

Surface Transit Network Plan Update

Date: November 3, 2020
To: Executive Committee
From: General Manager, Transportation Services
Wards: All

SUMMARY

The purpose of this report is to provide an update on the draft Surface Transit Network Plan (STNP) and seek Council feedback and endorsement on the proposal for conducting public consultation on the draft STNP. Following this consultation, the final STNP will come forward to Executive Committee and City Council for approval in June 2021.

In 2018 Transportation Services Division, City Planning Division and the Toronto Transit Commission (TTC) jointly initiated the Surface Transit Network Implementation Study (STNIS) through a consulting assignment. The study aims to provide a roadmap of policies, governance, evaluation and prioritization along with an actionable implementation plan - the Surface Transit Network Plan (STNP) - for enhancing surface transit priority across the City.

In 2019, TTC launched its "5-Year Service Plan and 10-Year Outlook" (The Plan), which identified opportunities to improve its service in 2020-2024 and beyond. One key principle of The Plan – "Prioritize Surface Transit" – overlaps with STNIS. The STNP brings these two initiatives together to form a consolidated program for delivering surface transit projects in the City of Toronto over the short and long term.

The objectives of the STNP are to:

- Develop a framework for evaluating and prioritizing all surface transit priority corridors identified in the City's Official Plan Map 5 and the TTC's 5-Year Service Plan and 10-Year Outlook;
- Identify new opportunities for enhanced surface transit priority corridors not identified in the City's Official Plan;
- Set out public and stakeholder consultations to align the findings from STNIS with community needs and priorities; and,
- Develop an implementation program and funding framework for the top-20 corridors.

The Surface Transit Network Plan aims to create a comprehensive network of surface transit priority corridors along arterial roads through the use of tools such as reserved lanes, intersection and signal improvements and customer comfort improvements at transit stops to provide priority to public transit in the City's road network.

Transit priority corridors have been assessed based on five criteria: Existing Transit Ridership, Equity, Connectivity to Higher Order Transit, Population and Employment Growth, and Ease of Implementation. Corridors with higher cumulative scores will be considered for the implementation program.

The evaluation and prioritization process, findings and recommendations from STNIS will be the starting point to guide and plan for future environmental assessments and engineering studies.

Following public consultation, and as part of the report seeking City Council approval of the final STNP, a 2021-2024 implementation program will be developed to bring forward specific surface transit priority projects for subsequent Council approval. A three-year project cycle is envisioned for each set of projects:

- Year 1 - Engineering studies of two corridors; alternatives analysis
- Year 2 - Detailed design and public consultations
- Year 3 - Council approval and project delivery

The proposed public consultation plan would involve two rounds of consultations for each community district. The first round consists of plan presentation and solicitation of community input on the draft plan. City/TTC staff will incorporate input and revise the plan accordingly to report back to the public in the second round of consultations, then will bring forward recommendations for plan implementation to Council.

RECOMMENDATIONS

The General Manager, Transportation Services recommends that:

1. City Council authorize the General Manager, Transportation Services to use the draft Surface Transit Network Plan as detailed in Attachment 2 as the basis for initiating local Councillor briefings and community consultations.

FINANCIAL IMPACT

This report is seeking Council endorsement for the Surface Transit Network Plan (STNP) in order to enhance surface transit priority across the City. This will require approximately \$62M in funding from 2021-2024 to study, plan, design, and implement surface transit projects.

The funding for STNP is not currently provided in the 2020-2029 Capital Budget and Plans of TTC and/or Transportation Services, but will be requested for

considering during the 2021 Budget Process, and subject to TTC Board and City Council approval.

Financial implications beyond 2024 will be identified and considered through future budget processes along with all other funded and unfunded priorities for Council approval.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial implications as identified in the Financial Impact section.

EQUITY IMPACT STATEMENT

The Surface Transit Network Plan proposes the use of tools such as reserved lanes, intersection and signal improvements and customer comfort improvements at transit stops to provide priority to surface transit in the City's expansive road network. An integral component of this plan is implementing transit priority measures that improve transit reliability, speed and reduce transit crowding in neighbourhoods with vulnerable populations, such as persons with low income, women, youth and racialized groups. An enhanced surface transit priority corridor can improve access to economic opportunities, City and other government services and spaces, food, health services and recreation.

Using the recommended Neighbourhood Equity Index (NEI) from the Toronto Strong Neighbourhoods Strategy 2020, the Surface Transit Network Plan established equity as one of the five criteria in evaluating transit priority corridors.

The recommendations within this report can directly benefit several Neighbourhood Improvement Areas in the City of Toronto through improved transit services.

DECISION HISTORY

City Council at its meeting of July 28-29, 2020, adopted, as amended, Executive Committee Item EX15.1 entitled "Eglinton East Corridor - Priority Bus Lanes", which Council requested the City of Toronto and Toronto Transit Commission to conduct robust community and stakeholder consultations when considering dedicated bus lanes on Sheppard Avenue East, Lawrence Avenue East and Dufferin Street as part of the Surface Transit Network Plan.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.EX15.1>

The TTC Board at its meeting of July 14, 2020, adopted, as amended, Item 5 entitled "Bus Lane Implementation Plan" which presented the prioritization of five priority bus corridors, an accelerated integrated work plan and an implementation plan for Eglinton East.

[https://www.ttc.ca/About the TTC/Commission reports and information/Commission meetings/2020/July 14/Reports/5 Bus Lane Implementation Plan.pdf](https://www.ttc.ca/About%20the%20TTC/Commission%20reports%20and%20information/Commission%20meetings/2020/July%2014/Reports/5%20Bus%20Lane%20Implementation%20Plan.pdf)

City Council at its meeting of February 26, 2020, adopted, as amended, Planning and Housing Committee Item PH13.3 entitled "Official Plan Review: Transportation - Recommended Official Plan Amendment", which recommended policy amendments intended to strengthen the existing policies and provide greater clarity regarding the City's goals related to transportation and the tools endorsed for use to achieve them. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.PH13.3>

The TTC Board at its meeting of December 12, 2019, adopted, as amended, Item 16 entitled "5-Year Service Plan & 10-Year Outlook". https://www.ttc.ca/About_the_TTC/Commission_reports_and_information/Commission_meetings/2019/December_12/Reports/Attachment%201%20TTC_5_year_SP_web_accessible_R3.pdf

COMMENTS

Surface Transit Network Implementation Study

The majority of transit planning effort and funding in the City of Toronto has been focused on higher-order transit initiatives, intended to provide future long term benefits that will take a number of years to build. However, a reliable comprehensive surface transit network, comprising of bus and streetcar service, is also essential to enable people to move around the city and access employment, business/retail, education and recreational/cultural facilities. 70% of all journeys on the TTC currently include a trip on surface transit.

Improved surface transit provides increased mobility for City residents and for people in the Greater Toronto-Hamilton Area who choose Toronto as their destination for work, education, recreation, and other purposes. A defined network of enhanced surface transit priority corridors across the City provides opportunities for seamless connections with the regional surface transit network defined by 2041 Metrolinx's Regional Transportation Plan (RTP). Improved surface transit is important to the economy of Toronto and the region and helps to fuel the City's growth by providing more access for more people residing within and beyond the City's geographical boundaries.

Surface transit route operations can be enhanced by implementing transit priority measures (TPM) along major routes. When transit vehicle travel times and reliability are improved, customer satisfaction and attraction to transit are improved. A network of surface transit priority corridors improves the resiliency of the City's transit system by providing viable transit alternatives to passengers during planned or unplanned shutdowns of higher-order transit services due to mechanical issues or extreme weather events.

The Surface Transit Network Implementation Study (STNIS) provides a roadmap to understanding the higher-level policy foundation, system-level planning and implementation policies; governance and funding framework; and the evaluation criteria and prioritization process to guide the planning, implementation, operation, maintenance, and monitoring of a Transit Priority Measures program for Toronto. This roadmap is critical to the successful implementation of enhanced surface transit

corridors in the City of Toronto context to ensure clear and defined roles of partner divisions and agencies involved in surface transit. City Planning typically leads the long range planning of surface transit corridors and advises on anticipated ridership and changes in travel patterns resulting from enhanced surface transit service. TTC is responsible for service planning, route operation, transit service vehicles for the corridors and identifying operational issues and opportunities. Transportation Services collects input from both City Planning and TTC to identify and implement surface transit priority measures that benefit transit passengers while maintaining safe and efficient conditions for all road users. Surface transit priority measures identified through STNIS and typically installed in the City of Toronto include, but are not limited to, transit signal priority at intersections, reserved curb lanes for buses, bus queue jump and receiving lanes, and transit-only turn lanes. In addition, relocating transit stops to the far side of intersections, and transit stop consolidation are features that complement TPM.

The main objectives of this study are to develop a framework to prioritize all surface transit priority corridors identified in the City's amended Official Plan (Map 5 – Surface Transit Priority Network) and TTC's 5-year Service Plan and 10-year Outlook and to develop a 10-year capital plan with funding allocation for the top twenty (20) corridors.

The scope of work for STNIS consists of: Overview of Transit Priority Measures, Plan Review, Governance Framework, Evaluation and Prioritization, and Implementation Program and Funding Framework.

This study's findings and recommendations provide the City and TTC the starting point to guide and plan for corridor-level operational improvement or geometric engineering studies and environmental assessment studies. The framework developed in this study provides the mechanism for a periodic review and the strategic rollout of transit priority measures throughout the City for the next ten years. The recommendations are meant to be a living Transit Priority Measures plan for surface transit coordinated with other capital transportation projects.

This study does not provide the details of the geometric or operational improvement measures recommended for each prioritized corridor. These will require an examination of each corridor's geometric and service characteristics, which would be captured in the subsequent engineering studies under the STNP.

Figure 1 describes the relationship between STNIS and other transit initiatives underway in the City of Toronto. Given the success of enhanced transit priority on King Street, STNIS is supporting the evaluation of further extensions of transit priority along King and assesses the need for similar applications of transit priority on other streetcar corridors such as Queen Street. Consideration of additional transit options between midtown (Eglinton) and downtown Toronto are assessed in the "Midtown Express Bus Study" analysis performed under STNIS, and queue jump lane deployments citywide are also included. The TTC's 5-Year Plan resides within STNIS as an accelerated effort to bring relief to some of the City's busiest bus corridors. The City's work on light rail transit, including Eglinton East LRT and Waterfront Transit, are not part of STNIS and are being studied separately.



Surface Transit Network Implementation Study



Figure 1 - Current Surface Transit Initiatives Supported by STNIS

Impact of the Coronavirus Pandemic on Surface Transit

During the early days of the COVID-19 pandemic in March 2020, transit ridership worldwide dropped precipitously, with limited return in ridership since. The TTC experienced similar impacts where ridership city-wide dropped to 14% in April 2020 and has returned to less than 40% of normal levels as of October 2020. Ridership on bus routes serving Neighbourhood Improvement Areas (NIA) did not decline as much as in other parts of the City. This underscores the equity objectives of improving surface transit for those who depend on it to get around. Early indications are that ridership gains are slightly higher on surface transit than subway operations. This is primarily related to the continuing closure of offices in the city core. Alternatively, the surface transit ridership gains could be related to more businesses and community activities reopening within the suburbs compared to city core areas.

The TTC has an excellent grid network of surface transit routes that provide good city-wide transit service coverage.

The City initiated the STNIS study in 2018, and as travel patterns during the COVID-19 pandemic are still evolving, the study assumed pre-pandemic conditions for corridor evaluation and prioritization. This report's prioritization results were overlaid with COVID-19 infection rates to confirm the prioritized corridors identified in STNIS support vulnerable communities, especially in areas susceptible to high incidences of COVID-19 infection throughout the City. Through this pandemic lens, the recommended surface transit priority corridors provide good city-wide coverage and support those communities that were hard-hit by COVID-19, as shown in Attachment 1.

Plan Review

Official Plan - City of Toronto

The Official Plan establishes the need for a comprehensive and high-quality affordable transit system that lets people move around the City quickly and conveniently. It identifies the need to make public transit accessible to all, connecting areas of housing, employment, education and recreation. The Plan protects the integrity of the City's

transportation network and provides for its planned expansion by designating public rights-of-way and transit corridors, as described in the maps and schedules. Furthermore, the Plan identifies a surface transit priority network and maps specific corridors for bus and streetcar priority measures.

The Plan recognizes the need to increase transit priority throughout the city by giving buses and streetcars priority at signalized intersections and by introducing other priority measures on selected bus and streetcar routes, such as reserved or dedicated lanes for buses and streetcars; and limiting or removing on-street parking during part or all of the day. In February 2020, Council adopted an Official Plan Amendment, strengthening the policies related to surface transit priority measures, including a policy that directs the development of critical elements of the transportation system to prioritize walking, cycling and transit over other passenger transportation modes. This Official Plan Amendment is built on foundational transportation policy outlined in OPA 274, developed as part of the "Feeling Congested?" initiative, adopted by Council in August 2014. Through these actions, the Official Plan has established a policy framework that supports the enhancement of surface transit priority on major arterials across the City of Toronto.

While the Official Plan recognizes the importance of the bus and streetcar network and the need to implement transit priority measures to improve operational efficiency and rider convenience, it neither identifies corridor-specific solutions nor defines an implementation plan and schedule to ultimately achieve these goals.

2041 Regional Transportation Plan - Metrolinx

The 2041 Regional Transportation Plan (RTP) seeks to set the Greater Toronto-Hamilton Area's transportation vision over the next 20 years. Approved in 2018, the RTP builds on previous Provincial plans such as The Big Move (2008) by putting traveller needs at the core of planning and operations. The RTP looks to develop a seamless, multimodal transportation system that provides real alternatives to car trip-making. The RTP establishes a Frequent Rapid Transit Network (FRTN) that identifies corridors within Toronto and across the GTA for enhanced surface transit priority. The FRTN recognizes the importance of priority bus corridors that will bring fast and frequent transit services to parts of the region that have not yet developed the density or ridership needed to support LRT, BRT or subway services.

5-Year Service Plan and 10-Year Outlook - Toronto Transit Commission

TTC's 5-Year Service Plan and 10-Year Outlook, approved by the TTC Board in December 2019, identifies service improvements to public transit service in the City of Toronto in 2020-2024 and beyond. The Plan lays out anticipated growth in the coming five years and sets a vision to accommodate it by focusing on improvements that enhance the TTC's core-competency: mass transit. The Plan's vision is supported by five pillars of opportunity and is accompanied by specific actions outlined in a multi-year 20-point action plan. Pillar 4, "Prioritize surface transit", focuses on providing additional priority for surface transit so that customers can get to their destinations faster and more reliably. The Plan identifies three initiatives: explore bus transit lanes on Eglinton East, Steeles West, Jane, Dufferin and Finch East; implement more queue jump lanes, up to three locations per year; and implement more transit signal priority, up to 20 locations per year.

Evaluation and Prioritization

The study identified five criteria as the basis for assessment: existing transit ridership, equity, connectivity to higher order transit, population and employment growth and ease of implementation. Attachment 2 provides further detail on each of these criteria and scoring.

The evaluation and prioritization criteria were used to evaluate the transit priority corridors identified in Map 5 of the February 2020 Official Plan Amendment. The map identifies the majority of the City's arterial roads as transit priority corridors. A preliminary ranking of these corridors is shown in Table 1 and illustrated on Figure 2.

Table 1. Draft Ranking of Top 20 Surface Transit Corridors

Corridor	Start	End	Rank
Eglinton Avenue East/ Kingston Road/ Morningside Avenue	Kennedy Station	Ellesmere Road	1
Jane Street	Steeles Avenue West	Eglinton Avenue West	2
Steeles Ave West	Jane Street	Yonge Street	3
Finch Avenue East	Yonge Street	McCowan Road	4
Dufferin Street	Wilson Avenue	Dufferin Gate	5
Lawrence Avenue East	Don Mills Road	Port Union Road	6
Finch Avenue West	Keele Street	Yonge Street	7
Sheppard Avenue West	Weston Road	Yonge Street	8
Don Mills Road/ Overlea Boulevard/ Pape Avenue	Steeles Avenue East	Danforth Avenue	9
Victoria Park Avenue	Steeles Avenue East	Kingston Road	10
Keele Street	Steeles Ave West	Bloor Street West	11
Sheppard Avenue East	Don Mills Station	Kingston Road	12
Queen Street	Roncesvalles Avenue	Victoria Park Avenue	13
King Street	Roncesvalles Ave	Don Valley Parkway	14
Markham Road	Steeles Avenue East	Kingston Road	15
York Mills Road/Ellesmere Road	Yonge Street	Kingston Road	16
Wilson Avenue	Humber College	Yonge Street	17

Corridor	Start	End	Rank
Lawrence Avenue West/ Scarlett Road/ Dixon Road	Highway 27	Yonge Street	18
Kipling Avenue	Steeles Avenue West	Kipling Station	19
McCowan Road	Steeles Avenue East	Danforth Avenue	20

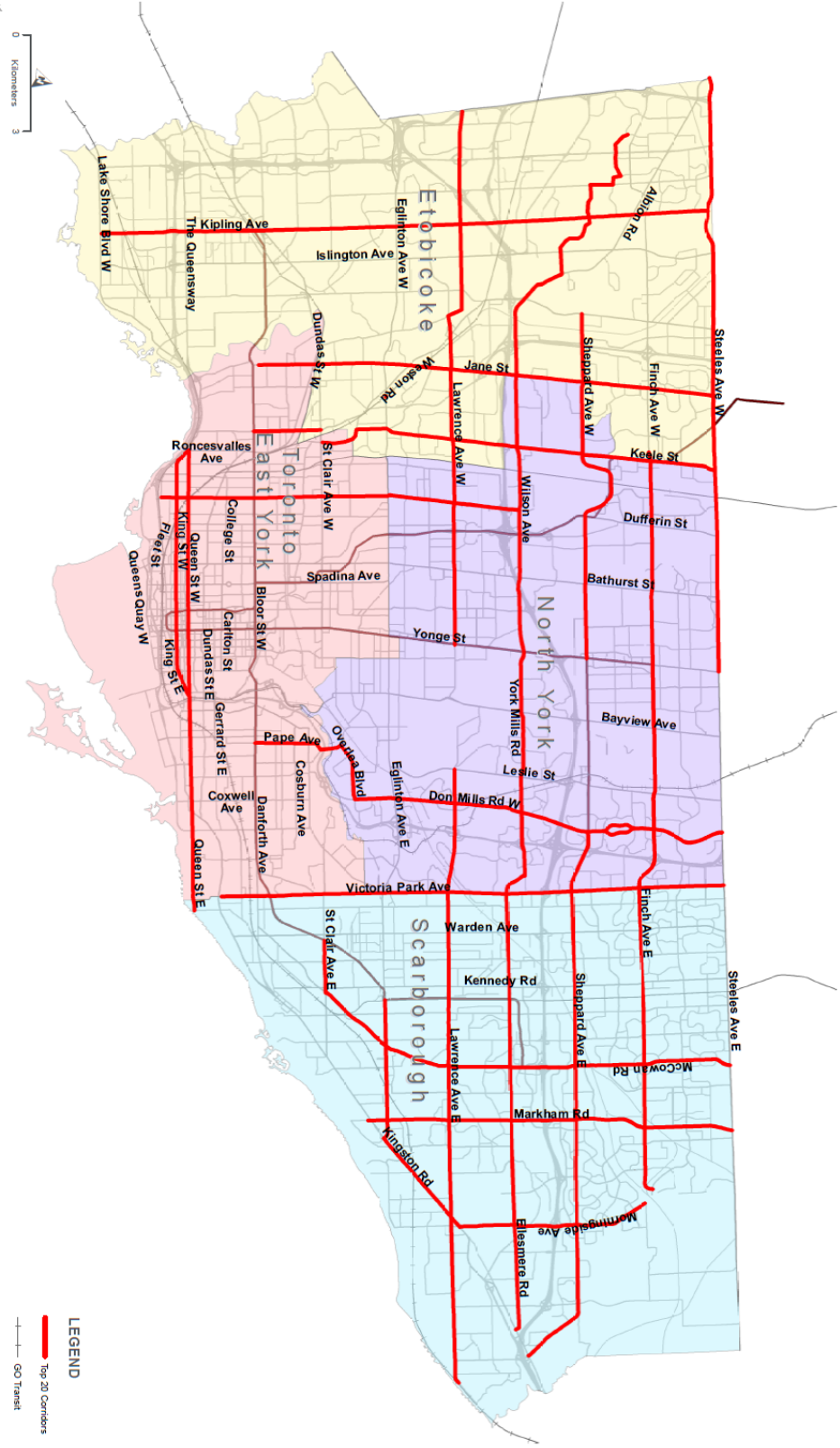


Figure 2: Top-20 Transit Priority Corridors

The final draft ranking was established after a fulsome review of the priority corridors and the following considerations.

- Metrolinx Light Rail Transit (LRT) funded projects– while the STNIS evaluation limits considered the merits of entire corridors, only the segments outside of the ongoing LRT projects were considered for further Transit Priority Measures. Case in point: Eglinton Avenue West was excluded from the top-20 corridors because of Eglinton Crosstown LRT and Eglinton Crosstown West LRT Extension, Finch West was excluded because of the Finch West LRT.
- Metrolinx Rapid Transit Plans – Metrolinx is undertaking initial planning for two bus rapid transit corridors (BRT) in Toronto, the Durham-Scarborough BRT (DS-BRT) and Dundas West BRT. These proposed BRT services would cross municipal boundaries and connect to east-west corridors that traverse the City of Toronto and Regions of Durham and Peel. The adjoining corridors such as Ellesmere Road (DS-BRT) have been recommended as part of the top-20 priority corridors, while others such as Dundas Street West ranked outside of the top-20. While STNIS has prioritized the surface transit services (Map 5) within the City of Toronto, it does not preclude the City from working with provincial or regional partners to further the strategic implementation of higher-order transit as part of the Map 4 component of the Official Plan.
- Consideration for TTC's 5-Year Service Plan - Eglinton East corridor is an on-going project anticipated to be completed in Fall 2020. Four other corridors (i.e., Jane, Finch East, Steeles West, and Dufferin) are proposed to be implemented between 2021 and 2024. Lawrence Avenue East was brought forward as a motion to the TTC Board to be included as part of the Plan.
- Corridors with existing surface transit priority – corridors such as St. Clair Avenue and Spadina Avenue already operate in their own right-of-way with transit signal priority, and score highly in the evaluation criteria. There are limited opportunities to enhance priority on these corridors and therefore they were excluded from the top-20 corridors.
- Adjacent routes where multiple routes share a trunk part of a corridor, such as Wilson and Weston Road, where the 96 and 165 bus routes share a large portion of the trunk segment, would be studied and investigated during the same study year.
- Circulation roads or side roads where the terminus or neighbourhood circulation branch of a transit route is involved, such as the Malvern and University of Toronto Scarborough area, would be included in operational improvements and engineering studies.

Draft Implementation Plan

Based on initial assessments, and as the basis for the initial consultation we envisage the following implementation schedule as shown in Table 2.

Table 2. Draft Implementation Schedule

Corridor	Engineering studies	Detailed Design	Project delivery
Eglinton Avenue East/ Kingston Road/ Morningside Avenue	Completed	Completed	2020
Jane Street	Ongoing	Ongoing	2021
Steeles Ave West	2021	2022	2023
Finch Avenue East	2021	2022	2023
Dufferin Street	2022	2023	2024
Lawrence Avenue East	2022	2023	2024
Finch Avenue West	2023	2024	2025
Sheppard Avenue West	2023	2024	2025
Don Mills Road/ Overlea Boulevard/ Pape Avenue	2024	2025	2026
Victoria Park Avenue	2024	2025	2026
Keele Street	2025	2026	2027
Sheppard Avenue East	2025	2026	2027
Queen Street	2026	2027	2028
King Street	2026	2027	2028
Markham Road	2027	2028	2029
York Mills Road/Ellesmere Road	2027	2028	2029
Wilson Avenue	2028	2029	2030
Lawrence Avenue West/ Scarlett Road/ Dixon Road	2028	2029	2030
Kipling Avenue	2029	2030	2031
McCowan Road	2029	2030	2031

Following completion of the public consultation, and as part of the report seeking City Council approval of the final STNP, a 2021-2024 implementation program will be

developed to bring forward specific surface transit priority projects for subsequent Council approval. A three-year project cycle is envisioned:

- Year 1 - Engineering studies of two corridors; alternative analysis
- Year 2 - Detailed design and public consultations
- Year 3 - Council approval and project delivery

For corridors where recommended improvements do not extend beyond existing curb lines, low cost measures will be explored to reduce delivery schedules wherever possible. Maximizing the capacity of available roadway space to move the most people during peak periods will be one of many objectives that will guide the evaluation process. TTC buses carry approximately 50 to 80 passengers per vehicle so providing surface transit priority contributes significantly to achieving the most efficient utilization of available roadway space. The benefits of providing surface transit priority will be considered in the context of existing and projected auto/truck traffic demand as well as land use along each corridor to properly inform decisions on converting general purpose or parking lanes to bus/bicycle or special use lanes.

For corridors where competing travel demands cannot be reasonably accommodated on parallel and adjacent routes, or where other conflicts with land use or other issues cannot be reasonably addressed within the proposed three year implementation cycle, recommendations will be reviewed for further study, phased implementation to minimize impacts will also be considered.

Corridors identified as requiring more long term capital infrastructure and investment will require further consideration beyond the proposed three-year rolling implementation program. The City will assess those corridors for potential environmental assessments or other major studies, and implementation schedules will be modified as needed.

Public realm improvements will be considered for each corridor implemented. For corridors with transit enhancements within existing curb lines, the City will look for low-cost opportunities and high-impact public realm improvements through partnerships with StreetARToronto and local community organizations. These partnerships will seek to provide mentorship and employment opportunities for local youth residing within each corridor's area while enhancing the attractiveness and the travel experience of all road users on each corridor. Projects requiring further major studies will also leverage these partnerships upon reaching the implementation stage.

The implementation of surface transit priority on corridors will consider transportation safety through the Vision Zero lens and will seek to balance the needs of all road users, including but not limited to cyclists and pedestrians. Pursuant to the Vision Statement on Access, Equity and Diversity by the City's Equity, Diversity, and Human Rights Division, the program will consider community safety in the areas including and adjacent to each corridor to ensure that design and implementation decisions are made that support the use of transit facilities by all people regardless of race, ancestry, place of origin, colour, ethnic origin, disability, citizenship, creed, sex, sexual orientation, gender identity, same-sex partnership, age, marital status, family status, immigrant status, receipt of public assistance, political affiliation, religious affiliation, level of literacy, language and/or socioeconomic status.

Consultation

As part of the review of the Surface Transit Network Plan, the City will undertake two rounds of public and stakeholder consultation to obtain public feedback on the proposed transit network improvements. During each round, the City will use a variety of methods to raise awareness of the plan and notify the public of the consultation opportunities. These methods include, but are not limited to: print and online advertising, website, emails, social media and road signage.

Round 1: Draft Plan

The objective of this round of consultation will be to provide an overview of the draft plan, including the evaluation and proposed top transit priority corridors for public feedback.

Public consultation opportunities will include virtual public meetings for each community council district and discussions with a variety of stakeholders and with existing community networks along the proposed corridors. Both online surveys and engagement tools will also be launched to help gather feedback.

Round 2: Final Plan

The objective for this round of consultation will be to present the feedback received during Round 1 and highlight the changes made in the final plan.

Consultation activities will involve similar activities to those undertaken in Round 1.

As detailed proposals are developed for each corridor, additional engagement will be undertaken that will involve direct community consultation with area residents and businesses within the study areas.

Next Steps

The corridors recommended for surface transit priority in the TTC's 5-Year Plan represent a subset of the corridors identified in STNIS and are critical to the City's current COVID-19 pandemic recovery efforts. Through Executive Committee Item EX15.1 "Eglinton East Corridor - Priority Bus Lanes", City and TTC staff have accelerated the delivery of priority bus lanes for the Eglinton Avenue East / Kingston Road / Morningside Avenue corridor to provide better transit service to residents in Neighbourhood Improvement Areas in this part of the city, many of whom represent vulnerable communities and who have served as essential workers throughout the pandemic.

EX15.1 "Eglinton East Corridor - Priority Bus Lanes" identified that City staff were working closely with TTC to develop proposals for the next corridor prioritized for implementation, Jane Street. This corridor exhibits significant issues with reliability, slow travel time, and crowding, primarily for people residing in Neighbourhood Improvement Areas.

City and TTC staff briefed the local Councillors along the Jane Street corridor and received feedback on a number of challenges that must be addressed to ensure successful implementation of surface transit priority measures in this corridor. City and

TTC staff are now working to address these before consulting with local Councillors and the public in early 2021 and reporting back to Council by Q2 2021.

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ATTACHMENTS

Attachment 1: Overlay with COVID Infection Rates
Attachment 2: Evaluation and Prioritization

Attachment 2: Evaluation and Prioritization

Existing Transit Ridership

This analysis highlights areas of the city where there are currently high volumes of transit ridership. This analysis is based on segments (links), stops, and routes. The evaluation considered the following forms of ridership data:

- TTC Weekday Daily Transit Rider On/Off Volumes by transit stops
- TTC Weekday Daily Cumulative Transit Ridership Load by transit stops
- TTC Weekday Daily Total Boarding Volumes for each corridor, with combined services
- City GTAModel v4 EMME Transit Assignment volumes

Initial considerations were made by evaluating corridor segments by stops and cumulative passenger loads.

Leveraging the key route identification threshold in the TTC's 5-year plan, the evaluation included assigning a maximum score to corridors with daily boardings exceeding 30,000 per day. Corridors with ridership below 30,000 would then receive a fraction of the total score.

Equity

Using the recommended neighbourhood equity scores from the Toronto Strong Neighbourhoods Strategy 2020, the Surface Transit Network Plan established equity as one of the five criteria in evaluating transit priority corridors.

This analysis is based on the Neighbourhood Equity Index (NEI) to identify the Neighbourhood Improvement Areas. Corridors that intersect NIAs received a higher score.

Connectivity to Higher Order Transit

This analysis highlights key connections between transit priority corridors and City Official Plan Rapid Transit Corridors (Map 4) and GO Transit Stations.

The available data includes updated Official Plan Map 4 corridors (as of February 2020), Existing Subway, GO Trains (stations only), and on-going rapid transit projects (i.e., Eglinton Crosstown Light Rail Transit and Finch West Light Rail Transit). For GO transit, since not all crossings provide actual connectivity, only corridors with close vicinity to GO stations get additional connectivity points.

The criterion is scored based on the number of new intersection points between corridors and the above existing or planned rapid transit routes. The connectivity points include all intersections and not only the terminals. Therefore, the connectivity evaluates corridors by comparing their relative number of intersecting points between STNIS corridors and the Map 4 planned rapid transit, existing subway, on-going rapid transit constructions, and GO stations.

Population and Employment Growth

This analysis highlights areas of potential growth to transit ridership for each corridor.

- Population and employment by traffic zone for 2011, 2021, 2031, and 2041 horizon years

Population/employment growth was estimated based on comparison 2011-2021, 2021-2031, and 2031-2041 for each horizon, and calculated based on the maximum growth intersected by each corridor.

A quartile system was used to compare relative growth between corridors, where the top 25 percentile growth by district for each horizon year would get a score of 4, and the bottom 25 percentile growth would get a score of 1. The analysis evaluated the population and employment scores separately for each segment and each horizon year. It carried an average of population and employment scores forward as the final growth score for each corridor.

Ease of Implementation

This analysis highlights the opportunities to accommodate transit priority within the road right-of-way (ROW). This measure considered spatial constraints, including the number of lanes and available right of way widths.

- City’s planned ROW based on the Official Plan
- The existing number of lanes and pavement width data

The following scoring system was applied:

- Existing 6-lane corridors, where no road widening is required, receives a score of 4;
- Existing 4-lane corridors with ROW width above 36m receives a score of 4;
- Existing 4-lane corridors with ROW below 36m receives a fraction of the top score based on ROW width divided by 36; and
- Two-lane corridors receive a score of 0.

Table A summarizes the evaluation and scoring methodology for transit priority corridors. Figure A illustrates the transit priority corridor cumulative scores.

Table A. STNIS Evaluation Criteria

Category	Data Source	Analysis / Scoring
Existing Demand	Weekday Daily Total Boarding Volumes by transit route (Source: TTC)	High-ridership corridors (30,000+ per day) receive a maximum score of 4. Ridership below 30,000 receives a fraction of 4.
Equity	Neighbourhood Equity Index (Source: Open Data)	The lowest NEI score by traffic zones intersected by each segment ranked amongst the entire City. Assign scores of 4 for corridors that intersect the lowest percentile NEI neighbourhoods and 1 for corridors that intersect the highest percentile NEI areas.
Connectivity with Higher-Order Transit	Intersection points between STNIS corridors and City Map 4 corridors (Feb 2020), Existing Subway, GO Trains (stations only), and on-going rapid transit projects.	A quartile system was used to compare the relative number of connection points observed in each corridor. Corridors with the top 25 percentile number of connections would get a

Category	Data Source	Analysis / Scoring
	(Source: Open Data)	score of 4, and the bottom 25 percentile would get a score of 1
Growth	Population by Traffic Analysis Zones (TTS 2006) for 2011, 2021, 2031, and 2041 (Source: City of Toronto)	The maximum amount of growth (number of people and jobs) by traffic zones intersected by each transit corridor segment ranked amongst each district.
	Employment by Traffic Analysis Zones (TTS 2006) for 2011, 2021, 2031, and 2041 (Source: City of Toronto)	Scores assigned on a quartile basis, where routes that intersect the top 25%ile of growth zones receive a score of 4, top 50%ile for a score of 3, top 75%ile for a score of 2, and bottom 25% for a score of 1.
	Overall Growth	The population and employment scores were evaluated separately for each segment and each horizon year, and an average of population and employment scores were carried forward as the final growth score for each corridor.
Ease of Implementation	City's planned ROW based on the Official Plan Existing Number of Lanes and pavement widths (Source: City of Toronto)	The required right of way for a six-lane corridor with HOV is approximately 33-36m depending on the cross-section. Existing 4-lane corridors with ROW width above 36m receives a score of 4, below that will be based on a proportion of 4 based on planned ROW divided by 36m. Two-lane corridors would receive 0.

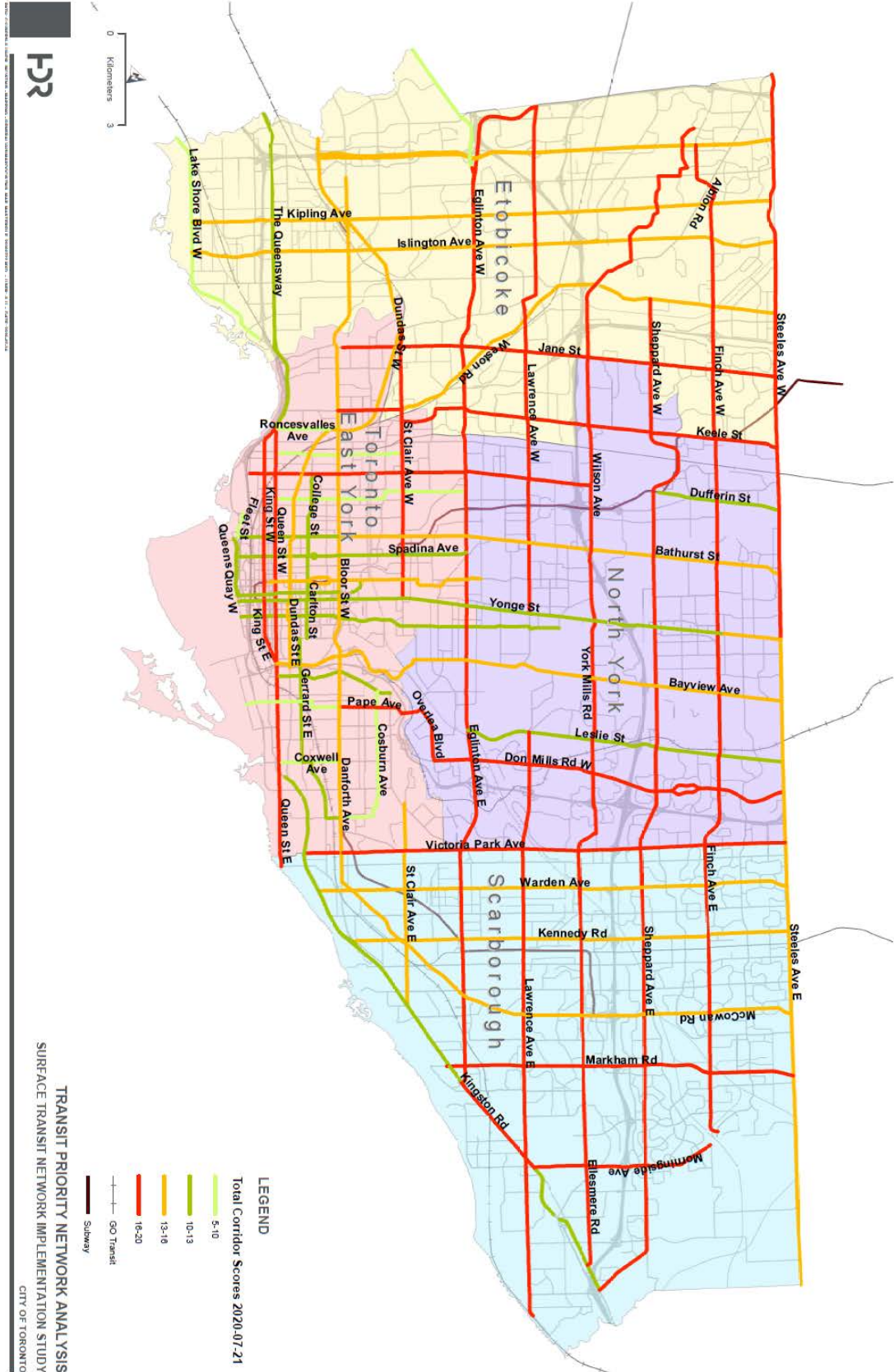


Figure A: Transit Priority Corridors - Cumulative Scores