus have changed little since 2004 when they were already operable on CTA and Pace bus services (see Table 2). There are two versions of the card, Chicago Card and Chicago Card Plus, which is a more sophisticated adaptation and generally preferable for more frequent riders. As in 2004, both versions of the card offered a "guaranteed last ride" feature, through which customers are allowed one last ride as long as they have any remaining value on the card. Both cards can also be purchased online, but only Chicago Card Plus accounts can be reloaded and managed online. Also available only with the "Plus" version is the "automatic reload" feature, through

pursuing the 'open-loop' card model, which allows the consumer to pay for transit fares and other retail transactions with credit or debit cards, transit agencies can provide an enticing business incentive...they [financial companies] gain a new revenue engine and a way to engage new users." *Mass Transit*, September/October 2009

⁵⁴ Wronski.

⁵⁵ American Public Transportation Association (APTA), 2009. NJ TRANSIT was not studied in the 2004 investigation as it had no smart card program or pilot.

⁵⁶ Pp. 13–16.

which one can set their credit card to automatically be charged a predetermined amount whenever the smart card balance falls under \$10. All cards can be purchased and reloaded at all rail stations, or at about 60 “Touch-n-Go” locations in the region. Chicago Card, however, cannot be reloaded at retail locations. As such, purchasing and reloading cards is currently an issue for many bus users who do not live close to a rail station or Touch-n-Go location. In contrast to Chicago, many cities contract with individual retailers and chains to vend the cards, enabling hundreds more purchase and refill locations throughout the region. Also, as a possible inconvenience to park-and-ride passengers, one cannot yet pay for parking fees with the cards.

According to CTA, by most accounts Chicago Card has been successful, with the number of smart cards in circulation growing from 102,000 in April 2004 to 474,000 today. The number of daily Chicago Card transactions today equals about 260,000.⁵⁷ However, in a very recent development CTA has announced plans to transition from its in-house smart card to a new farecard payment system. This project would introduce the use of contact-less credit cards, debit cards and prepaid cards to ride the system. CTA expects to issue the request for proposals for a two-step competitive procurement process this month. The first phase of the procurement process will examine the CTA's options for developing the card — considering possible procedures, management and cost of the program. After reviewing these proposals and developing a final plan, the second phase will give companies the opportunity to submit proposals for the actual implementation of the program. The farecard would be a smart card containing a computer chip that allows customers to pay a fare and also serves as a standard credit or debit card tied to a customer's bank or credit card account. A prepaid card could provide the option for customers who choose not to have the card tied to a bank account. CTA President Richard L. Rodriguez said, "Once implemented, the smart card would bring the agency's fare paying process more in line with the way people prefer to conduct their business."⁵⁸

San Francisco Bay Area, California

Of the three case cities, the San Francisco Bay Area of California, containing 28 regional transit entities, has encountered the most difficulty in making its smart card system succeed. This has largely been a result of cooperation problems among the different agencies. To best facilitate cooperation in a region with so many agencies, the local metropolitan planning organization (MPO) — the Metropolitan Transportation Commission (MTC), has led the implementation process. A strong regional planning agency might generally have more success in bringing a smooth implementation process than an MPO, which generally has a role that is more advisory in nature.

⁵⁷ Interview with Michelle Goldberg, General Manager of Customer Programs at Chicago Transit Authority.

⁵⁸ <http://www.transitchicago.com/news/default.aspx?Month=&Year=&Category=2&ArticleId=2431>

First incarnated in 1993, the card, TransLink, was expected to be operable on most of the region's 28 transit entities by 2001.⁵⁹ However, 16 years on, the card is still only used by three of these entities — the bus company AC Transit, Golden Gate Buses and Ferries, and Muni, a bus, trolley and cable car company in San Francisco. The most important transit entity yet to incorporate TransLink is Bay Area Rapid Transit (BART). Much of the reason for their inability to cooperate to this point relates to the way they, and many other transit entities, receive part of their revenue, through the "float." The float is the money that BART has in its bank account between the point when a rider buys a ticket and when he uses it up. The funds draw interest during that time span, and are, in effect, a revenue source. BART officials were concerned they would lose this revenue source if they switched to TransLink.

However, BART and the other transit entities involved recently reached a solution whereby each time a rider pays for a BART service with a TransLink card, the funds will immediately transfer electronically into an account specifically designed for BART, called an "e-purse." As such, the funds will immediately become a revenue source for BART instead of coming from the operating agency, MTC, in large chunks every 15 or 30 days.

Because the float issue has largely been resolved, TransLink was given a limited launch in early August, 2009. A sample of around 3,000 EZ Rider (the smart card system currently used at BART) cardholders were encouraged to switch to TransLink as a trial program. According to BART customer service the conversion has been slow — 1,500 trips per weekday. However, the program is only getting underway and BART is still working out details, such as tagging methods for the new fare gate hardware. BART personnel indicated that the agency is committed to moving to TransLink and that a more aggressive launch will take place in January, 2010. In the meantime, EZ Rider will continue to work on the system and will be phased out at a later date.⁶⁰

Despite its difficulties, the number of active smart cards in the system has jumped from 4,000 in May 2004 to 53,000 today. Approximately 27,000 TransLink transactions occur each day. Additionally, BART currently has 50,000 active EZ Rider cards, and 22,000 transactions per day, leaving a large market for TransLink to take once BART is fully incorporated, and the EZ Rider card phases out.

⁵⁹ This discussion of TransLink is taken from "Bay Area universal transit card stalls." by Janis Mara, *Contra Costa Times*. http://www.contracostatimes.com/search/ci_12571572?IADID=Search-www.contracostatimes.com-www.contracostatimes.com&IADID=Search-www.contracostatimes.com-www.contracostatimes.com. June 11, 2009.

⁶⁰ Interview with Rose Poblete, Manager of Fare Credit and Debit programs at BART, and Carol Walb, Manager of Customer Service.

The TransLink card does include several convenient features, such as allowing customers to purchase the cards online, an automatic reload feature, whereby the card's value is increased to \$45 every time it falls below \$10, and a guaranteed last ride element that allows the customer to take one more ride if there is any remaining value on the card. Riders can also purchase or reload cards at retail outlets, but parking fees cannot be paid with the cards. However, as EZ Rider currently works at certain parking lots, TransLink may soon follow after becoming operable with BART. MTC has outsourced distribution, customer service, and revenue reconciliation services to Cubic Corp.,⁶¹ a regional electronic fare systems firm.

According to Jacob Avidon, the TransLink Senior Program Coordinator for MTC, TransLink's most important next step is to follow through with a smooth implementation process on BART. MTC also plans to soon introduce TransLink Direct Benefits, a pre-tax benefits program for commuters using the cards.

Finally, MTC also plans to implement the cards onto Caltrain, a commuter rail service operating from San Francisco south to San Jose and other destinations. According to Avidon, Caltrain customers paying with TransLink would tag their cards at the origin station and the destination station to enable deduction of the correct fare. MTC plans to call this a "tag on/tag off" system. The fare maximum amount possible will be deducted origin station, but the appropriate amount will be credited back upon "tagging off."⁶² Additionally, conductors will carry handheld devices capable of reading the TransLink card to determine whether the customer really did tag on before boarding or has a valid pass loaded to the card.

Washington, D.C.

Since the 2004 PCAC report, circulation of Washington, DC's smart card, SmarTrip, has exploded from 450,000 active cards in mid-2004 to 1.8 million active cards, and 876,500 daily SmarTrip transactions today. Much of the reason for the relative ease of implementation in the DC area relates to the consolidated nature of DC's transit system. The district itself has only one transit agency, Washington Metropolitan Area Transit Authority (WMATA), which led the implementation process. WMATA, however, has outsourced distribution, customer service and revenue reconciliation responsibilities to Cubic Corp., the same regional electronic fare systems firm that handles TransLink.

⁶¹ Cubic Corp. is the vendor for MTA/NYCT's MetroCard. They are in competition with the banks/credit card companies for implementing a smart card for MTA.

⁶² This is the same procedure that the highly successful London Oyster smart card system uses on its commuter rail.

Ten years after the card's 1999 launch, it is now compatible with eight regional transit agencies in addition to WMATA: of Arlington Transit (ART), Fairfax City's CUE Bus System, Fairfax Connector, Alexandria's DASH Bus System, Loudon Commuter Bus Service, Potomac and Rappahannock Transportation Commission, Montgomery County's Ride On Bus Service and Prince George's County's TheBus service. Perhaps most significantly, SmarTrip will also soon be operable on all of the Maryland Transit Administration's (MTA) services with the exception of MARC (Maryland Area Regional Commuter) rail service. The state administration's services include MTA buses, as well as the Baltimore Metro and Light Rail.

Since implementation, SmarTrip cards have been operable at many of WMATA's numerous parking lots; and starting in 2007, they have been required at WMATA lots. The drawback of this approach is that infrequent users, such as tourists, must actually purchase the \$5 card just to use a facility one time. To address this issue, WMATA is considering other options for parking payments, such as credit card acceptance in exit lanes.

The card can be purchased, and funds reloaded online, but there is no automatic reload feature as of yet, so the customer must reload himself every time additional funds are needed. In contrast to lacking an automatic reload feature, WMATA has taken strong steps towards meeting the needs of underbanked bus users, as the cards can be purchased at approximately 250 retail locations including Giant grocery stores and CVS stores. In addition to rail stations, cards can be reloaded on buses, and at approximately 150 commuter stores and select Giant and CVS stores.

According to Lorraine Taylor of WMATA's SmarTrip office, WMATA's most important next steps planned for SmarTrip are to make the card available for purchase at more retail outlets in the region, make the card compatible with the MTA's smart card system, and vice-versa, and eventually to make the system compatible with MARC rail.⁶³

The New York Metropolitan Region — PATH

Since the 2004 PCAC smart card report, the PANYNJ has made significant advancements for travel in the PATH system. At that time, only a smart card pilot program was underway. In 2006, the Authority began a permanent smart card program with the SmartLink card. It has used a layered approach to

⁶³ In May, 2009 the WMATA Board turned down a resolution put forth by its finance committee to solicit a Metro hook-up with a national bank to issue a new SmarTrip card that also works as a credit card.

http://www.wmata.com/about_metro/board_of_directors/board_docs/052809_FAOE100228OpenPaymentSysRFP.pdf

implementation, accepting both the new smart card by a tap, and the MetroCard at all PATH turnstiles.⁶⁴ SmartLink now is an immense success. By the most recent count, half of the 240,000 trips taken each day on PATH are paid for with SmartLink, with 150,000 cards sold.

SmartLink does not include a guaranteed last ride feature for customers with small amounts left on their card, but does allow customers an automatic refill each time its funding drops below a certain level. The card may be purchased online, and its value can be managed online, but it cannot be purchased at retail outlets. According to Program Manager Nuri Hamidi, one of the most important next steps for SmartLink is to allow the card to recognize transit benefits from employers (pre-tax deductions for commuting expenses).

There is also a coming partnership between PATH and NJ TRANSIT Bus: A "contactless bank card pilot" is scheduled to go live October 2009. Both agencies entered into a contract with MasterCard to test customer acceptance with bank cards and the supporting technology. Once implemented, the acceptance of customer bank cards for this pilot will be on 104 busses used on the #80, #87, and #6 bus lines in Jersey City. PATH will be accepting these cards at all 13 PATH stations. The pilot is scheduled to last approximately nine months. Afterwards NJ TRANSIT will evaluate the customers experience and determine continuance and or expansion. In a similar move, NJ TRANSIT is exploring how River LINE system could accept PATCO smart cards.⁶⁵

The New York Metropolitan Region— MTA

MTA, which had no program in 2004, has encountered widespread difficulties in adopting a smart card system. The agency has just finished the first phase of a smart card pilot program in that began in 2006. The program, Smartcard Demonstration Project Phase I, catered exclusively to Citibank customers with MasterCard PayPass credit cards, debit cards, and key fobs, allowing them to wave their card in front of a contactless sensor at turnstiles on the Lexington Avenue line to make fare payments.⁶⁶ While marketing only to customers of one bank, and involving only one subway line, the program was small, but showed potential.

⁶⁴ This is a pay-per-ride only MetroCard and it must be passed through the turnstile card reader.

⁶⁵ Per NJ TRANSIT planning staff member Vivian Baker.

⁶⁶ Transit Committee Meeting, April 2009, MTA New York City Transit

Agency	Metropolitan Transportation Authority (MTA)	Port Authority of New York and New Jersey (PANYNJ)	Chicago Transit Authority (CTA)		Metropolitan Transportation Commission [San Francisco Bay Area] (MTC)	Bay Area Rapid Transit [San Francisco Bay Area] (BART)	Washington Metropolitan Area Transportation Authority (WMATA)
Card Name	Pilot Project	SmartLink	Chicago Card	Chicago Card Plus	TransLink	EZ Rider	SmarTrip
Smart Card Start Date	2006	2005	2002	2004	2002	2006	1999
# of Transit Agencies to be Linked with Smart Card	1	1	3	3	26	1	16
# of Transit Agencies currently Linked with Smart Card	3	1	2	2	3	1	9
# of Cards Currently Active in the System in 2004	NA	NA	102,000		4,000	NA	450,000
# of Cards Currently Active in the System Today	15,000	150,000	474,000		53,000	50,000	1,800,000
# of Transactions per Day	NA	120,000	260,000		27,000	22,000	876,500
% Market Share	NA	50	13.5	16.6	2.8	6.5	71.5
Can Parking Fees be Paid with Smart Card?	No	No	No	No	No	Yes	Yes
Automatic reload: customer's credit card charged a predetermined amount when card account balance falls below specified value.	Yes	Yes	No	Yes	Yes	Yes	No
Guaranteed Last Ride Feature: Allows customers one last ride with any value remaining on the card.	No	No	Yes	Yes	Yes	No	Yes
Are Smart Card Distribution, Customer Service, and Reconciliation of Revenues Outsourced?	Yes	No	No	No	Yes	Yes	Yes
Can the Card be Purchased Online?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Can the Card's Value Be Reloaded at a Retail Outlet?	No	No	No	No	Yes	Yes	Yes
Current Smart Card Uses	Subway	Rail Service	Subway, Bus	Subway, Bus	Bus, Ferries	Subway	Subway, Bus
Next Steps	Expand the pilot in Phase II to include both the subway and bus lines, multiple credit card brands, and PATH and NJ Transit services.	Allowing the card to recognize transit benefits from employers.	Making the system compatible with smart credit cards and certain cell phones, increasing the card's usage within the region.		Activation of TransLink for acceptance on BART; Beginning operation of the system on Caltrain; Introduction of TransLink Direct Benefits, a pre-tax benefits program.	Acceptance of TransLink at BART turnstiles, phasing out EZ Rider entirely in favor of TransLink in coming months.	Meeting IRS requirements for transit and parking benefits on the card, allowing riders to check card balance and transactions on the web, permitting recognition of various passes on the card.
Available to Visitors for Short Term Use?	No	No	No	No	No	Yes	Yes

By the end of 2009, MTA/NYCT hopes to begin a second phase of the project, which will involve holders of credit cards from various banks. The program, Smartcard Demonstration Project Phase II, will also involve several Manhattan bus lines in addition to the Lexington Avenue line, to observe the program's ability to incorporate transfers. There will also be an effort to incorporate other types of fares such as senior/disabled reduced payments.⁶⁷

Joint Fare Arrangements

It should also be mentioned that both MNR and LIRR have a rail/bus joint fare effort known as UniTicket that offers regular commuters a combined money saving ticket. In addition, the MetroCard (pay-per-ride) can be used at PATH stations (as mentioned previously), Bee-Line Bus and the Roosevelt Island Tram.

CityTicket

CityTicket⁶⁸ is another fare effort that, while not a smart card product, nevertheless has been a very welcomed fare policy that has benefitted residents of neighborhoods that do not have convenient subway options. CityTicket is a flat \$3.50 fare to travel on LIRR or MNR within NYC on weekends. In Southeast Queens, which does not have subway service, there are four LIRR stations that residents can access for much more efficient travel into Manhattan.⁶⁹ In the Bronx, taking the MNR Hudson Line is more convenient for travel to the Riverdale section where there are two stations but no subway service. Advocates have called for the expansion of the use of CityTicket to include late night and early morning hours. While PCAC supports a wider use of CityTicket, it would like to see MTA and NYC work together to fund and implement a "Freedom Ticket", which allows a rider to use any MTA facility that meets their needs, be it bus, subway, or commuter rail, within a given zone for a fixed price.

Airports

Finally, access to airports in the Region is of critical importance. NJ TRANSIT and the PANYNJ offer a combined rail/AirTrain ticket to Newark Airport. Riders take a NJ TRANSIT Northeast Corridor train to the Newark Airport station and using the same ticket pass through turnstiles to the AirTrain. Unfortunately, the LIRR does not have a similar arrangement with the JFK AirTrain. LaGuardia Airport in Queens is served by the M60, Q33, Q47, Q48, and the Q72 buses. There is no subway/train service directly to the facility.

Stewart Airport in Orange County, N Y, outside Newburgh, is now owned by PANYNJ which is hoping to expand the air service there. Currently, connections

⁶⁷ This paragraph based on an interview with Steve Frazzini of NYCT.

⁶⁸ CityTicket is a fare policy concept suggested by the PCAC and introduced by MTA as a pilot program in 2004.

⁶⁹ PCAC studied this condition in detail in its 2007 report, *A Long Day's Journey into Work*. See <http://www.pcac.org/reports/research/>

to NYC via a MNR Hudson Line train into GCT are made by taking a shuttle bus from Stewart Airport⁷⁰ over the Hudson River to the MNR Beacon Station. MNR and PANYNJ are looking at possibilities for rail service to NYC via the Port Jervis West of Hudson Line.⁷¹

AirLink, a service of Westchester County's Bee-Line Bus, meets the MNR train in White Plains and delivers passengers to the Westchester County Airport; the #12 Bee-Line buses also serve the airport and travel into White Plains where transfers to other lines in the Bee-Line system are available. Macarthur Airport in Islip, Long Island, is transit accessible by taking the LIRR to Ronkonkoma and a shuttle bus. This facility is also served by SCT, the Hampton Jitney and Super Shuttle van service.

Findings and Recommendations for Integrated Fare Policy

Despite the difficulties experienced thus far, MTA does have certain factors in its favor for future contactless fare integration. First, NYC Transit's Automated Fare Collection (AFC) staff is knowledgeable, including individuals such as Paul Korczak, who recently also served as Chair of the Smart Card Alliance Transportation Council, an organization that conducts research on the potential for open payment transportation systems in the U.S. Secondly, MTA's Board Chair and CEO, Jay Walder, recently headed London's transit network as it incorporated smart card technology through the Oyster Card.

Transit in the New York region is not as consolidated as Washington, DC, but it is not nearly as disparate as the San Francisco Bay Area. For the purposes of fare integration, the MTA and PANYNJ already have the experience of collaborating to make each of their systems compliant with MetroCard and E-Z Pass (bridges and tunnels). There is little reason to believe that they cannot do the same with a smart card system. Furthermore, because both MTA and the PANYNJ have overseen smart card pilot programs, the interest in contactless technology exists on both sides.

MNR has also recently developed hand-held devices used by conductors for ticketing. The devices print tickets, store fare data, and ultimately will accept credit cards.⁷² The downside of this development is that the devices are not yet compliant with smart cards. As such, MNR should ensure as they move forward with the devices that future versions are either compliant with ISO Standard #14443 contactless technology or that they easy to upgrade into such compliance.

⁷⁰ Leprechaun bus service tickets are available on the MTA website. A UniTicket is available for monthly and weekly riders which wouldn't apply to most people traveling to Stewart Airport.

⁷¹ West of Hudson Regional Transit Access Study, sponsored by the PANYNJ, NYSDOT and MNR

⁷² Belson, Ken. "With New Device, Metro-North Moves Toward Cashless Ticketing." *New York Times*. July 10, 2008.

With recent budgetary challenges, and a large-scale and underfunded capital program, MTA faces many challenges. A temptation may exist to put off smart card ambitions until a less difficult time. Following such a temptation would be a mistake, and a disservice to the many riders who could benefit from the simpler, faster service of a contactless fare-payment system integrated Region-wide.

The MTA's successful implementation of direct fare payment through contactless credit cards in their pilot program was an innovative step, but bureaucratic and technological obstacles have interfered with the pilot's schedule. The start date for the second phase of the pilot is now over a year behind schedule.⁷³ It is problematic that this phase will even begin by the end of 2009. With that thought in mind, our recommendations are:

- MTA must make a strong, sustained effort not only to expeditiously implement a "smart card" form of payment, but to push for a format that allows riders to move seamlessly across agencies and modes in the Region, i.e., a transit riders' "E-Z Pass".
- The MTA should establish a working group of internal staff and external advisors who will be tasked with monitoring the Smartcard Demonstration Project.
- MTA should also begin planning for a smart card pilot program involving MNR and LIRR. With a combined annual ridership of more than 170 million, and with many New York commuters transferring each day between the rail lines and bus or subway services, MNR and LIRR should be critical components of smart card integration.
- MTA should expand the concept of the CityTicket (weekend use of LIRR and MNR within NYC for a reduced price) to include late nights and morning hours, and work with NYC to create and fund a "Freedom Ticket" (fixed price travel on any MTA facility within a fare zone.)
- LIRR should work with the PANYNJ to offer a combined single ticket for Jamaica station and the JFK AirTrain that can be purchased in ticket machines.
- A MetroCard ticket machine and fare information should be readily available to passengers exiting any terminal at JFK or LaGuardia Airports who wish to take a NYCT bus.

⁷³ Transit Committee Meeting, November 2007, MTA New York City Transit.

Unified Transportation Information

Another piece of the regional mobility puzzle is access to comprehensive, understandable, accurate and timely travel information. There are many ways to get information and retrieving it should be as easy possible, especially if someone is unfamiliar with the region.

Websites

Over the past several years the MTA has enhanced the information on its website although it is currently difficult to navigate due to the patchwork approach of placement of information.⁷⁴ However, over the last several months, MTA staff did extensive work on a redesign for the website through internal and external focus groups. It is our hope that the launch of the new website will be a top priority of the newly appointed MTA Chairman.

Currently, the MTA website has information about fares, schedules and service alerts and advisories for all MTA services. Under the “Regional Travel” box, there are links to: the MTA Trip Planner; 511NY⁷⁵ that allows a person to obtain information about travel by region within New York State; Travel Alert links for MTA services, NJ TRANSIT, PATH and the Port Authority Bridges and Tunnels; and Trips 123. In addition, the MTA website has a link for Google Travel which also provides directions and travel information for the MTA Region.

While there are a plethora of options to obtain information, it is important to note that it is a major challenge to model trips in the same way. For example, entering a trip in Google, MTA Trip Planner, 511NY and Trips 123 sites could yield many different itineraries from Point A to Point B.⁷⁶ In addition, there is no guarantee that these sites have real time information, assuring that the information is current. Therefore, most web users check each transportation provider’s site for schedules and fares and put together their travel connections themselves.⁷⁷

⁷⁴ PCAC documented its concerns about the website in a memo dated March 27, 2007. This memo cited other transit websites that have won awards for their ease of use and information content: <http://www.bart.gov/index.asp>, <http://www.mbta.com>, and <http://www.wmata.com>

⁷⁵ This is an offering by the NYSDOT which is both a phone and web service for trip planning.

⁷⁶ In fact, these trip planner sites can produce very bizarre and undesirable travel suggestions. A recent request of Trips 123 and 511NY for a journey from Summit, NJ to Smithtown, NY had the traveler arriving in Penn Station at 3:50 pm from Summit, then taking a LIRR 5:09 Montauk Line train to Bay Shore and connecting with a Suffolk County Bus to Smithtown, arriving 7:53pm. However, there is a 4:19 pm LIRR Port Jefferson Branch train that goes directly to Smithtown arriving at 5:43 pm.

⁷⁷ There are further complications with third party travel information software developers: MTA claimed copyright infringement against commuters who created an application with MNR and LIRR schedules. The suits have been dropped, but MTA is concerned that the data provided to the public is accurate and that logos, maps and other trademarks are not used. See Grynbaum, *New York Times*, 9/27/2009. Accessibility advocates note that these developers ignore accessible travel information (for people with ambulatory disabilities and wheelchair users) and accessible format.

Print Material

Further complicating the process of procuring travel information are the people who do not have a computer or a handheld device with internet access. However, it is extremely important that NJ TRANSIT, LIRR and MNR list telephone travel information numbers for connecting transportation agencies on their maps, timetables and other printed material. For example, on its Northeast Corridor timetable, NJ TRANSIT highlights the River LINE, which can be easily accessed at the Trenton station, with map and schedule,. There are also phone numbers (including text telephone) for general information on schedules and fares for SEPTA, LIRR, Amtrak, MNR, Ferry, PATH, AirTrain and the community shuttles that are available at train stations. A map on the timetable indicates the station stops on the Northeast Corridor, accessibility status of each and the bus connections.

On MTA's "The Map" there are also a variety of phone numbers listed for all MTA agencies (including TTY for the hearing impaired), service status and accessible travel and fare information.⁷⁸ The Map also indicates various transit options at each station. The LIRR, MNR and Bridges and Tunnels travel information phone lines are operational 24 hours a day; the NYCT travel and information line is operational daily from 6 am to 10 pm. LIRR, MNR, and NJ TRANSIT also have customer service centers in high volume stations, such as NY Penn, GCT, and Newark Penn, that provide travel assistance to riders, but they all have limited hours of operation. MTA also offers explanations in nine languages on The Map about using the system.

NYCT offers a trip planner on its website home page along with an interactive map. This trip planner includes subways and buses. Ticket booth agents, customer assistance agents and bus drivers can be helpful but they cannot be relied on to have a vast working knowledge of the system. In the subway travelers can use a Customer Assistance Intercom (mounted on a platform column) to get help in a station where the station agent is not visible. Pressing the Customer Assistance Intercom will allow the agent to speak directly with the rider.

Signage

A related complaint to unified travel planning information is the poor or lack of wayfinding signage at transfer points. One particular grouse is the lack of signage/information in NY Penn Station. Amtrak passengers arrive and are frequently at a loss on simply how to get to the street. The PANYNJ has also

⁷⁸ These phone numbers can also be found on the MTA website: <http://www.mta.info/mta/phone.htm> The list is quite extensive and MTA has indicated that they are aiming to change from multiple assistance numbers to one number that then directs inquiries to the proper area.

raised the fact that there is no mention of the AirTrain to JFK Airport via LIRR.⁷⁹ A larger problem is the lack of uniform signage format across multiple transit agencies⁸⁰ and consideration of riders with sensory disabilities.

Findings and Recommendations for Unified Travel Information

There is no question that regional travel information is available but making sure it is correct, consistent and accessible is the challenge at hand. To address these problems we make the following recommendations:

- Enhance and increase communication between all the transit agencies in the region and share information on an on-going basis to ensure that travel information is accurate and timely.
- Improve web travel planner programs to provide the most efficient trips possible, including routes where short walks between modes can shorten travel times.
- Create web travel planner programs that are specifically designed for travelers that have special ambulatory needs or need wheelchair access, and are available in formats for those with low vision.
- Make travel planning information accessible to mobile electronic devices.
- Reduce the telephone numbers needed to get travel information.
- Consider providing internet-based travel information kiosks at high volume stations so that riders can have access to travel information at all times.
- Move to standardize wayfinding signage across all transportation agencies in the New York Metro Region.
- Provide adequate accessible wayfinding signage.

⁷⁹ Per Christopher Ward, Executive Director of the PANYNJ.

⁸⁰ This is partially the problem in NY Penn Station as three agencies occupy the building.

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Vivian Baker, Assistant Director, Transit Friendly Land Use & Development,
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Steven Frazzini, MTA/NYCT Chief Officer — Automated Fare Collection
Management and Sales

Michelle Goldberg, CTA General Manager — Customer Programs

Paul Korczak, MTA/NYCT Assistant Chief Officer — Automated Fare Collection
Management and Sales

Rose Poblete, BART Manager — Fare Credit and Debit Programs

Lorraine Taylor, WMATA Manager — SmarTrip Office

Carol Walb, BART — Manager Customer Service

Appendix A — Public Transportation Agencies in the NY Metro Area

MTA

MTA subways, buses, and railroads provide 2.6 billion trips each year to New Yorkers — the equivalent of about one in every three users of mass transit in the United States and two-thirds of the nation's rail riders. MTA bridges and tunnels carry more than 300 million vehicles a year — more than any bridge and tunnel authority in the nation. It serves a population of 14.6 million people in the 5,000-square-mile area fanning out from New York City through Long Island, southeastern New York State, and Connecticut.⁸¹

The MTA is governed by a 17-member Board representing New York City and each of the counties in the Transportation District. Members are nominated by the Governor, with four recommended by New York City's mayor, and one each by the county executives of Nassau, Suffolk and Westchester counties. Each of these members has one vote. The executives of the northern counties of Dutchess, Orange, Rockland, and Putnam also nominate a member each, but these members cast one collective vote. The Board also has six rotating nonvoting seats held by representatives of organized labor and the PCAC. All Board members are confirmed by the New York State Senate. Under recent NYS legislation, the Chairman of the Board also holds the position of Chief Executive Officer.⁸² The Chairman/CEO appoints the presidents of the various operating agencies.

NYCT

NYCT is responsible for operating the bus and subway lines in NYC. The rapid transit system dates to 1904, the motor bus system to 1905. Today, this transportation colossus operates 24-hour, seven days a week service and carries an average of 7.5 million riders every weekday. The subways serve the boroughs of Manhattan, Bronx, Brooklyn and Queens. On Staten Island, NYCT's Staten Island Railway (SIR) links 22 communities. NYCT buses run in all five boroughs, on more than 200 local and 30 express routes. They account for 80% of the city's surface mass transportation. NYCT also administers para-transit service throughout NYC to provide transportation options for people with disabilities.

The MTA Bus Company was created in September 2004 to assume the operations of seven bus companies that operated under franchises granted by the New York City Department of Transportation. The takeover of the lines began in 2005 and was completed early in 2006:

Liberty Lines: January 9, 2005

Queens Surface Corp: February 27, 2005

⁸¹ MTA website: <http://www.mta.info/mta/network.htm>

⁸² May 7, 2009, NYS S5451/A8180.

New York Bus Service: July 1, 2005
 Command Bus: December 5, 2005
 Green Bus Lines: January 9, 2006
 Jamaica Bus: January 30, 2006
 Triboro Coach: February 20, 2006

MTA Bus is responsible for both the local and express bus operations of the seven companies, consolidating operations, maintaining current buses, and purchasing new buses to replace the aging fleet currently in service.

Table 3

New York City Transit at a Glance*	
Subway in four boroughs, buses and paratransit in five boroughs, plus the MTA Staten Island Railway.	
2008 operating budget	\$7.9 billion
Average weekday passengers	7,417,478
Subway lines	27
Bus routes	243
Subway cars	6,494
Buses	4,576
Track miles	660
Bus route miles	2,056
Subway stations	468
Employees	48,910
* Budget as of February 2007; other statistical information as of December 31, 2006.	

Source: MTA

Table 4

Staten Island Railway*	
Rail cars	64
Track miles	29
Rail Stations	22
Statistical information as of December 31, 2007.	

Source: MTA

Table 5

MTA Bus at a Glance*	
Buses in four boroughs	
2008 operating budget	\$491.3 million
Average weekday ridership	367,920
Bus routes	81
Buses	1,354
Bus route miles	883
Employees	3,301
* Budget as of February 2008; other statistical information as of December 31, 2007.	

Source: MTA

Long Island Bus (LIB)

LIB was formed in 1973 by the combination of 11 private bus companies into a unified transportation system⁸³ that operates throughout Nassau County and in western Suffolk and eastern Queens. Its lines link 96 communities, 47 LIRR stations, five NYCT subway stations, numerous industrial parks, colleges, hospitals, corporate headquarters, and major shopping malls. It also operates a para-transit service in Nassau County to provide transportation options to people with disabilities. LIB is operated under the NYCT Department of Buses.

Table 6

Long Island Bus at a Glance*	
Buses and paratransit in Nassau, western Suffolk, and eastern Queens counties; funded through Nassau County	
2008 operating budget	\$134.1 million
Average weekday ridership	108,380
Bus routes	54
Buses	416
Bus route miles	954
Employees	1,103
* Budget as of February 2008; other statistical information as of December 31, 2007.	

Source: MTA

⁸³ LIB began service in 1973 as Metropolitan Suburban Bus Authority but this name has not been used publicly since 1995.

LIRR

The Long Island Rail Road is both the largest commuter railroad and the oldest railroad in America operating under its original name. Chartered in 1834, it extends from three major New York City terminals — Penn Station, Flatbush Avenue, and Hunterspoint Avenue — through a major transfer hub at Jamaica to the easternmost tip of Long Island.

Table 7

Long Island Rail Road at a Glance*	
Rail lines in Nassau and Suffolk counties and in New York City; the largest commuter railroad in the United States.	
2008 operating budget	\$1.5 billion
Average weekday ridership	301,763
Rail lines	11
Rail cars	1,181
Track miles	594
Rail stations	124
Employees	6,471
* Budget as of February 2008; other statistical information as of December 31, 2007.	

Source: MTA

MNR

MNR is the second largest commuter railroad in the nation (after LIRR), achieving a record 84.2 million rides in 2008. Its main lines — the Hudson, Harlem, and New Haven — run northward out of Grand Central Terminal, a Beaux-Arts Manhattan landmark, into suburban New York and Connecticut. West of the Hudson River, MNR's Port Jervis and Pascack Valley lines operate from NJ TRANSIT's Hoboken terminal and provide service to Rockland County.⁸⁴ With the opening of Secaucus Junction in 2003, West-of-Hudson customers are now able to transfer to trains that carry them directly to Newark or New York's Penn Station; and with the completion of new passing sidings in 2007, the Pascack Valley Line doubled the service on the line, including bi-directional midday service and weekend service for the first time in 60 years.⁸⁵

⁸⁴ <http://www.mta.info/mnr/index.html>

⁸⁵ NJ TRANSIT Press Release, August 16, 2007 and MNR Press Release October 21, 2007.

Table 8

Metro-North Railroad at a Glance*	
Rail lines in Westchester, Putnam, Dutchess, Orange, and Rockland counties and in Connecticut and New York City	
2008 operating budget	\$1.2 billion
Average weekday passengers	276,555
Rail lines	5
Rail cars	1,195
Track miles	774
Rail stations	120
Employees	5,855
* Budget as of February 2008; other statistical information as of December 31, 2007.	

Source: MTA

Several of these routes date as far back as the 1830's, but have seen various ownership and identification changes over the years. With the coming of the interstate highways and subsequent drop in ridership, many railroads began to gradually discontinue their commuter lines after WWII. Corporate mergers between railroads were seen as a way to curtail these issues by combining capital, services, and creating efficiencies. The New York Central and its rival the Pennsylvania Railroad⁸⁶ formed Penn Central Transportation with the hope of revitalizing their fortunes. In 1969 the now bankrupt New Haven line was also combined into Penn Central. This merger eventually failed and in 1970 Penn Central declared bankruptcy as well. In 1976 Conrail was given the responsibility of operating the Penn Central's former commuter services. However, Conrail wanted to be relieved of managing the money losing commuter service and Congress obliged in 1981.

In 1983, the MTA formed the Metro-North Commuter Railroad and assumed operation of the Conrail commuter properties with the New Haven Line operated through a partnership between MNR and the State of Connecticut. Under the arrangement, the Connecticut Department of Transportation (ConnDOT) owns the tracks and stations within Connecticut and finances and performs capital improvements needed.⁸⁷ MNR also took the responsibility of operating the

⁸⁶ See Jill Jonnes' *Conquering Gotham* (2008) for a lively description of this famous rivalry.

⁸⁷ The Shoreline East commuter service (financed by Connecticut DOT and operated by Amtrak) connects to the MNR New Haven Line service at New Haven, which requires a transfer.

former Erie Lackawanna services west of the Hudson and north of the New Jersey state line. However, since those lines are physically connected to NJ TRANSIT lines, their operations are contracted to NJ TRANSIT, with MNR subsidizing the service and supplying equipment.

NJ TRANSIT

The agency was created by the Public Transportation Act of 1979. In 1980, NJ TRANSIT purchased Transport of New Jersey, the State's largest private bus company at that time. The services of several other bus companies were incorporated into NJ TRANSIT Bus Operations, Inc. over the next five years. At the beginning of 1983, a second subsidiary, NJ TRANSIT Rail Operations, Inc. was launched to assume operations of commuter rail in the State after Congress ordered Conrail to cease its passenger operations (as noted previously in the MNR discussion). A third subsidiary, NJ TRANSIT Mercer, Inc. was established in 1984 when the agency assumed operation of bus service in the Trenton/Mercer County area. In 1992, following a full reorganization, all three subsidiaries were unified.

Table 9

NJ TRANSIT	
2008 operating budget	\$1.2 billion
Average weekday passengers	276,555
Rail lines	11
Rail cars	1,195
Track miles	774
Rail stations	120
Employees	5,855
* Budget as of February 2008; other statistical information as of December 31, 2007.	

Source: NJ TRANSIT

NJ TRANSIT’s commuter rail lines consist of the North Jersey Coast, Northeast Corridor, Raritan Valley, Morris & Essex (M&E) Gladstone, Morris & Essex (M&E) Morristown and the Montclair-Boonton Lines. As noted above, NJ TRANSIT also shares the Pascack Valley Line and the Main and Bergen County Lines with MNR. In addition to commuter rail, NJ TRANSIT runs three light rail

However, there is weekday Shore Line Express service to/from Bridgeport and Stamford. Select trains make all the regular SLE stops between Old Saybrook and New Haven and continue directly to/from Bridgeport and Stamford.

services in the NY Metro Region, the Newark Light Rail, the HBLR and the RiverLine.⁸⁸

Newark Light Rail consists of the original Newark subway system (built in the 1930s) and the more recent section between Newark Penn station on the Northeast Corridor and the Broad Street station on the Midtown Direct line. The newer section is above ground and serves the New Jersey Performing Arts Center (PAC) and the minor league baseball Bears stadium. The old and new lines in the service connect at Newark Penn Station, a rail hub for PATH, NJ TRANSIT and Amtrak.

HBLR currently runs exclusively in Hudson County between Bayonne and Tonelle Avenue in Bergenfield.⁸⁹ The line connects to PATH service (see the following discussion of PATH) into Manhattan through stops at Exchange Place Station, Pavonia, Newport Station, and the Hoboken Terminal.

NJ TRANSIT also operates 2,027 buses on 236 bus routes statewide. The system serves the region's commercial centers with commuter routes to and from Manhattan, Newark, Jersey City, Trenton, Camden, Atlantic City, and Philadelphia. In addition to NJ TRANSIT bus service, a number of private bus carriers also offer service throughout New Jersey.⁹⁰

NJ TRANSIT management consists of a seven member Board of Directors, appointed by the Governor. Four members are from the general public and three are State officials.⁹¹ The Board selects an Executive Director to administer the entire agency. The Executive Director serves as President of the three subsidiaries. In addition, NJ TRANSIT employs a Chief Operating Officer to coordinate operations.

⁸⁸ However, only the northern terminus (Trenton in Mercer County) of the River LINE technically falls within the Metro Region. Nevertheless, many riders from Burlington County, just south of Trenton, use the River LINE to connect with NJ TRANSIT at Trenton to commute into NYC. The same can also be said of SEPTA, the commuter rail line from Philadelphia Center City that terminates at the Trenton NJ TRANSIT station, providing its riders with a convenient connection to NY Metro Region.

⁸⁹ The extension of the HBLR into Bergen County was put on hold after the completion of the Hudson County section due to funding constraints. In addition, Bergen County became more interested in supporting the new Hudson River tunnel project known as ARC (Access to the Region's Core) which would give its residents the more desirable "one-seat ride" into NYC. Recently, however, NJ TRANSIT has shown interest once again in pursuing the extension of the HBLR farther north.

⁹⁰ NJ TRANSIT delineates information about the different carriers and the areas that they serve on a separate page on its website.

⁹¹ Because NJ TRANSIT is an agency, as opposed to an authority similar to MTA, the Governor can override board actions by vetoing the board meeting's minutes (NJ TRANSIT website).

Amtrak

Created by Congress in 1970, the National Railroad Passenger Corporation (Amtrak) began operations in May 1971 and has been serving the traveling public for 37 years.⁹² Amtrak owns 363 miles of the 456-mile Northeast Corridor from Washington to Boston, where *Acela Express* trains operate at speeds of up to 150 mph. Penn Station is the only stop that Amtrak makes in NYC. However, Amtrak does make several other stops within the NY Metro region. These include Trenton, Princeton Junction, New Brunswick, Metropark, Newark Airport and Newark in New Jersey; New Rochelle, Yonkers, Croton on Hudson and Poughkeepsie in New York; and Bridgeport and New Haven in Connecticut.

Amtrak is governed by a Board of Directors with up to seven voting members appointed for five-year terms by the U.S. President with the advice and consent of the U.S. Senate. The current Board includes the U.S. Secretary of Transportation and the Amtrak President and CEO. The Federal Railroad Administration (FRA) provides analytical support to the Secretary or designee, as a member of the Amtrak Board of Directors. FRA is also responsible for administering Federal grants to Amtrak. There is also a 10-member Executive Committee of top management.

Port Authority of NY and NJ — PATH

PATH began in 1908 as the Hudson-Manhattan Railroad, a privately owned corporation established to provide rail service between New York and New Jersey. On April 30, 1921, The Port of New York Authority was established to administer the common harbor interests of New York and New Jersey (now known as the Port Authority of New York and New Jersey or PANYNJ). The first of its kind in the Western Hemisphere, the organization was created under a clause of the Constitution permitting compacts between states, with Congressional consent. The Hudson-Manhattan Railroad became a subsidiary of the PANYNJ in 1962 and was renamed as the Port Authority Trans-Hudson (PATH).

There are two pairs of PATH tunnels connecting New Jersey with Manhattan under the Hudson River. Their construction was opened for service between 1908 and 1909. Each tunnel has one track. One pair of tunnels connects Newark/Jersey City to the World Trade Center (WTC) site in lower Manhattan. The other pair connects Hoboken/Jersey City to Manhattan starting at Christopher Street in Greenwich Village and ending in Midtown at 33rd Street and 6th Avenue. The four tunnels are used only by PATH services. There are a variety of transportation connections at the four main terminals:

⁹² Amtrak 2008 Annual Report

Newark Penn Station — Amtrak, NJ TRANSIT, Newark Light Rail, local and regional bus service

Hoboken — NJ TRANSIT Midtown Direct and HBLR, NY Waterway ferry, local and regional bus service

WTC site — NYCT and ferries

33rd Street — Penn Station for Amtrak, LIRR, and NJ TRANSIT; NYCT for subways and buses

The PANYNJ is a financially self-supporting public agency that receives no tax revenues from any state or local jurisdiction and has no power to tax. It relies almost entirely on revenues generated by facility users, tolls, fees, and rents. The Governor of each state appoints six members to the Board of Commissioners, subject to state senate approval. Board members serve as public officials without pay for overlapping six-year terms. The Governors retain the right to veto the actions of Commissioners from his or her own state. The Board of Commissioners appoints an Executive Director to carry out the agency's policies and manage the day-to-day operations.⁹³

Bee-Line Bus

Bee-Line was created in 1978 from 13 private bus lines. The system includes local, express and bus-to-rail shuttle service, as well as a para-transit program. Bee-Line's routes operate into the Bronx, offering Westchester residents connections to the NYC subway system. The Bee-Line also operates the express route BxM4C from White Plains, Greenburgh, Hartsdale, Scarsdale and Yonkers along Central Park Avenue to Fifth Avenue in Manhattan (return trips operate on Madison Avenue within Manhattan).⁹⁴ Funding support for operations is from both Westchester County and NYS DOT. The management of Bee-Line is within the Westchester County Department of Transportation.

Transport of Rockland (TOR)

The Transport of Rockland is sponsored by the Rockland County Department of Public Transportation. TOR provides the bus service within Rockland County and offers a service (Tappan ZExpress) to Tarrytown and White Plains MNR rail stations in Westchester County. The buses are operated by Coach USA.

⁹³ See the PANYNJ website <http://www.panynj.gov/> for a discussion of the history and governance.

⁹⁴ Some of this route (along Central Park Avenue) is proposed to become part of a bus rapid transit route from White Plains to the NYCT Jerome Avenue subway station in the Bronx. See http://www.westchestergov.com/transportation/bus_rapid_transit.htm

Suffolk County Transit (SCT)

This bus system was founded in 1980 as a county agency for a group of private contract operators which had previously provided such services on their own. While the physical maintenance and operation of the buses are delivered by these providers, other matters ranging from bus purchases to route and schedule planning to fare rules are set by Suffolk Transit itself. In a related matter, when Huntington's private operator refused to join SCT, Huntington took over its operations, creating the Huntington Area Bus Rapid Transit (HART). HART serves the town of Huntington, but also accepts transfers with SCT and LIB. The towns of Patchogue and Port Jefferson in Suffolk County also have their own local bus service.

Hampton Jitney

Hampton Jitney has been serving eastern Long Island with bus service to Manhattan for 35 years. Headquartered in Southampton, Hampton Jitney serves both the North and South Forks, offering luxury bus service to commuters and "weekenders". Service consists of the Montauk, Westhampton, and the North Fork lines with destinations in midtown and downtown Manhattan, and Brooklyn (Brooklyn Heights and Park Slope) including stops at airports. The Hampton Jitney is an alternative to the LIRR, offering a more comfortable riding environment and multiple drop-off points, including the eastside of Manhattan, as opposed to Penn Station. It is, of course, more expensive than taking the train. Under a contract with Suffolk County, Hampton Jitney also operates five bus routes for SCT.⁹⁵

Ferries

The leading operator is **NY Waterway** based in Weehawken, New Jersey. This service, which began in 1986, offers a free connecting shuttle bus loop service in Midtown Manhattan for passengers arriving/leaving at the 39th Street pier; and for those arriving/leaving at the Weehawken Terminal in New Jersey, there is shuttle service among the Port Imperial residential developments. At the Weehawken Terminal passengers can walk across the street to the HBLR station or take local bus service. NY Waterway also offers routes to Wall Street/Pier 11 and the World Financial Center. Both of these routes stop at the Hoboken NJ TRANSIT Terminal, where there are connections to the HBLR, commuter trains, PATH and bus service. In addition, NY Waterway provides Hudson River access between Haverstraw and the MNR Ossining station; and the Newburgh and the MNR Beacon station.⁹⁶

⁹⁵ See <http://www.hamptonjitney.com/cgi-bin/nav.cgi?page=home.html>

⁹⁶ According to Crain's New York Business.com, March 15, 2009, NY Waterway revenue has been declining and the company is in financial difficulty. Chief Executive Arthur Imperatore Sr. is seeking to be taken over by a public agency (NJ TRANSIT or PANYNJ). He argues that the commuter ferry business is part of the mass-transit system and should be supported by public funds.

New York Water Taxi is another company offering commuter and sightseeing water transport, mainly between the Wall Street Ferry Pier to points along the East River and the Hudson River, including Red Hook, Brooklyn, Hunters Point, Queens (LIRR station), Rockaway Beach and Yonkers (MNR/Amtrak station).⁹⁷ The firm also offers a “Hop on/Hop off” service during warm weather weekends primarily for tourists.

There is a smaller third ferry service, **Liberty Water Taxi**, which currently operates one route connecting the World Financial Center Terminal at River Terrace and Murray Street with the Warren Street Pier at the Southern End of Warren Street, and the Liberty Landing Marina's Water Taxi Pier at Washington Street and Audrey Zapp Drive.

The fourth notable ferry service in the NY Metro Region is **SeaStreak**.⁹⁸ The company offers high-speed catamaran services to points in Manhattan from Central New Jersey with a fleet of five vessels, four with capacities of up to 400 passengers and one with capacity of up to 149 passengers. SeaStreak provides daily year-round ferry services from Atlantic Highlands and Highlands to Pier 11 Wall Street and East 34 Street.

The fifth, and probably most famous ferry service in the NY Metro Region, is the **Staten Island Ferry**, owned by NYC, which connects Lower Manhattan with Staten Island. At the St. George's Terminal riders can directly transfer to the SIR and local buses. There is no fare charged for this service.

On Long Island there are also limited ferry services. In Port Jefferson, the **Bridgeport & Port Jefferson Steamboat Company** carries passengers and cars between Bridgeport, CT and Port Jefferson, LI. The ferry terminal in Bridgeport is one block from a bus terminal, but in Port Jefferson the LIRR station is some distance from the pier. Other ferries from Greenport and Montauk at the east end of LI travel to New London, CT and Block Island, RI which are out of the defined New York Metro Region.

⁹⁷ On July 24, 2009, the Empire State Development Corporation (ESDC) agreed to loan \$300,000 to New York Water Taxi to continue its service to Yonkers for another three months. This service, which has been averaging 88 daily riders, was originally launched two years ago with \$4.2 million from the Lower Manhattan Development Corporation. In return for the new loan, the company has agreed to add a stop at the 39th Street pier and provide bus service from there to other parts of Manhattan.

⁹⁸ On March 31, 2008 SeaStreak and its four 400 passenger high speed ferries were acquired by New England Fast Ferry. See <http://www.seastreak.com/aboutseastreak.aspx>

Appendix B

*Express Route to Better Bus Service**

Key Findings

- **More than 9,000 buses cross the Hudson River into Manhattan each weekday, serving a population the size of Cincinnati and twice as many passengers as commuter rail. Without buses, traffic would be 84% higher than it is today.**
- **The eastbound Lincoln Tunnel Express Bus Lane is the most efficient stretch of roadway in the country, carrying 62,000 people every morning.**
- **The growing popularity of buses is overwhelming the three major Hudson River crossings, the Port Authority Bus Terminal, and Manhattan streets.**
- **Port Authority documents state that bus trips across the Hudson River will increase by 18% by 2030, but the agency's plans to accommodate this growth are proceeding slowly.**
- **The growth of the private interstate bus industry has led to a proliferation of makeshift bus stops on already crowded city sidewalks.**
- **Buses are far less polluting per passenger than cars. The average bus emits less than one-fifth the carbon dioxide per person as a single occupancy car.**

*Tri-State Transportation Campaign, May 2005,
http://mobilizingtheregion.files.wordpress.com/2009/05/pa-report_final.pdf

Express Route to Better Bus Service Cont

Key Recommendations

Short Term

- 1. Expedite the completion of the Lincoln Tunnel High Occupancy Toll Lanes study and implement the recommendations immediately.***
- 2. Establish a westbound XBL in the Lincoln Tunnel during the evening rush hour.***
- 3. Create an online portal for regional bus riders, with maps, route schedules and carrier information.***
- 4. Improve communications technology for buses and update signage.***
- 5. NYC should develop, with community input, strategies for formalizing bus loading/unloading and bus parking areas in neighborhoods across the city.***
- 6. Coordinate with MTA and Westchester County's Bee-Line to create and/or expand existing bus service between Westchester County and George Washington Bridge Bus Station.***

Long Term

- 1. Study the potential for High Occupancy Tolling on the Holland Tunnel and GW Bridge.***
- 2. Move forward plans to renovate and add capacity to the Port Authority Bus Terminal with community input, and to construct a bus garage on the West Side.***

Glossary of Terms

ADA—Americans with Disabilities Act of 1991 which mandates that public transit facilities and equipment be made accessible to people with disabilities.

AFC—Automated Fare Collection. AFC is the group at MTA/NYCT that has spearheaded the Smartcard Demonstration Project that is now heading into a second phase.

AMTRAK—the National Railroad Passenger Corporation was created by an Act of Congress in 1970. See Appendix A for a detailed description.

ARC—Access to the Region's Core, NJ TRANSIT'S project to build two additional tunnels from Secaucus, New Jersey to a new mid-town Manhattan terminal under 34th Street, New York City.

BART—Bay Area Rapid Transit, San Francisco Bay Area, CA.

BRT—Bus Rapid Transit has been defined by the FTA as a "rapid mode of transportation that can provide the quality of rail transit and the flexibility of buses."

Caltrain—Commuter rail service that operates between San Francisco and San Jose, CA.

ConnDOT—Connecticut Department of Transportation

CTA—Chicago Transit Authority operates subway and bus service in the Chicago area.

ESA—East Side Access is LIRR's on-going project that will bring LIRR trains into a new terminal below Grand Central Terminal.

ESDC—Empire State Development Corporation is New York State's economic development agency.

FRA—Federal Railroad Administration is dedicated to improving railroad safety and railroad policy.

FTA—Federal Transit Administration is an arm of the United States Department of Transportation (DOT) that provides financial and technical support to local public transit systems.

GCT—Grand Central Terminal located at 42nd and Park Avenue is the main terminal for MNR.

HART—Huntington Area Rapid Transit, Huntington, New York.

HBLR—Hudson Bergen Light Rail line, operating in Hudson County, NJ between Bayonne and Tonnelle Avenue in Bergenfield. It connects with PATH at four of its stations.

JFK—John F. Kennedy International Airport in Queens, NY.

MARC—Maryland Area Regional Commuter provides commuter rail service between Baltimore and Washington and West Virginia.

MPO—Metropolitan Planning Organization. This is a regional transportation policy-making organization (created by Congress in 1962) made up of representatives from local government and transportation authorities.

MTA—Metropolitan Transportation Authority.

MTA Bus Company—See Appendix A for a detailed description.

MTA/LIB—Long Island Bus. See Appendix A for a detailed description.

MTA/LIRR--Long Island Rail Road provides service to Queens, Brooklyn Nassau and Suffolk Counties. See Appendix A for a detailed description.

MTA/MNR--Metro-North Railroad serves

MTA/NYCT—New York City Transit provides subway and bus service to the five boroughs: Manhattan, the Bronx, Brooklyn, Queens and Staten Island. See Appendix A for a more detailed description.

MTACC—Metropolitan Transportation Authority Card Company.

MTC—Metropolitan Transportation Commission, the San Francisco Bay Area's MPO.

NJPAC—New Jersey Performing Arts Center located in Newark, NJ.

NJ TRANSIT—New Jersey Transit. See a detailed description in Appendix A.

PANYNJ—Port Authority of New York and New Jersey.

PATCO—Port Authority Transit Corporation, providing rail connection between Philadelphia and South Jersey.

PABT—Port Authority Bus Terminal is located at 42nd St/8th Av.

GWBBS—George Washington Bridge Bus Station located in Washington Heights, Manhattan.

PATH—Port Authority Trans-Hudson. See Appendix A for more detailed information.

PCAC—Permanent Citizens Advisory Committee to the MTA serves as the umbrella organization for three member councils Long Island Rail Road Commuter's Council (LIRRCC), Metro-North Railroad Commuter Council (MNRCC) and the New York City Transit Riders Council (NYCTRC).

RPA—Regional Plan Association.

RTA—Regional Transit Authority.

SCT—Suffolk County Transit. See Appendix A for a detailed description.

SIR—Staten Island Railway operates between Tottenville and the St. George Ferry Terminal.

TSTC—Tri-State Transportation Campaign is a non-profit organization that is dedicated to reducing car dependency in New York, New Jersey and Connecticut.

TZB—Tappan Zee Bridge spans the Hudson River between Westchester and Rockland Counties.

WMATA—Washington Metropolitan Area Transit Authority.

WTC—World Trade Center.

XBL—Express bus lanes.