For Action

Advancing the 5-Year Service Plan (2024-2028) & 10-Year Outlook Reset

Date: July 14, 2022
To: TTC Board
From: Chief Strategy and Customer Officer (Acting)

Summary

In 2019, the TTC developed a 5-Year Service Plan & 10-Year Outlook (2020-2024) (5YSP), that identified service, resource, and funding needs to improve transit between 2020 and 2024. Detailed Annual Service Plans (ASPs) are developed every year based on the 20-point action plan identified in the 5YSP and feedback received through annual public as well as stakeholder consultation.

Due to the COVID-19 pandemic, implementation of some actions in the 5YSP have been deferred, and the TTC's Service Plan has been continuously adjusted to serve customers' evolving transit needs.

More than two years into the pandemic, the TTC is reflecting on actual service experience during the pandemic and is reviewing the 5YSP to ensure it continues to meet customers' needs. This review of the 5YSP will inform the guiding principles for the 2023 ASP, as well as the work plan for a new 5-Year Service Plan (2024-2028) & 10-Year Outlook.

This first phase of work includes a review of ridership levels and travel patterns over the course of 2020 and 2021 and provides key information about how customers used the transit network through the pandemic.

In March 2020, the TTC's ridership decreased drastically (down 88% at the lowest point) - not only due to closures of workplaces and destinations, but also due to a fear of COVID transmission. Despite the steep decline, the TTC continued to carry approximately 200,000 daily revenue rides with customers making trips to access essential work, groceries, pharmacies and daycare. For many, public transit is the primary mode of mobility. The following trends were observed over the course of the pandemic:

Customers who continued to rely on the TTC have travel behaviours that differ from the traditional 9-to-5 office worker.
- Pre-COVID, the office worker was the largest customer group representing approximately 26% of TTC ridership.

- Throughout the pandemic, three key customer groups continued to rely on transit: people with low income, women, and shift workers.
- Generally customers travel in off-peak times, make longer bus trips to destinations spread out across the city and women often trip-chain, making multiple stops during their trip.

Customers continued to use the bus network in much the same way as they did pre-COVID, but with fewer riders overall and with a few exceptions.
- 18 of the top 20 busiest bus routes by boardings in 2019 remained our busiest during 2020 and 2021.

Changes in ridership patterns that did occur demonstrate the importance of transit for people making essential trips.
- Across the city, ridership on routes that serve Neighbourhood Improvement Areas (NIAs) and essential employment areas remained strong in 2020 and 2021.
- There are many smaller routes that out-performed major routes in terms of the percentage of ridership retained from 2019, demonstrating the vital role they play in connecting customers to essential trip destinations such as employment areas, hospitals, and grocery stores.
- Service to the downtown and routes that serve higher income neighbourhoods is having significantly lower ridership recovery.
- Off-peak periods had higher ridership recovery than peak periods.
- The afternoon peak period has shifted to earlier in the day reflecting essential errands, secondary school trips and essential worker shift times.

Transit priority treatments, such as priority bus lanes, are an effective tool that allow our customers to reach more opportunities in less time.
- RapidTO: Eglinton East bus lanes have successfully locked in the travel time savings that were achieved at the height of the pandemic when traffic congestion was minimal. This allows our customers who live in the outer part of the city to reach more opportunities in less time.

Low ridership levels not only affect the TTC and its financial revenue, but it also affects the economic vitality of the city and region as a whole.
- A report from the C.D. Howe Institute in April 2021 estimated that there was an economic loss ranging between $1.2 billion to $1.4 billion in the Toronto region due to decreased agglomeration solely from examining TTC ridership losses, which includes those who stopped using transit but continued to make trips with another mode.
- These economic benefits will continue to diminish if people increasingly decide to telecommute, which will create a more geographically dispersed workforce.

Maintaining high levels of service over the course of the pandemic benefited our customers who needed it the most.
- The off-peak service and many other initiatives added as part of the 2015 Opportunities to Improve Transit Service in Toronto report benefited our customers who continued to ride during the pandemic.

- This analysis also demonstrates and verifies the work of the 5-Year Service Plan & 10-Year Outlook (2020-2024). The pillars and actions identified in the plan should continue to be implemented.

The findings in this report have laid the foundation to begin the development of our next 5-Year Service Plan (2024-2028) & 10-Year Outlook. Staff will continue to expand on technical work and community engagement in 2023. Development of the new plan will be aligned with the new Corporate Plan under development.

In the short term, staff have begun preparing the 2023 ASP. The findings in this report will serve as the basis for community engagement this year. Any service improvements or adjustments planned for 2023 will be made through reallocation.

Recommendations

It is recommended that the TTC Board:

1. Endorse the project purpose and work plan for the next 5-Year Service Plan (2024-2028) & 10-Year Outlook.

Financial Summary

This report provides a summary of service experience during COVID-19 and provides early findings to inform the development of the 2023 ASP and the new 5-Year Service Plan (2024-2028) & 10-Year Outlook. Endorsement of the recommendation in this report does not have a financial implication.

The findings identified in this report are intended to initiate discussions with stakeholders and the public at upcoming community consultations. Funding of $200,000 for these consultations is included in the 2022 Operating Budget approved by the TTC Board on December 20, 2021 and City Council on February 17, 2022.

The Chief Financial Officer has reviewed this report and agrees with the financial impact information.

Equity/Accessibility Matters

The TTC is making Toronto's transit system barrier-free by implementing changes that will make all of its services and facilities accessible to all our customers. The TTC strongly believes that all customers should enjoy the freedom, independence and flexibility to travel anywhere on its transit system. The TTC's commitment to providing accessible transit is at the forefront of its 2018-2022 Corporate Plan and 5-Year Service Plan & 10-Year Outlook (2020-2024).

This report focuses on understanding the travel needs of customers who continue to rely on the TTC during the pandemic. A review of ridership data shows that the majority of boardings occur in Neighbourhood Improvement Areas (NIAs) and essential

employment areas across the city. Customer research performed by the TTC over the course of the pandemic supports these findings. Survey results found that most trips made were essential errands, and were being disproportionally made by women. It was also found that people with low income were more likely to have continued taking the TTC than people with high income, which corresponds with many essential industries such as retail, manufacturing, food processing and warehousing having primarily low-wage workers.

The observed trends and customer research collected during the pandemic suggests that there were three key customer groups that continued to rely on transit throughout the COVID-19 pandemic: people with low income, women and shift workers. Through our literature review, we know that these three customer groups have different travel behaviours when compared to the 9-to-5 office worker. They generally travel in off-peak times, make longer bus trips to destinations spread out across the city and women often trip-chain, making multiple stops during their trip. There is an opportunity to learn more from these customers and understand how the TTC can best meet their travel needs.

The TTC recognizes the importance of reaching out and consulting with these customer groups who are traditionally underrepresented in the planning process, and who may be disproportionately affected by planning decisions. As part of the 2023 ASP process, the TTC will use the analysis from this report to focus consultation efforts on these specific customer groups. We will reach out to key community organizations and employers, and we will also once again use our successful local youth ambassador consultation program. We will also conduct three focus group sessions centred around understanding the needs and priorities of these three customer groups.

This report outlines the objective, work plan, and approach to undertaking the next 5-Year Service Plan (2024-2028) & 10-Year Outlook which is specifically focused on accessible, conventional transit services. The 5YSP complements the Wheel-Trans 10-Year Strategy. Strategies and initiatives identified will look to make the accessible conventional system more attractive to potential new customers, such as Wheel-Trans registrants taking Family of Services trips, and to diverse travellers in Toronto. Proposed initiatives will support the Accessibility for Ontarians with Disabilities Act, 2005 (AODA) objectives of more spontaneous travel options for customers with disabilities.

Consultations will take place as part of the development of the new 5YSP. As a key component of the consultation process, the TTC will continue to make every effort to reach out to equity-deserving groups to ensure that a wide range of perspectives are heard and, community priorities are identified, and to ensure that the initiatives proposed as part of the Plan remove barriers to accessing public transit and do not introduce new ones.

The TTC is also working closely with City staff who are working on the Gender Equity Strategy and Poverty Reduction Strategy to ensure all of our plans are aligned.

Decision History

The 5YSP is the overarching business plan that identifies a 20-point action plan to improve public transit between 2020 and 2024. The TTC Board approved the plan on December 12, 2019.
https://ttc-cdn.azureedge.net/-/media/Project/TTC/DevProto/Documents/Home/Public-Meetings/Board/2019/December_12/Reports/16_5_Year_Service_Plan_and_10_Year_Outlook.pdf?rev=4d086939de0a4f00801b42b7f1eb4872&hash=BEC5AA8D57EFBB6E2EA3B835318FB15A

Issue Background

In 2019, the TTC developed a 5YSP that identifies the service, resource and funding needs to improve transit between 2020 and 2024. The plan focuses on making improvements that enhance the TTC's core-competency: mass transit – moving large volumes of customers safely, reliably and swiftly across Toronto. The plan identifies five pillars of opportunity that enhances every step of our customers' journeys on the transit system (see
Figure 1).

Figure 1: Five pillars of opportunity
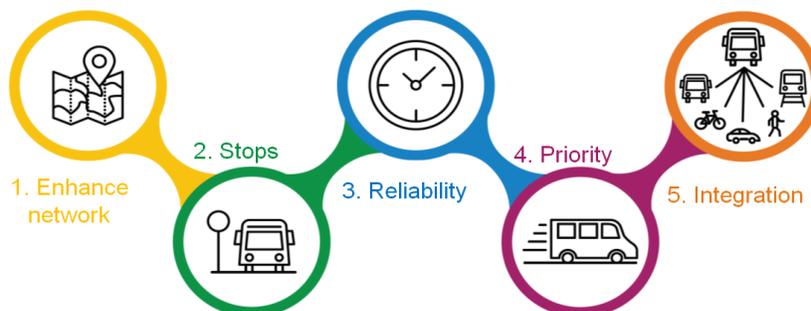
Detailed ASPs are developed every year based on the 20-point action plan identified in the 5YSP and feedback received through annual public and stakeholder consultation.

Due to the COVID-19 pandemic, implementation of some actions in the 5YSP have been deferred and TTC's Service Plan has been continuously adjusted to serve customers evolving transit needs.

More than two years into the pandemic, the TTC is reflecting on lessons learned and is reviewing the 5YSP to ensure it continues to meet customers' needs. This review of the 5YSP will inform the guiding principles for the 2023 ASP, as well as the work plan for a new 5-Year Service Plan (2024-2028) & 10-Year Outlook.

This first phase of work includes a review of ridership levels and travel patterns over the course of 2020 and 2021, and provides key information about how customers used the transit network through the pandemic.

Comments

Introduction

The COVID-19 pandemic has emphasized the role the TTC plays as an essential service. Through this study, the TTC has completed a review of ridership levels and travel patterns over the course of 2020 and 2021 and identified key findings about how customers used the transit network over the pandemic.

Pre-COVID, the office worker was the largest customer group representing approximately 26% of TTC ridership. Throughout the pandemic, three key customer groups continued to rely on transit: people with low income, women, and shift workers. Customers who continued to rely on the TTC during the pandemic have travel behaviours that differ from the traditional 9-to-5 office worker. They generally travel in off-peak times, make longer bus trips to destinations spread out across the city and women often trip-chain, making multiple stops during their trip.

As we begin planning for a future beyond the pandemic, current research suggests high levels of working from home will continue post-pandemic for an indefinite time period in Toronto. This means that the office worker may no longer be the largest customer group, and adjustments to how we design our network and plan our service levels should be explored. As a first priority, the TTC will seek to better understand the needs and priorities of people with low income, women and shift workers. Given the diverse travel needs of these customers, improving service for these customer groups will benefit all customers who ride the TTC. Second, the TTC will continue to monitor telecommuting trends and identify opportunities to improve service for these customers. We will continue to review service levels to ensure capacity aligns with post-pandemic travel patterns and explore different service delivery options, such as microtransit.

The findings from this report will be used to inform the guiding principles for the 2023 Annual Service Plan, as well as the work plan for the development of a new 5-Year Service Plan (2024-2028) & 10-Year Outlook. The following sections provide more details on work being planned:

1. 2023 Annual Service Plan (ASP)

As part of the 5-Year Service Plan & 10-Year Outlook (2020-2024) process, we committed to developing (and consulting stakeholders and the public on) detailed ASPs every year.

ASPs build on the 20-point action plan in the 5YSP and identify how the TTC will serve customers in the coming year. They focus on modifying and improving service for our customers and refining previously identified service planning initiatives to address emerging and changing priorities.

The 2023 ASP will continue to refine the initiatives approved by the TTC Board in the 5-Year Service Plan & 10-Year Outlook (2020-2024), with a particular focus on three main priorities:

- **COVID-19 Learnings,** understand the travel patterns of customer groups who largely continue to use the TTC during the pandemic (low income, women and shift workers) and apply these learnings to identify needs and priorities that benefit all customers.
- **Line 3 surface network adjustments**, covering proposed changes to the bus network as a result of the Line 3 Scarborough closure; and
- **Line 6 surface network adjustments,** covering proposed changes to the bus network connecting to Line 6 Finch West.

From June to December 2022, the TTC will engage customers, stakeholders, and the general public to help inform the 2023 ASP. The consultation process builds on the 5-Year Service Plan & 10-Year Outlook (2020-2024), in which we committed to consulting the public and stakeholders annually to inform the development of detailed ASPs.

Consultations will follow a two-round process (see Figure 2). The final plan will be presented to the Board in early 2023.

Figure 2: 2023 ASP consultation plan

Round 1: June–August

Purpose:
- Better understand travel needs and priorities of people with low income, women and shift workers
- Share and seek feedback on Line 6 network changes
- Share and seek feedback on Line 3 network changes

Activities:
- Stakeholder meetings (2)
- Focus groups (3)
- Online survey (3 topics)

Round 2: September–December

Purpose:
- Share and seek feedback on final draft of 2023 ASP, including Line 6 and Line 3 network changes and other service initiatives developed from Round 1

Activities:
- Stakeholder meetings (2)
- Youth Ambassadors
- Pop ups (8)
- Online survey

2. 5-Year Service Plan (2024-2028) & 10-Year Outlook Reset

Plan overview: Purpose and work plan

As we plan for a future beyond COVID-19, the purpose of developing a new 5YSP is to reset our vision for transit service and identify service strategies that support travel behaviours as a new "normal" begins to emerge.

The new 5YSP will be developed in consultation with customers and stakeholders and:
- Identify key opportunities to improve transit services based on a review of a new "normal" in terms of travel behaviours post-COVID, revised population and employment growth projections, a network performance review and immediate and longer-term enhancements to the higher-order transit network;
- Identify multiple, long-term resource scenarios that are in line with the City's Net Zero Strategy;
- Prioritize network-level service improvements to be implemented over the next five years under multiple resource scenarios; and
- Outline a five-year, service-focused business plan, including financial, fleet and facility and workforce requirements.

The new 5YSP will continue the TTC's corporate focus on preparing transparent, customer-facing, multi-year plans that:
- Set the foundation for future annual service plans that will outline in-detail service improvements for the upcoming year;
- Identify and link service-related operating and capital cost requirements over a five-year period, which will provide the public, the TTC Board and elected officials with a transparent blueprint; and
- Bridge the gap between the TTC's near-term transit planning with long-term population and employment growth projections, rapid transit plans and the Official Plan.

The new 5YSP will be realistic in the actions it identifies to ensure what is being planned can be delivered. This includes planning within the constraints of the TTC Operating Budget and Capital Budget. As such, the new 5YSP will be developed noting the following key financial assumptions over the next five years:
- **Operating Budget:** The TTC 2024 Operating Budget will increase to account for the annualized cost associated with implementing 2023 service changes only. Between 2024 and 2028, multiple funding scenarios will be prepared to account for a range of possible service adjustment scenarios.
- **Capital Budget:** The availability of fleet, including buses, streetcars and subway trains, and facilities will generally align with the TTC Capital Investment Plan and Real Estate Investment Plan.

The 5-Year Service Plan (2024-2028) & 10-Year Outlook work plan includes six major tasks and three rounds of consultation as described in Attachment 1. Future rounds of consultation will make reference to, and be aligned with, the emerging information being included in the new Corporate Plan. The new plan will also draw on TTC employee

engagement work, including the TTC employee pulse check surveys. The plan will be presented to the TTC Board at its December 2023 meeting.

3.   Lessons learned from COVID-19

The following sections highlight the findings from an analysis of COVID-19 ridership patterns and identifies opportunities for the TTC to further meet the needs of its customers. For the full analysis, please review the technical report in Attachment 2.

The analysis is largely focused on the bus network and compares two key time points (prior to 2022) with 2019 pre-pandemic trends:
1. **Peak pandemic** – Spring (March-May) 2020 – the point in time where only essential trips were being made; and
2. **Most stable reopening** – Fall (October-November) 2021 – the point in time where the city saw the lowest level of restrictions (prior to 2022) and the most stable in terms of trips/activity.

Unless otherwise stated, ridership noted within this report is referring to boardings (unlinked trips).

Customers who continued to rely on the TTC have travel behaviours that differ from the traditional 9-to-5 office worker.

Immediately following the lockdown in March 2020, all stops saw their volumes significantly reduced. Despite the reduced ridership, some stops remained busy with high usage and a number of stops across the system retained a high percentage of their pre-COVID ridership activity. The most used stops during the peak of the pandemic are shown in Figure 3. The majority of the busiest stops are found in NIAs in the northwest part of the city. This is no surprise as there are a number of essential workplaces in this part of the city, and many residents rely on transit as their main mode of travel.

As re-openings continued throughout mid-2021, ridership had begun to steadily increase, peaking at 53% in December 2021 prior to the Omicron wave. The map (Figure 4) below shows the busiest stops across the city in fall 2021.

As shown in the maps below, throughout the pandemic, there was very little change in and/or between, the top 10% of stops. Geographically, the most used stops remained along key corridors, such as Jane, Dufferin and Finch West, serving NIA's and essential destinations. Collectively, the top 10% of stops in each time period make up the majority of all daily boardings ("ONs") for the network.

Customer research performed by the TTC over the course of the pandemic supports these findings. Survey results found that most trips being made were essential errands, with 54% of customers selecting that reason. Commuting to work or school was the second most popular reason, with 41% of customers selecting that reason. Pre-pandemic (CSS Q4 2019) commuting was the top travel purpose (47%), followed by attending to personal business (26%).

Survey results also showed that essential errands were being disproportionally made by women. It was also found that customers with low income were more likely to have continued taking the TTC than customers with high income, which corresponds with many essential industries, such as retail, manufacturing, food processing, and warehousing having primarily low-wage workers.

The observed trends and customer research collected during the pandemic suggests that there were three key customer groups that continued to rely on transit throughout the COVID-19 pandemic: people with low income, women and shift workers. Through our literature review, we know that these three customer groups have different travel behaviours compared to the 9-to-5 office worker. They generally travel in off-peak times, make longer bus trips to destinations spread out across the city and women often trip-chain, making multiple stops during their trip (see Table 1).

Table 1: Summary of travel behaviours

Customer group	Travel behaviours
Low income	Off-peak travel, longer bus trips to lower-paying jobs spread across the city
Shift worker	Off-peak travel to accommodate varying shift times (early morning, late evening, etc.)
Women	Off-peak travel that generally involves trip-chaining

There is an opportunity to learn more from these customers and understand how the TTC can best meet their travel needs.

Figure 3: Spring 2020 – Top 10% busiest stops – Total daily boardings ("ONs")

Top 10% Stops
Spring 2020, Total Daily ONs

- · 70 - 500
- · 500 - 2,000
- ● 2,000 - 5,000
- ● 5,000 - 16,500

Neighbourhood Improvement Areas

Employment Areas
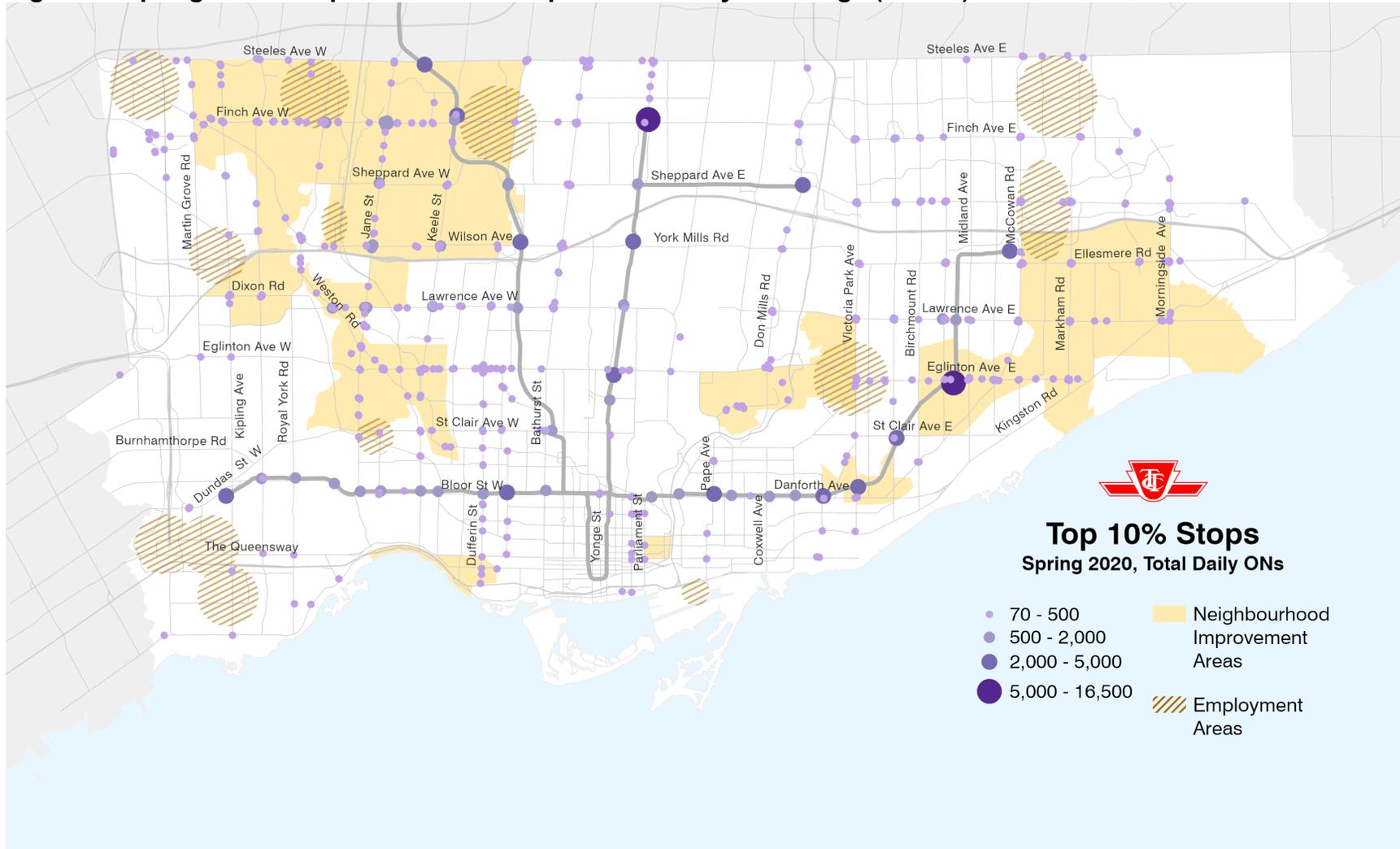
Figure 4: Fall 2021 – Top 10% busiest stops – Total daily boardings ("ONs")
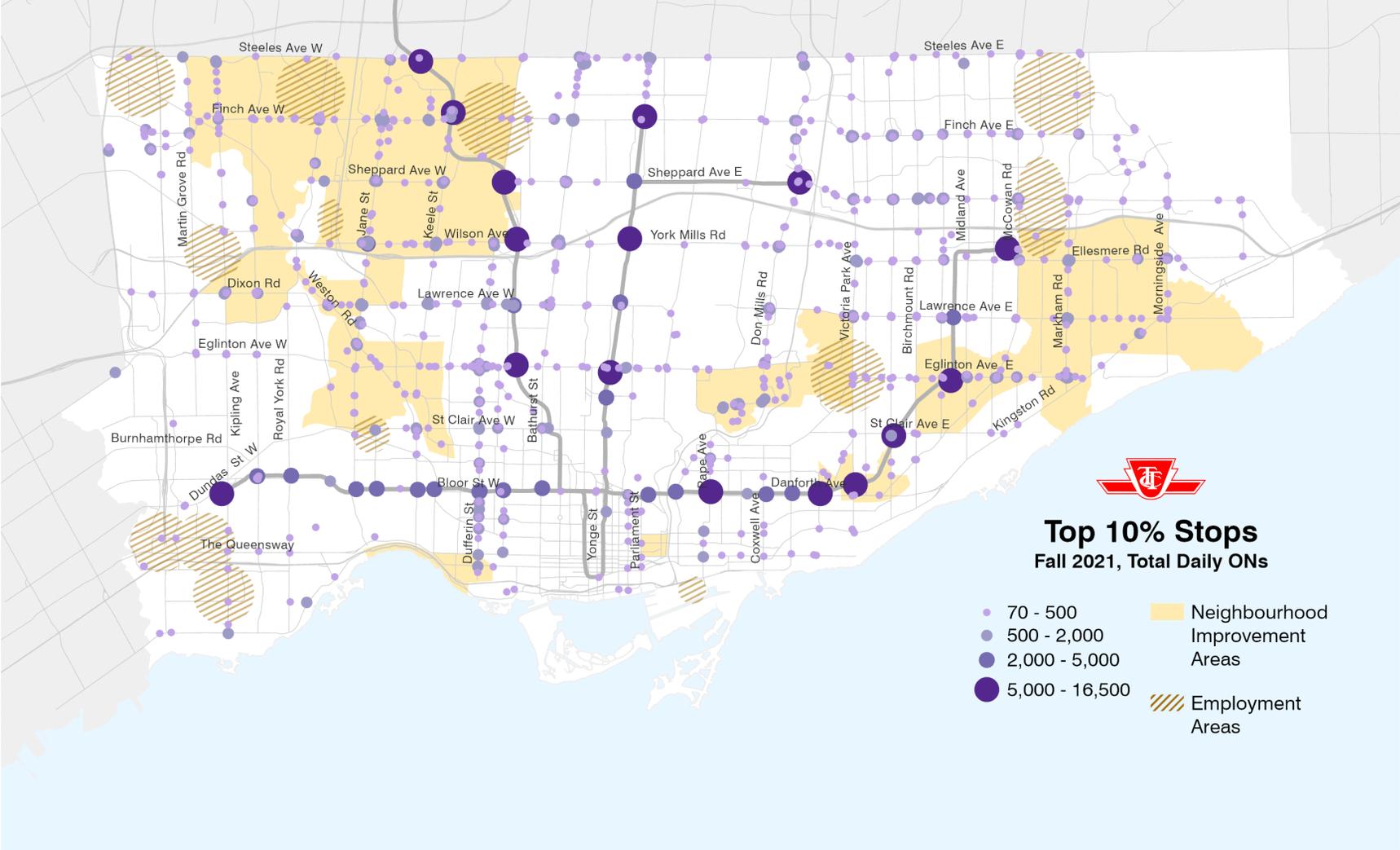
Top 10% Stops
Fall 2021, Total Daily ONs

· 70 - 500
· 500 - 2,000
· 2,000 - 5,000
· 5,000 - 16,500

Neighbourhood Improvement Areas

Employment Areas

Customers continued to use the bus network in much the same way as they did pre-COVID, but with fewer riders overall and with a few exceptions.

Prior to the pandemic, 50% of TTC trips were destined to the downtown core, where a large portion of professional and general office employment is located. With office-workers and post-secondary students working and learning from home, the share of trips being made by essential workers increased. As essential trip destinations (such as warehouses, hospitals and grocery stores) are more spread out, bus routes that crossed the city and connected to a higher number of these destinations had the most ridership. While nearly all TTC routes connect to rapid transit, bus routes are more than a feeder to the subway – they are arranged in a grid that is designed to maximize the number of connections that customers can make to other routes, allowing them to reach various destinations across the city. This allows the TTC to serve demand that is dispersed along corridors and across the city efficiently.

The pre-COVID high-ridership corridors largely remained the busiest corridors during the pandemic. Eighteen of the top 20 busiest bus routes by boardings in 2019 remained our busiest during 2020 and 2021.

Changes in ridership patterns that did occur demonstrate the importance of transit for people making essential trips.

There are many smaller routes that out-performed major routes in terms of the percentage of ridership retained from 2019, demonstrating the vital role they play in connecting customers to essential trip destinations, such as employment areas, hospitals and grocery stores. Figure 5 and Table 2 below shows the ratio of ridership retained, as well as whether they serve an NIA or employment area. Thirteen of the top 20 routes travelled through NIAs, demonstrating that low-income residents continued to rely on the TTC to run essential errands and to access essential work.

Figure 5: Spring 2020 ratio of ridership retained from 2019

Ridership Retainment
Spring 2020 compared with 2019

— Top 20 Routes by Retainment %
— Bottom 20 Routes by Retainment %
▨ Neighbourhood Improvement Areas
▨ Employment Areas

Table 2: Spring 2020 top 20 routes by ratio of ridership retained from 2019

Route	2019 Ridership	2020 Ridership	2020 ratio of ridership retained (%)
22 Coxwell	5,235	2,155	**41%**
46 Martin Grove	7,375	2,925	**40%**
161 Rogers Rd	4,400	1,680	**38%**
73 Royal York	8,600	3,280	**38%**
123 Sherway	6,545	2,475	**38%**
117 Alness-Chesswood	1,600	575	**36%**
65 Parliament	4,960	1,740	**35%**
40 Junction-Dundas West	6,645	2,325	**35%**
36 Finch West	52,985	18,405	**35%**
160 Bathurst North	3,280	1,135	**35%**
118 Thistle Down	3,200	1,100	**34%**
41 Keele	19,915	6,820	**34%**
35 Jane	43,060	14,550	**34%**
69 Warden South	4,400	1,480	**34%**
70 O'Connor	6,550	2,180	**33%**
80 Queensway	2,150	705	**33%**
7 Bathurst	26,470	8,665	**33%**
79 Scarlett Rd	7,290	2,380	**33%**

Route	2019 Ridership	2020 Ridership	2020 ratio of ridership retained (%)
89 Weston	17,625	5,720	**32%**
113 Danforth	6,071	1,935	**32%**

These routes were less sensitive to changes in demand as a result of public health restrictions, meaning that a greater share of their pre-COVID ridership was already making an essential trip. Although most of these routes are not major grid routes, they play a vital role in connecting customers to essential trip destinations, such as employment areas, hospitals and grocery stores. In addition to major grid routes operating on arterial roadways, essential routes such as the ones shown in the map (Figure 5) could be considered as part of a base bus network.

Figure 5 and Table 3 also highlight the routes with the lowest ratio of ridership retained compared to 2019. These routes are mostly concentrated in the northeast area of the city where a larger portion of high-income professional workers lives. It is important to note that 39 Finch East is highlighted as the lowest percentage of ridership retained. However, it does fall within the top 20 corridors in terms of ridership. This indicates the route has a diverse ridership profile. Many people rely on it to make essential trips, but, a large portion of its customers also stopped riding during the peak of the pandemic.

Table 3: Spring 2020 bottom 20 routes by ratio of ridership retained from 2019

Route	2019 Ridership	2020 Ridership	2020 ratio of ridership retained (%)
39 Finch East	58,635	6,990	**12%**
109 Ranee	4,610	685	**15%**
134 Progress	10,160	1,605	**16%**
88 South Leaside	4,820	780	**16%**
167 Pharmacy North	1,665	275	**17%**
13 Avenue Rd	2,050	345	**17%**
19 Bay	9,285	1,575	**17%**
74 Mount Pleasant	2,315	400	**17%**

Route	2019 Ridership	2020 Ridership	2020 ratio of ridership retained (%)
25 Don Mills	44,610	7,710	**17%**
61 Avenue North	3,785	660	**17%**
11 Bayview	10,140	1,815	**18%**
63 Ossington	23,220	4,165	**18%**
55 Warren Park	1,695	305	**18%**
51 Leslie	3,120	565	**18%**
38 Highland Creek	10,470	1,900	**18%**
53 Steeles East	24,480	4,510	**18%**
122 Graydon Hall	4,730	875	**19%**
42 Cummer	8,430	1,570	**19%**
24 Victoria Park	29,225	5,660	**19%**
57 Midland	12,640	2,505	**20%**

In mid-2021, as more and more restrictions were lifted, ridership started to steadily increase. This resulted in ridership peaking at 53% in December 2021. There continued to be many other routes that out-performed major routes in terms of the percentage of ridership recovered from 2019. Figure 6, Table 4 and Table 5 below show the ratio of ridership recovered, as well as whether they serve an employment area or NIA. A similar trend as in spring 2020 continued, with routes with stronger recoveries having been more likely to serve neighbourhood improvement and employment areas. However, this correlation was weaker compared to spring 2020 as other trip purposes such as secondary schools, retail centres, and some offices had re-opened.

Figure 6: Fall 2021 ridership recovery ratio compared to 2019

Ridership Recovery
Fall 2021 compared with 2019

— Top 20 Routes by Recovery %
— Bottom 20 Routes by Recovery %
▨ Neighbourhood Improvement Areas
▨ Employment Areas
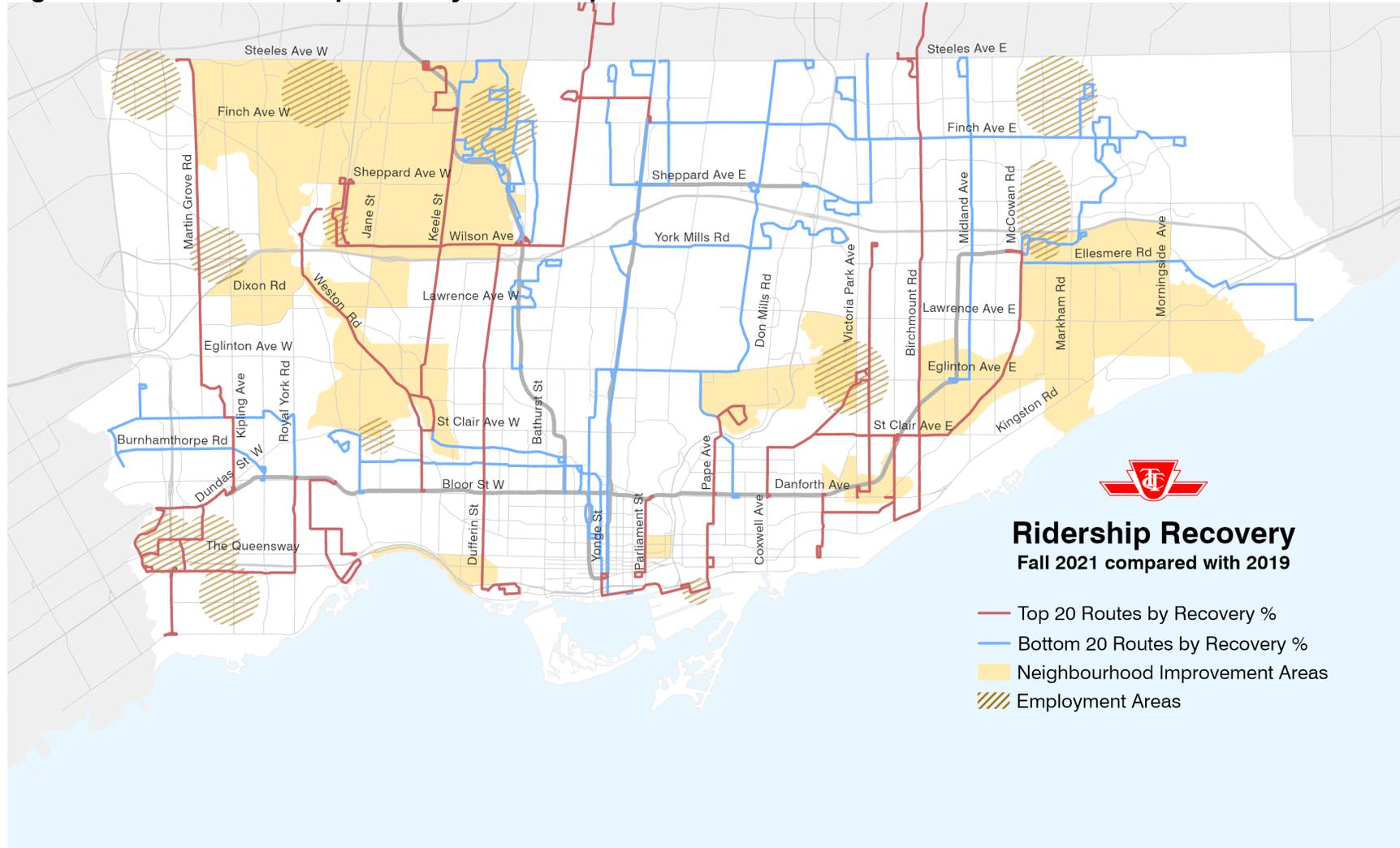
Table 4: Fall 2021 top 20 routes by recovery ratio

Route	2019 Ridership	2021 Ridership	2021 Ridership Recovery
119 Torbarrie	1,685	1,625	**96%**
41 Keele	19,915	19,110	**96%**
64 Main	4,075	3,295	**81%**
123 Sherway	6,545	5,210	**80%**
69 Warden South	4,400	3,470	**79%**
29 Dufferin	43,210	33,835	**78%**
67 Pharmacy	5,730	4,310	**75%**
81 Thorncliffe Park	6,455	4,840	**75%**
160 Bathurst North	3,280	2,455	**75%**
66 Prince Edward	5,030	3,700	**74%**
65 Parliament	4,960	3,565	**72%**
89 Weston	17,625	12,610	**72%**
70 O'Connor	6,550	4,660	**71%**
16 McCowan	11,240	7,965	**71%**
135 Gerrard	2,385	1,685	**71%**
125 Drewry	3,205	2,220	**69%**
17 Birchmount	11,125	7,665	**69%**
46 Martin Grove	7,375	5,075	**69%**

Route	2019 Ridership	2021 Ridership	2021 Ridership Recovery
72 Pape	8,555	5,890	**69%**
15 Evans	2,550	1,755	**69%**

Table 5: Fall 2021 bottom 20 routes by recovery ratio

Route	2019 Ridership	2021 Ridership	2021 Recovery
26 Dupont	3,845	1,325	**34%**
19 Bay	9,285	3,220	**35%**
134 Progress	10,160	3,670	**36%**
55 Warren Park	1,695	665	**39%**
13 Avenue Rd	2,050	810	**39%**
167 Pharmacy North	1,665	700	**42%**
38 Highland Creek	10,470	4,435	**42%**
57 Midland	12,640	5,370	**42%**
39 Finch East	58,635	25,625	**44%**
97 Yonge	4,490	2,015	**45%**
122 Graydon Hall	4,730	2,185	**46%**
117 Alness-Chesswood	3,005	1,440	**48%**
127 Davenport	1,595	770	**48%**
56 Leaside	4,310	2,090	**49%**
109 Ranee	4,610	2,245	**49%**

Route	2019 Ridership	2021 Ridership	2021 Recovery
104 Faywood	3,305	1,610	**49%**
50 Burnhamthorpe	2,400	1,180	**49%**
48 Rathburn	2,055	1,015	**49%**
98 Willowdale-Senlac	2,420	1,195	**49%**
51 Leslie	3,120	1,560	**50%**

41 Keele was the only route to have joined the top 20 busiest routes in both spring 2020 and fall 2021, serving NIAs and employment areas.

41 Keele was also a top 20 corridor by ridership retained and recovery in both spring 2020 and fall 2021. Minor local routes serving essential errands and employment areas also recovered strongly in both periods, such as 123 Sherway. Although they do not cross the city, minor routes such as these are vital for residents accessing essential work and services, such as grocery stores. This analysis reinforces the widespread use of the bus network and confirms that service coverage across the city is important. Customers rely on our routes for a variety of purposes, therefore, it is important to maintain service on our expansive network.

As routes serving neighbourhood improvement and employment areas generally experienced stronger ridership recovery, there are opportunities to review service levels and connections to ensure the routes continue to meet the needs of our customers. For routes experiencing slower recovery there are opportunities to review service levels to match capacity with demand and to explore alternative service delivery options, such as microtransit, in an effort to maintain coverage.

Customers who continued to make essential trips made those trips at different times of day compared to office workers. In the onset of the pandemic, this became evident as some time periods retained a higher share of ridership than others.

With essential errands making up most trips, afternoons, including the midday and afternoon-peak periods, as well as weekends, recovered faster compared to the morning peak period. Additionally, the early morning experienced stronger ridership recovery due to shift workers continuing to commute to work. Figure 7 below shows these trends over the course of the pandemic by showing the system-wide average daily weekday PRESTO tap profile by hour in spring 2019, spring 2020, and fall 2021.

Figure 7: System wide average daily weekday tap profile by hour
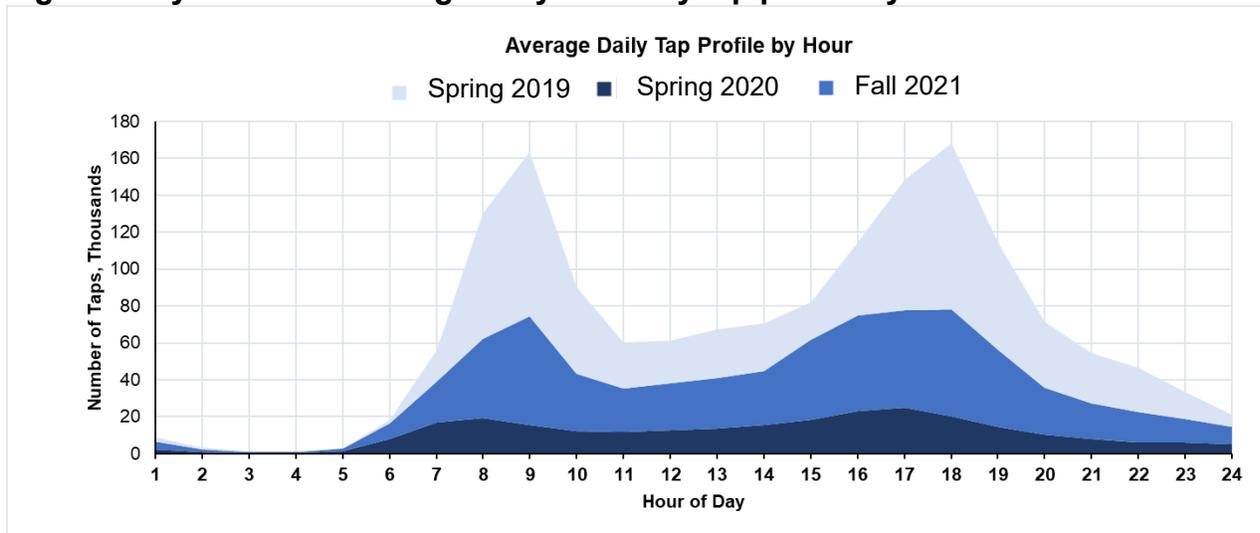
Figure 8 to Figure 10 show by mode the average daily weekday PRESTO tap profile by hour in 2019, 2020 and 2021. Note that the subway and bus profiles do not include customers that transfer from a bus to the subway and vice versa. For the subway and streetcar networks, both peak periods experienced the biggest decline in ridership, highlighting the significant role that the office worker plays in demand. By fall 2021, the decline in ridership on the bus network during the peak periods was smaller compared to the subway and streetcar networks. During the afternoon peak period, the first half of the period recovered faster, given that shift work and school tend to end at around 3pm.

There is an opportunity to review span of service to ensure service is provided at the right time of day for our customers.

Figure 8: Subway average daily weekday tap profile by hour

Average Daily Tap Profile by Hour - Subway
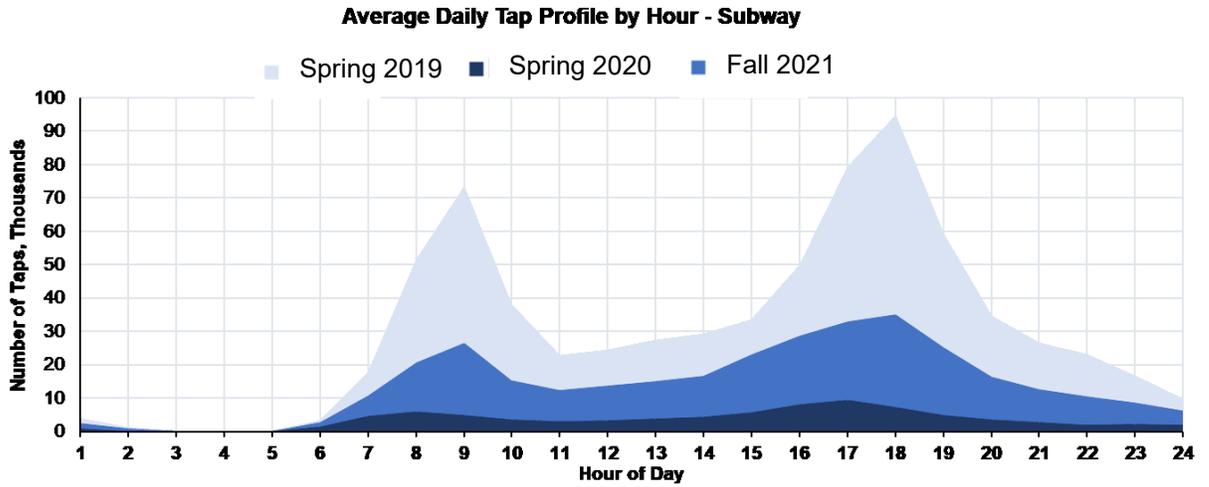
Figure 9: Streetcar average daily weekday tap profile by hour

Average Daily Tap Profile by Hour - Streetcar
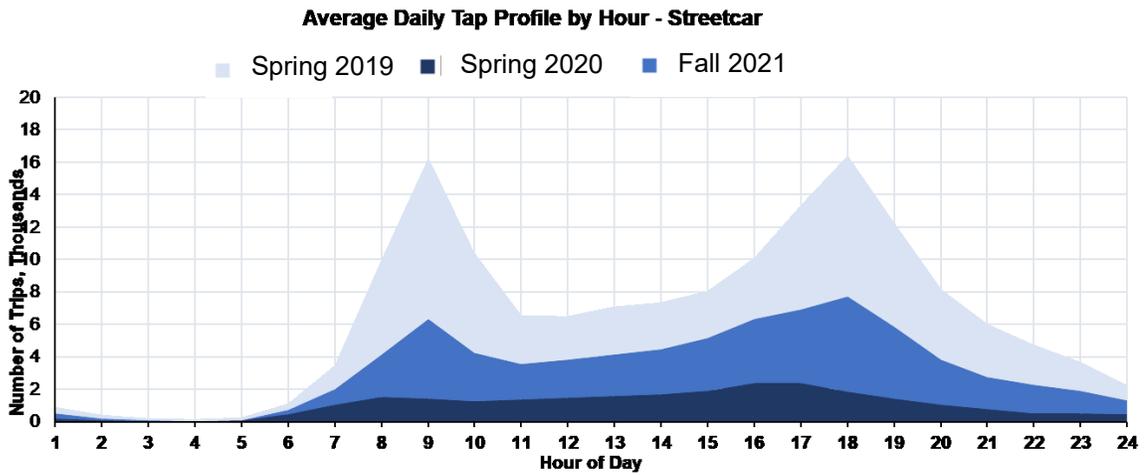
Figure 10: Bus average daily weekday tap profile by hour
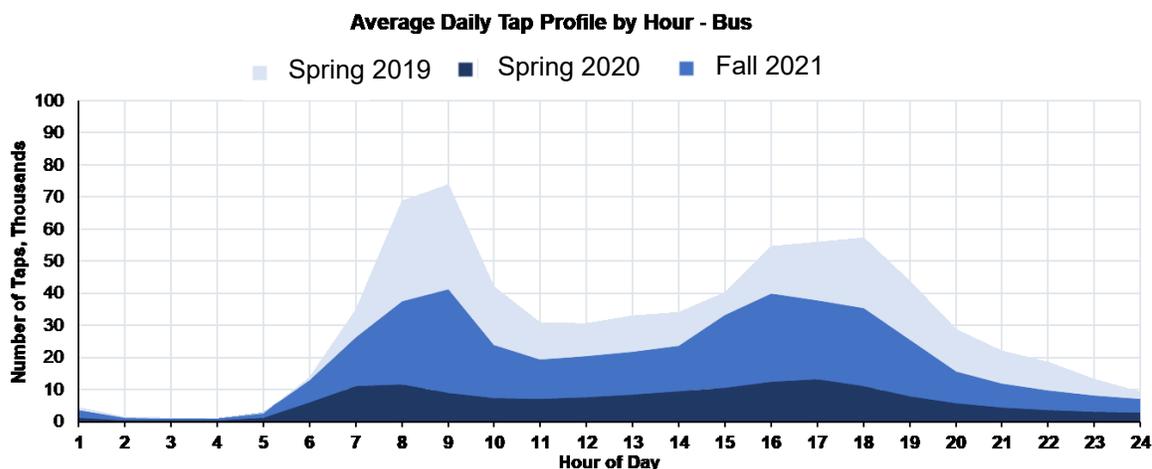
Average Daily Tap Profile by Hour - Bus

Transit priority treatments, such as priority bus lanes, are an effective tool that allow our customers to reach more opportunities in less time.

The TTC's route network is designed to provide service across all corners of the city. However, the fastest transit services (subways) are concentrated in the central and southern districts of the city that are most heavily settled, with the greatest density of population and employment. While the TTC provides frequent bus and streetcar service across all corners of the city, long travel times as a result of slow speeds operating in mixed traffic result in low-income residents living in the northwest and northeast parts of the city having significantly less access to opportunities. The COVID-19 pandemic further exacerbated this trend, as essential workers continued to make long bus trips to essential destinations spread out across the city.

By November 2021, many activities, such as retail, dining, schools, and some offices, had reopened. Traffic volumes across the city had recovered to more than 85% of pre-pandemic levels. Bus travel times are generally comparable to pre-pandemic times, with some segments on Jane Street, Keele Street and Steeles Avenue West becoming slower. However, the Eglinton East corridor continued to experience travel time savings similar to the savings experienced during the peak of the pandemic in spring 2020. This is due to the installation of the Eglinton East RapidTO bus lanes in fall 2020.

RapidTO was a key action identified in the 5-Year Service Plan & 10-Year Outlook. As part of the plan, the TTC identified five corridors for transit priority treatment on some of the TTC's most heavily used bus routes in an effort to increase access to opportunities for those that need it most in the outer areas of the city.

Travel time analysis was conducted on the top five corridors to compare the impacts of bus lanes on RapidTO: Eglinton Avenue East. Figure 11 below shows the average travel times over the course of the pandemic on the top five corridors. As was the case across the network, travel times declined at the onset of the pandemic, but generally recovered by November 2021. Due to the installation of bus lanes, the Eglinton East RapidTO corridor was the most successful in maintaining its pandemic-induced travel time savings.

Figure 11: Travel time comparison on top five RapidTO corridors

Peak-Direction Travel Times in PM Peak

The results demonstrate that transit priority treatments, such as priority bus lanes, are an effective tool to improve transit service on busy bus corridors. As we look to recover from the pandemic, the need to improve bus travel times and ensure transit remains an attractive travel option, continues to be as strong as it was prior to the pandemic. On RapidTO: Eglinton Avenue East, bus lanes have successfully locked in the travel time savings that were achieved at the height of the pandemic when traffic congestion was minimal. Customers on this corridor now have faster travel times, which means they can reach more opportunities in the same amount of time.

The second RapidTO corridor currently being studied is Jane Street, between Eglinton Avenue West and Steeles Avenue West. Funds are included in the 2022-2031 Capital Budget and Plan to study and implement a preferred solution on Jane Street as well as a third corridor. Continued work on additional corridors would require additional funding.

In addition to the five corridors identified in the 5YSP, the City and the TTC are working to develop the RapidTO Bus & Streetcar Priority Plan. This plan identifies 20 corridors that will be studied over the next 10 years, with the goal of studying and implementing transit priority solutions on bus and streetcar corridors. In order to support an equitable and sustainable recovery, major bus and streetcar routes need to become faster and more reliable options for travelling across the city. The RapidTO Bus & Streetcar Priority Plan supports this objective. The plan will be presented to City Council in 2023 for approval.

Low ridership levels not only affect the TTC and its financial revenue, but it also affects the economic vitality of the city and region as a whole.

Prior to the pandemic, the TTC's largest customer group was the office worker, with the primary trip purpose being commuting to work. The largest impact on transit demand was a result of office workers telecommuting at the onset of the pandemic, which we estimate accounts for an average loss of 26% of pre-COVID demand.

While the pandemic has highlighted the critical role the TTC plays as an essential service, it has also highlighted the critical role of the office worker as a transit customer. The TTC's success as an essential service relied on the office worker customer group, as high ridership levels contributed to revenue that kept the TTC's expansive network funded. Many office workers are destined to downtown, in which case they take the subway for all or part of their trip. Many of these trips have a lower cost per passenger, which helps subsidize the rest of the network. COVID-19 upended this dynamic, creating severe funding challenges for the TTC.

Over the last two years, the TTC has been fortunate to receive COVID relief funding from the other orders of government in order to maintain high levels of service across the city. From the TTC's June 23 Financial Update, taking into account funds received up to January 2022, the TTC had received $1.453 billion in funding relief, which recognize the importance of public transit as an essential service and the critical role it plays in the city's environmental, social and economic well-being and vitality, particularly in post-COVID recovery.

Maintaining pre-pandemic service levels is critical to recovery in order to avoid the negative ridership spiral that could occur should major service cuts need to be implemented. This could leave many vulnerable Torontonians without a means of travel. In addition to continuing advocacy for a more sustainable funding model for transit, the TTC will continue to review service levels and explore innovative opportunities, such as microtransit, to ensure customers continue to have travel options.

Low ridership levels not only affect the TTC and its financial health, but it also affects the economic vitality of the city and region as a whole. A report from the C.D. Howe Institute in April 2021 estimated that there was an economic loss ranging between $1.2 billion to $1.4 billion in the Toronto region due to decreased agglomeration solely from examining TTC ridership losses, which includes those who stopped using transit but continued to make trips with another mode. These economic benefits will continue to diminish if people increasingly decide to telecommute, which will create a more geographically dispersed workforce.

The analysis completed by C.D. Howe demonstrates the importance of the TTC in the city of Toronto and how maintaining pre-pandemic service levels are critical to the economic recovery of the region. As businesses and households reconsider their long-term locations and travel decisions, it is imperative that the TTC continue to be an attractive travel option that makes it easy for people to travel around the city and experience the benefits of agglomeration.

Maintaining high levels of service over the course of the pandemic benefited our customers who needed it the most.

The TTC has a number existing policies and initiatives that support the travel behaviours and trends identified for people with low income, women and shift workers:

- All Day, Everyday Network
- Express Bus Network
- Blue Night Network
- 10-Minute Network
- Grid network design to facilitate transfers
- Off-peak crowding standard
- Two-Hour transfer
- Fair pass
- Request stop program
- Designated waiting areas
- Easier access
- Transit stop amenities
- Kids under 12 ride for free
- Real-time crowding information for bus network

This is largely due to the amount of service added from the 2015 Opportunities Report, which implemented a number of the initiatives in the list above. It provided a significant increase in off-peak service, which served our customers well during the pandemic.

The service added as part of this initiative, in addition to maintaining these levels of service during the pandemic, benefited our customers who continued to ride.

Building on the improvements made in 2015, the TTC's 5-Year Service Plan & 10-Year Outlook focuses on addressing the following:
- Delivering reliable and frequent service;
- Enhancing transit priority on the bus and streetcar network;
- Integrating surface transit with new rapid transit lines, neighbouring transit agencies and other transportation modes;
- Identifying local service improvement opportunities with community groups; and
- Improving the overall transit rider experience, from beginning to end.

The results of this analysis demonstrates and verifies that the pillars and actions identified in the 5YSP should continue to be implemented. Actions, such as 3.1 Improve surface transit schedules, 4.1 Explore bus transit lanes and 1.7 Apply an equity lens to service planning, all support the travel behaviours of customers that continue to rely on the TTC during the pandemic.

While the TTC has policies, standards and programs in place to support these key customer groups, there are always opportunities for continuous improvement.

4.   Conclusion

This report provides an overview of lessons learned with regards to COVID-19 over the past-two-and-a-half years. Based on the work completed to date, the findings of this report will form the basis for engagement with the community as part of the 2023 ASP process this year. Building on these findings, work will then begin to develop the next 5-Year Service Plan (2024-2028) & 10-Year Outlook, which will be presented to the Board in Q4 2023.

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Signature

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Attachments

Attachment 1 – 5-Year Service Plan (2024-2028) & 10-Year Outlook work plan
Attachment 2 – A review of ridership and travel patterns as a result of the COVID-19 pandemic

Attachment 1: 5-Year Service Plan (2024-2028) & 10-Year Outlook work plan

1.   Scope

Task 1 – Background review
In Task 1, the focus will be on a comprehensive background review to set the foundation for the new 5YSP. This will consist of a retrospective review of the existing 5-Year Service Plan & 10-Year Outlook, including the lessons learned from COVID-19. It will also focus on gaining a better understanding of our customers: who they are, where they travel, why they travel, and what do they see as the key areas for improvement. The background review will also assess existing service performance, identify future conditions that need to be accounted for, and review population and employment projections. Ultimately, Task 1 will conclude with a summary of opportunities that will drive the development of strategies to improve transit in the city of Toronto.

Consultation 1 – Expectations
A key component of Task 1 is a short online survey where the public will be asked about our emerging findings and their priorities for the TTC. It will be critical to understand how and if customer priorities have changed post COVID-19. This information will be used to guide Task 2 – developing a vision and strategic directions for the new 5YSP.

Task 2 – Vision and strategic directions
In Task 2, the Plan's vision and strategic directions will be set. This will provide a strategic framework that will guide the new 5YSP. An example of a strategic direction could be to prioritize surface transit on busy corridors.

Consultation 2 – Identification of concepts
Consultation 2 consists of the development of a public Discussion Guide-Toolkit with ideas to address opportunities. The TTC will also host six community pop-up events with the public and a city-wide stakeholder meeting (e.g. advocacy groups, associations and partner agencies). An online survey that matches the Discussion Guide will also be available for customers and stakeholders to provide feedback. The purpose of this consultation is to identify new and innovative service and infrastructure improvements that will effect change and transform the TTC. In these sessions we expect to obtain ideas on improvements that can be quickly implemented in a five-year horizon and major concepts that can inform future transit planning. These ideas will form the long list of transit improvements identified in Task 3.

Task 3 – Long list of transit improvements
Through in-person engagements and consultations, as noted in Consultation 2, a long list of transit improvements will be developed. The transit improvements could range from service (e.g. expand Blue Night Network) to infrastructure (e.g. transit priority measures), and will directly link back to the strategic directions identified in Task 2. An example of an improvement could be to introduce more early morning weekend service to support a strategic direction of expanding the span of service on weekends for shift workers.

Task 4 – Evaluation

The TTC will develop an evaluation framework based on numerous dimensions, including inputs captured in Consultation 1 and the TTC's Service Standards. The evaluation framework will be used to categorize, short list and prioritize the long list of transit improvements identified in Task 3.

Task 5 – Recommended plan

In Task 5, the TTC will develop a recommended 5-Year Service Plan & 10-Year Outlook. The recommended plan will be presented to the public and stakeholders for feedback as described in Consultation 3. The new 5YSP will also identify operating and capital cost requirements to implement the selected improvements. The new 5YSP will include a phasing and monitoring plan to ensure objectives are measurable and can be regularly reported to the TTC Board.

Consultation 3 – Review the plan

In Consultation 3, the TTC will share the recommended new 5YSP with the public, stakeholders and the TTC Board. The purpose of this consultation is to obtain confirmation that the new 5YSP meets expectations and identifies actionable improvements that achieve the Plan's vision and strategic directions. A second public Discussion Guide / Toolkit will be developed. A second city-wide stakeholder meeting will be held and an online survey will be available for feedback.

Task 6 – Final report

A final report will be prepared and presented to the TTC Board in December 2023.

A review of ridership and travel patterns as a result of the COVID-19 pandemic

Contents

1   Introduction

The arrival of COVID-19 in early 2020 set forth an unprecedented scale of disruption all across the globe, leading to business and public facility closures and stay-at-home orders. It has upended many aspects of our lives—including how we get around. This change may be most pronounced in Canada's major cities, such as Toronto, where public transit plays an essential role in connecting people to activities that drive the economy.

Prior to the pandemic, the TTC averaged up to 1.8 million riders per day connecting customers to work, school, social events, and other activities that drive an economy representing 20 percent of Canada's total GDP. In March 2020, the TTC's ridership decreased drastically (down 88% at the lowest point) not only due to closures of workplaces and destinations, but also due to a fear of virus transmission. Despite the steep decline, the TTC continued to carry approximately 200,000 daily revenue rides with customers making trips to access essential work, groceries, pharmacies and care. For many, public transit is the primary mode of mobility.

Although the pandemic has been tragic and traumatizing in many ways, it has presented an opportunity to reassess priorities and to consider what it will take to build a city that is more vibrant, equitable, resilient, and liveable. The TTC will play an important role in the recovery from COVID-19.

In 2019, the TTC developed a 5-Year Service Plan (5YSP), that identifies the service, resource and funding needs to improve transit between 2020 and 2024. The plan focuses on making improvements that enhance the TTC's core-competency: mass transit – moving large volumes of customers safely, reliably and swiftly across Toronto. The plan identifies five pillars of opportunity that enhances every step of our customers' journeys on the transit system (see Figure 1).

Figure 1: Five pillars of opportunity
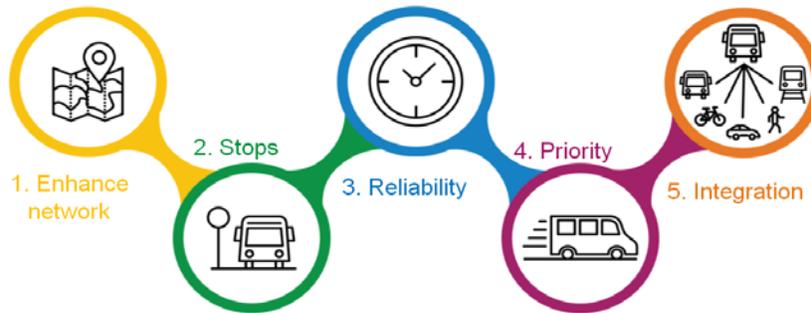
The pillars in the 5YSP translate to a 20-point action plan that are implemented through annual service plans over the term of the 5YSP. The implementation of the initiatives is contingent on a number of interdependent factors, including an assessment of when resources will be available and the assumption that major projects will be implemented as planned.

We are currently in year three of the 5YSP and staff have started preparing for the 2023 Annual Service Plan (ASP). Although many of the initial 20 actions have continued to be implemented, some actions have been deferred due to the COVID-19 pandemic. Since the beginning of the pandemic, the TTC has been adjusting its service plan to serve our customers and their evolving need for public transit service. Given that we are now two and a half years in to this pandemic there is an opportunity to reflect on actual service experience during the pandemic and review in detail the 5YSP pillars and 20-point action plan to ensure they continue to meet the needs of our customers.

The purpose of this report is to outline the actual service experience and key findings from the COVID-19 pandemic to date. This will allow us to refresh our guiding principles for the 2023 Annual Service Plan and set early findings for a new 5-Year Service Plan & 10-Year Outlook.

The report is divided into the following sections:

- Background Review
  - A review of broader city and transit trends as it relates to the COVID-19 pandemic
- Who continued to ride
  - A stop level review to identify customer groups who continued to use the TTC
- Where people travelled to
  - A route level review to identify which routes customers continued to rely on
- What time of day people travelled
  - A time of day review to identify when customers continued to ride the TTC
- Importance of RapidTO
  - A review of the impacts of RapidTO
- Economic importance of transit in the City of Toronto
  - A review of the role the TTC plays in the economic vitality of the city
- Policy analysis
  - A review of how existing TTC policies support the findings of this report
- Opportunities for further study
  - Identification of opportunities for the TTC to continue to improve service for its customers

2 Background review

2.1 Review of broader city trends during the COVID-19 pandemic

Across North America, the COVID-19 pandemic drastically changed the way people lived, worked and travelled. The most notable change occurred during the first few months of the pandemic where millions of people stayed home to follow public health guidelines. Employers switched to remote work, students switched to remote learning and many people lost their jobs as destinations such as event venues and tourist sites closed. At the same time, millions more people continued to go to work, providing essential services in places such as healthcare facilities, grocery stores, transit service, first responders, manufacturing and delivery services. This section presents an overview of the broader urban trends observed and the response from various cities across North America.

In the first few months of the pandemic, Canadians drastically altered their travel patterns. Employers quickly implemented work-from-home policies. As a result, by the middle of 2020, 27% of Canadians were working from home (compared to 4% before the pandemic). People who telecommuted no longer travelled to and from their offices. People with children no longer dropped them off at school—and children themselves stayed home. There was also a shift of consumer spending from brick-and-mortar to online e-commerce as a result of the closure of in-person shopping to non-essential services. Over the course of the pandemic, the proportion of the population that was telecommuting ranged between 24% and 30% depending on which stage of re-opening was in place.

Once bustling central business districts (CBDs) had emptied out, while once-sparse suburban neighbourhoods had become busier as remote workers looked for activities in and around their neighbourhoods.

Essential workers who could not work from home continued to commute to their place of work. Those who had access to a car continued or began driving to work. However, a large portion of essential workers continued to rely on public transit for their commute. Cities worldwide experienced large drops in congestion on all modes of transportation, and specifically during the peak hours. Rush hour on roads and transit lines flattened out, and demand became relatively even throughout the day. This was a result of fewer people travelling for work and a large portion of commuters travelling to essential workplaces with nontraditional shift times.

Economic impacts

There are many benefits to living in a large city, such as being in close proximity to a large job and employee market, having access to a wide range of services and infrastructure, and learning from others face-to-face. These wider economic benefits— what economists call agglomeration—are a key element of why cities exist in the first place. Agglomeration theory contends that people who live and work near one another

produce more jobs, expand the economy more quickly, and offer greater innovations than people living and working in more dispersed living environments.

In a large city, public transit is an essential component that enables the benefits of agglomeration by people coming together. It allows more people in an area to connect with each other, than they otherwise would be able to. As the number of people who can connect in person rises, so do their incomes. Therefore, public transit provides wider economic benefits to people who use transit and live or work near transit. With office occupancy persistently at such low levels across major cities in North America, the economic benefits from agglomeration are reduced. Many of the things that make life in our cities so vibrant: restaurants, shopping, entertainment, or going to the office to learn from colleagues, disappeared during the pandemic. Post-pandemic, as more Canadians work from home, cities will face the challenge of bringing people back together to enjoy urban life.

Response to observed trends

In response to these and other trends sparked by the pandemic, cities implemented various initiatives with the purpose of sustaining their economy, supporting local businesses, and improving vibrancy and livability. These include outdoor dining areas, open streets, slow/quiet streets, and temporary and permanent cycling and transit infrastructure.

With previously heavily-travelled streets having emptied, as well as with local businesses including restaurants bearing the financial impact of the lockdowns, one initiative to increase the vibrancy of central business districts and urban neighbourhoods, as well as to support outdoor dining, was the creation of temporary patio areas, often accompanied by new pedestrian-only zones. Various North American cities including New York, San Francisco, Boston, Chicago, and Montreal designated thoroughfares to be pedestrian-only, installing dining structures adjacent to restaurants and adding public seating areas.

The data demonstrated that these initiatives were successful in increasing vibrancy and supporting local businesses. In Brooklyn, businesses along a car-free road reported an average of 54% more customers visiting after the first month. In 2021, both New York and San Francisco approved permanent programs for outdoor dining structures, as did the City of Toronto for the CaféTO program.

Other initiatives aimed at encouraging residents to spend time outside, and to, once again, increase vibrancy, were through the expansion of open streets programs. In New York, programming was scheduled as part of the open streets program, consisting of community-led initiatives ranging from outdoor English classes, to board games, to family bike rides. Many other cities, such as Oakland, Denver, and San Francisco, also implemented slow-street and open-street programs, targeting local residential streets as well as larger thoroughfares ideal for active transportation, such as San Francisco's ocean-side Great Highway. Similarly, the City of Toronto implemented the Quiet Streets

program on residential streets and ActiveTO which opened major corridors such as Lake Shore Boulevard to active transportation by restricting vehicular use.

Cycling also saw big increases in popularity for recreational activity as well as an alternative to make essential trips. With streets being much less congested and quieter than before the pandemic, many cities installed temporary bike lanes so as to enable cycling for essential trips and recreational use and to protect against an anticipated surge in traffic once businesses re-opened. Many temporary bike lanes were made permanent as they proved useful for essential trips, attracted customers to nearby local businesses, and improved the resiliency and sustainability of the transportation network. Improved cycling infrastructure also accommodated a major increase in food deliveries by bicycle, improving safety for vulnerable workers.

In Paris, a significant amount of cycling infrastructure was installed as part of the mayoral administration's goal to create a 15-minute city, as well as to relieve transit crowding and help maintain the sharp pandemic-induced decrease in traffic congestion.

In North America, Montreal installed about 300 km of temporary cycling and pedestrian paths, much of which became permanent, while Portland sped up existing plans that targeted for 90% of residents to live in "complete neighbourhoods", planning to build over 100 km in cycling paths to achieve this. In the City of Toronto, the temporary bike lanes along Bloor Street, Danforth Avenue, and University Avenue became permanent in 2021, with part of Yonge Street having begun a pilot in spring 2021.

A trend similar to that with cycling took place with buses. At the onset of the pandemic buses became faster and more reliable without having to fight traffic congestion. Recognizing the important role transit played in moving essential workers, and in wanting to ensure that some of those benefits to transit would be maintained as traffic was anticipated to return, some cities expedited the creation of bus-only lanes. In San Francisco a network of bus lanes was designated as an emergency response measure as to bypass environmental reviews, and in New York the mayor announced an expansion of over 20 miles of bus lanes and made one busway pilot permanent. In 2021, following consultation and environmental review, San Francisco approved making the network of temporary emergency bus lanes permanent. The City of Toronto followed a similar approach, having expedited the implementation of bus lanes on the Eglinton Avenue East corridor in 2020.

The City of Boston incorporated priority bus measures such as bus lanes on certain corridors and improved stop areas into their Healthy Streets program, which also included bike lanes and outdoor seating, all of which were implemented as phases throughout 2020 and continued into 2021.

Conclusion

With the sharp fall in office activity across CBDs, cities everywhere have aimed to increase the vibrancy and livability of their central areas, as well as that of their residential areas that often saw an increase in activity. With the disappearance of traffic

congestion not having gone unnoticed, cities also aimed to manage the anticipated surge of traffic as part of re-openings through temporary and permanent cycling and transit infrastructure.

2.2 Review of broader transit trends

The impact of the COVID-19 pandemic on transit ridership cannot be understated, having impacted not just the overall travel demand, but also sparked major challenges for transit agencies over the course of the two years since it began. The following section will look at the ridership trends over the course of the pandemic, immediate responses transit agencies made in the early-stages of the pandemic, and recent challenges and initiatives that transit agencies have recently made as a result of pandemic-induced challenges.

In the onset of the pandemic most people stayed home, either working or studying remotely, or having lost their job due to the shutdowns of many industries or from the economic uncertainty that arose. However, one customer group continued to use transit: those making essential trips. This included trip purposes such as buying groceries and working in essential jobs in key sectors such as healthcare, food-processing, manufacturing, and warehousing.

In Canada, transit ridership fell by approximately 85% in May 2020, recovering to about 40% by the end of the year.

In the US, throughout March and April of 2020, transit ridership dropped by 70% on bus, 80% on light rail, and about 90% on both heavy and commuter rail. As re-openings began across the US in the summer of 2020, generally continuing but varying widely by region into 2021, bus ridership held between 40-50% of pre-pandemic ridership, increasing to about 60% following widespread vaccination rollouts, while nationwide US ridership surpassed the 50% mark, reaching 58% by December 2021.

Toward the end of December 2021, the COVID-19 surge due to the Omicron variant led to reduced travel among Americans, and also had significant impacts on public transportation workforces and services. Ridership dropped to 49% of pre-pandemic levels in the first weeks of January 2022. As the Omicron wave subsided, public transportation ridership began to rise again, and from mid-February 2022 to April 2022 was approximately 60 to 65% of pre-pandemic levels.

APTA's On the Horizon study aimed to understand who continued to ride transit during the pandemic, and made use of demographic information to convey this. They found that while white men – more likely to work in office jobs in the typical 9-5 commute – declined their transit usage more than other demographics; namely it was visible minorities, Spanish-speakers, women, and those with low incomes who made up higher portions of those using transit, correlating with in-person jobs such as retail, food service, health care, and construction, among others.

For example, in Los Angeles, a survey conducted in spring 2020 found that about half of customers were depending on transit to run essential errands. The SFMTA found a similar trend, with local routes maintaining more of their ridership when compared to routes connecting to downtown and the Financial District. This resulted in varying changes in ridership patterns from one neighbourhood to another due to the differences in demographics and in destinations.

Across the US, travel to CBDs declined across all modes, affecting rail more significantly due to its greater dependence on CBD-bound trips. However, travel that was between non-CBDs, such as between town centres and cross-town trips, experienced a lower decline, demonstrating that essential trips being made were to destinations spread out across the city – which is consistent with how industrial, retail, and healthcare uses are located within US metro areas. This was also the case in the Toronto area, where GO Transit commuter rail lines experienced a ridership decline of over 90%, up to 98% of some lines. At the TTC, buses experienced a lower decline when compared to streetcar and subway.

Across the US, ridership on routes was also dependent on the neighbourhoods they travelled through. Routes that travelled through neighbourhoods with a high proportion of visible minorities and low-income housing experienced less of a decline in ridership.

TransitCenter, an advocacy group for public transit based in New York, mapped the MBTA's routes overlaying their ridership recovery based on automatic passenger counter (APC) data and the share of low-income households those routes served. Generating maps showing the decline in ridership at each stop, they found that the greatest declines were in wealthier parts of the city, along with business, cultural, and university districts. Conversely, they found that bus routes travelling through working-class neighbourhoods, some where most households were low-income, retained over 40% of their ridership in spring 2020. Most noticeably, stops in industrial areas close to the periphery saw similar levels of ridership compared to the year prior, with some even being slightly higher.

In Denver, it was found that in September 2020, relative to August 2019, ridership at 7% of stops served by local routes had increased, with the largest increases being seen in the northern suburbs of Denver. Both areas had higher Hispanic populations and a lower per-capital income. However, 82% of rail and express stops, both disproportionally used more by commuters, experienced a ridership decrease of over 50%, and of 58% across stops along local bus routes.

Another notable trend across North America, was the time of day people travelled. Demand across the transit network flattened out, and demand became relatively even throughout the day. The morning rush hour was no longer the typical 7 a.m. to 9 a.m., but shifted earlier from 4 a.m. to 6 a.m., reflecting the large portion of essential workers travelling to essential workplaces with non-traditional shift times.

Immediate responses to COVID-19 in 2020

Almost every transit agency in the US and Canada reduced service as a result of pandemic-induced ridership losses, in addition to workforce shortages and financial constraints. The responses from transit agencies had varied widely, with some choosing to require rear-door boarding, resulting in the inability of many transit agencies to collect fares due to lack of fare equipment at the rear doors, while others eliminated routes or switched to a weekend schedule as a result of changing ridership patterns.

In Boston, the MBTA transitioned to a Saturday service as it was operationally straightforward to implement and resulted in the greatest reductions occurring in the peak periods, matching ridership as well. However, this resulted in immediate crowding on routes serving residents and destinations corresponding to essential trips. The schedules were then modified following review of APC data as to add service to routes serving medical centres and other routes that remained crowded. Additionally, the MBTA also made use of flexible shifts where operators would be informed of their route upon the start of their shift as to address crowding in a more flexible manner.

In San Francisco, the SFMTA, which just prior to the pandemic was experiencing a workforce shortage, eliminated a significant portion of local bus routes as to ensure that there would be sufficient capacity on their frequent routes. As the local routes were eliminated, customers were required to walk further to a frequent route, resulting in some customers no longer having access to transit. The SFMTA addressed this by introducing an essential trip card program, which subsidized taxi trips for seniors and people with disabilities by 20%. SFMTA also operated all of their routes on a headway, rather than a schedule, to maximize the runtime savings from decreased traffic congestion and translate the savings directly into providing additional capacity on routes.

In Pittsburgh, the Port Authority of Allegheny County followed a similar approach as the MBTA and the TTC, scheduling buses to be put on standby that can be put into service immediately when an operator reports high ridership and overcrowding.
In the GTA, Brampton Transit moved to a modified Saturday service, but began restoring weekday trips in June 2020 due to increased demand, specifically on routes serving essential employment areas. With a larger share of the population making essential trips, Brampton Transit's ridership dropped by 75% in April 2020, compared to by 85% on the TTC and 97% for GO Transit.

In Durham Region, Durham Region Transit (DRT) saw its ridership decline by 70% at the onset of the pandemic, but experienced much higher ridership losses on peak-period local bus routes that connected to commuter rail stations. In September 2020, DRT suspended 25 local bus routes and replaced them with on-demand service, re-allocating resources to a strengthened grid system that would provide 15-minute weekday daytime service. DRT established minimum productivity standards that defined when a local route would be justified, with some local routes being partially or fully restored as re-openings continued, with on-demand continuing to provide most local service in the Region.

Service restoration in 2021

In Canada, even with significantly decreased ridership, due to the need to maintain social distancing and network coverage and connectivity, transit agencies continued to offer very high levels of service. For example, at the end of 2020, even with 40% of ridership Canadian transit agencies were providing about 87% of regular service when compared to pre-pandemic service levels. Workforce issues throughout 2021 made restoring full service a challenge and continues to be a challenge in 2022. Some of these challenges include labour shortages due to employees resigning out of fear of virus infection, employees required to isolate due to exposure or contracting the virus and layoffs as a result of the mandatory vaccination policy.

As demand grew in 2021 following the vaccination rollout and continued re-openings, US transit agencies in major cities such as New York, Chicago, Washington DC, Philadelphia, San Francisco, and Los Angeles, were still operating at peak pandemic levels of service. Transit agencies that had suspended entire routes rather than reducing service levels across the network saw a decrease in connectivity across their network. The decrease in connectivity and span-of-service risks affecting the return of ridership, as well as disproportionally impacting those working in the service industry.

Improved communications

COVID-19 brought a lot of uncertainty and oftentimes inconsistent information. This highlighted the importance of agency communication and even spurred innovation. As a result, it was imperative for transit agencies to provide transparent information not only to the public but to their staff as well. Many transit agencies increased internal communications, providing numerous updates on different platforms to ensure all staff had up-to-date information. Agencies were also as open as possible with communications to the public, often providing daily updates on their website and social media account. Agencies implemented improved social media campaigns and signage to communicate rules and service levels. Virtual public meetings were held to gather public feedback and board meetings were live-streamed. With customers being more sensitive to crowding than ever before, some agencies such as the MBTA launched real-time crowding information in July 2020, allowing their customers to plan their trips ahead of time as to avoid crowding as well as to see if the bus they were planning to take is crowded or not. The TTC also launched real-time information in spring 2021. Riders who felt more informed about transit service were more likely to feel safe while using public transit.

Conclusion

Across North America, transit ridership plummeted as most people stayed home. However, one customer segment continued to use transit: those making essential trips. Almost every transit agency in the US and Canada reduced service as a result of pandemic-induced ridership losses, in addition to workforce shortages and financial constraints. The responses transit agencies varied widely across North America. In Canada, even with significantly decreased ridership, due to the need to maintain social

distancing and network coverage and connectivity, transit agencies continued to offer very high levels of service. The pandemic also provided an opportunity to learn about the customers who continued to depend on transit despite stay-at-home orders, helping highlight the equity impacts of local transit service as ridership continues to recover.

2.3 City of Toronto trends

Like other cities across North America, the City of Toronto was significantly impacted by the COVID-19 pandemic. As was the case elsewhere, the massive office towers in downtown that held hundreds of thousands of employees every day, emptied out. With an estimated CBD office occupancy of about 5% in the first few months of the pandemic, subway and commuter rail ridership plummeted, as did sales at businesses located underneath these office towers once they were allowed to re-open.

The Toronto Region Board of Trade (TRBOT) recovery tracker showed a consumer spending decline of about 87% in Toronto's CBD in April 2020, recovering to a high of 70% in November 2021.

According to the City of Toronto's 2020 Employment Survey, 79% of office workers (including 88% of tech workers) were working from home; however, this share was much lower in other sectors, namely 43% in manufacturing and warehousing, and 46% in retail and services. This discrepancy was visible in the city's transportation network; while downtown roads and transit lines emptied out, traffic congestion and bus ridership in outer parts of the city had not dropped by as much. However, there was a drop in employment overall, declining by 7.6% (119,890 jobs) over the course of 2020.

The City of Toronto responded in a similar way to its peers by implementing various initiatives to sustain the economy, support local businesses, and improve the vibrancy and livability of the city. These include CaféTO (outdoor dining areas), ActiveTO (open streets, slow/quiet streets, and temporary and permanent cycling infrastructure) and RapidTO (priority bus lanes).

CaféTO permitted the creation of outdoor dining areas on the public right-of-way – either on sidewalks or on the road where there was previously on-street parking or a traffic lane. The program was widely used, with over 1200 expanded dining opportunities created over the course of 2021, which was 51% more than in 2020. In late-2021 the city approved continuing CaféTO into 2022, with recommendations for a permanent permit program for 2023 onwards.

With the need to accommodate physical distancing, and the much reduced volumes in traffic, the city launched the ActiveTO program, which had three main components: Main Road Closures, Quiet Streets, and Cycling Network Expansion.

Main Road Closures were primarily intended for providing additional space in proximity to existing recreational areas, such as the Martin Goodman Trail along the waterfront and adjacent to Lake Shore Boulevard West, and the Waterfront Trail adjacent to Lake

Shore Boulevard East at the Beaches. There was also a partnership with OpenStreetsTO when Yonge Street was closed from Dundas Street to Queens Quay for two Sundays in September 2020. The programs were popular, with over 18,000 cyclists and 4,000 pedestrians using the Lake Shore Boulevard West segment each weekend.

Introduced in May 2020, the Quiet Streets program resulted in the installation of 65 km of traffic calming on residential streets, using temporary signage and barricades. This program was not extended into 2021 due to the significant resources required to maintain the program and issues with non-compliance.

The Cycling Network expansion consisted of temporary cycling infrastructure to support active transportation, social distancing, and provide an alternative to make essential trips. It was the largest single-year increase in new bikeways in Toronto's history. Some examples include temporary protected bike lanes installed along major roads such as University Avenue, Yonge Street, Danforth Avenue, and Bloor Street, and minor roads such as Wilmington Avenue in North York and Huntington Avenue in Scarborough.

Recognizing the important role transit was playing in moving essential workers, the city implemented RapidTO, which expedited the implementation of priority bus lanes on the Eglinton East corridor.

Economic impacts

Despite fears of a mass abandonment of offices downtown, the vacancy rate of downtown Toronto office space rose from 2% just prior to the pandemic to 9.7% at the end of 2021. Although this signals an eventual return of employees downtown, office occupancy has remained low, having hit a high of 16% in November 2021, then decreasing to 8% in February as a result of the Omicron wave. As of May 2022, office occupancy remains low at 22%.

With office occupancy persistently at such low levels in the City of Toronto's downtown, the economic benefits from agglomeration are reduced. Even with remote work, there are costs to people not agglomerating in downtown Toronto, namely from reduced by-chance encounters where ideas are often struck and lower productivity from less in-person interaction and communication barriers, which can translate to less wage growth. Post-pandemic, as employers begin implementing return-to-office policies, transit will play an essential role in bringing people back downtown.

A report from the C.D. Howe Institute in April 2021 studied the annual economic value of the TTC in the City of Toronto. The report found that there was an economic loss ranging between $1.2 to $1.4B in the Toronto region due to decreased agglomeration solely from examining TTC ridership losses, which includes those who stopped using transit but continued to make trips with another mode. This analysis demonstrates the importance of maintaining TTC's pre-pandemic service levels.

The C.D. Howe report also studied the economic benefits of investment in transit service by measuring the agglomeration benefits of the proposed service improvements

in the 5-Year Service Plan & 10-Year Outlook. This includes implementation of Lines 5 and 6, automatic train control (ATC) on Line 1, the five RapidTO corridors, and new express routes on Warden Avenue and Kennedy Road. It is estimated that the agglomeration economic benefits of the proposed service improvements would be $377-million per year, which would add on to the agglomeration benefits of the existing system. This further demonstrates the importance of preserving and enhancing travel options and public transit service in the City of Toronto.

As the leading tourism destination in Canada, the tourism sector was another big loss for the City of Toronto's economy. Sectors include retail, food and beverage, accommodations, attractions and entertainment just to name a few. A study completed by Tourism Economics in partnership with Destination Toronto and the Toronto Regional Board of Trade, illustrated the substantial impact visitor spending had in Toronto. The report showed that in 2018 and 2019, visitor spending generated more than $10 billion per year in economic activity and supported more than 70,000 jobs in the city. Using that study as a baseline, Destination Toronto estimated a $7.24 billion negative impact to the Visitor Economy in 2020 and approximately $5.32 billion in losses in 2021.

Conclusion

In alignment with the broader city trends, the City of Toronto's CBD also experienced a huge decline in office occupancy, resulting in economic and job losses to the surrounding service industry as well as a decrease in the economic benefits that the agglomeration of activities in the core brought. Several initiatives were introduced by the city to support local businesses, vibrancy, social distancing, and equity, including outdoor dining areas, major road closures, cycling network expansion, and priority bus lanes. Post-pandemic it will be critical for the City of Toronto to preserve and enhance travel options and public transit service in the City of Toronto.

2.4   TTC ridership trends

Prior to the pandemic, the TTC averaged up to 1.8 million riders per day connecting customers to work, school, social events, and other activities that drive Toronto's economy representing 20 percent of Canada's total GDP. In March 2020, the TTC's ridership decreased drastically (down 88% at its lowest point) not only due to closures of workplaces and destinations, but also due to a fear of transmission. Despite the steep decline, the TTC continued to carry approximately 200,000 daily revenue rides with customers making trips to access essential work, groceries, pharmacies and care. For many, public transit is the primary mode of mobility.

The decrease in ridership was not uniform across the system. Subway and streetcar experienced a steeper decline when compared to bus. Over the last two and a half years ridership on each mode has fluctuated depending on the stage of re-opening. Figure 2 displays the average weekday boardings by mode over the last two and a half years.

Figure 2: TTC ridership trends over the last two and a half years by mode

Trend since 2020: Average Weekday Boardings by Mode

■ Bus ■ Subway ■ Streetcar
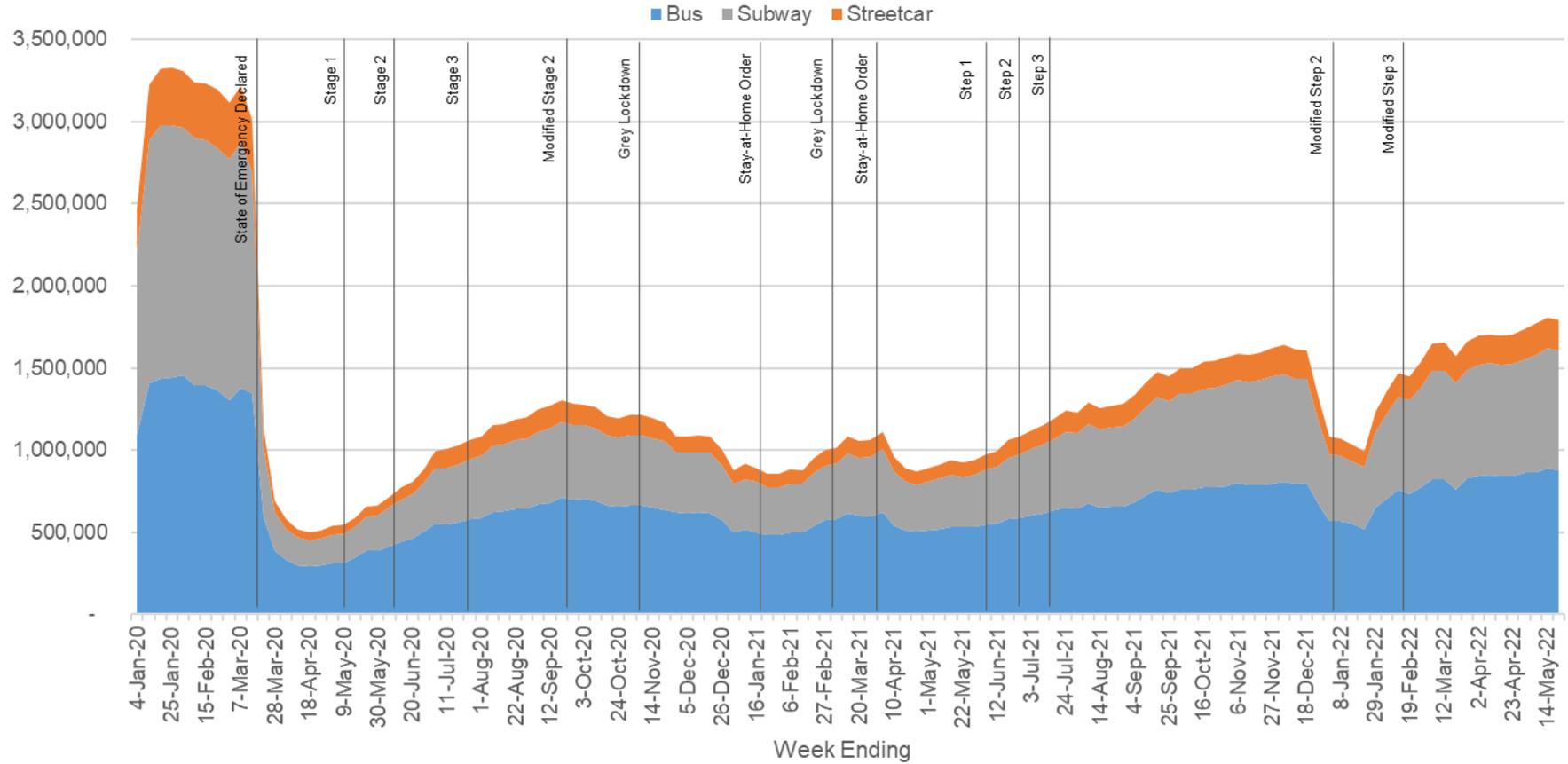
Over the course of the pandemic, there were multiple attempts at re-openings, where public health restrictions were lifted. Any time capacity restrictions were lifted, it resulted in gradual, but steady ridership growth across all modes. Bus has always remained the busiest of modes with the greatest share of pre-COVID ridership. Bus customers are more likely to work in jobs that cannot be done from home and tend to rely more on transit for their mobility needs.

In July 2021, ridership started to steadily increase, when restrictions were lifted as part of Step 3 of the Province's Roadmap to Reopen. Secondary schools, retail, and restaurants re-opened with post-secondary school and some offices partially re-opening, this resulted in ridership peaking at 53% of pre-pandemic levels in December 2021. Due to the emergence of the Omicron variant, customer demand declined in early 2022. As restrictions began lifting in February-March 2022, demand has steadily grown across all modes. As of spring 2022, demand has exceeded 60% of pre-COVID levels and is expected to continue to grow until the end of 2022.

Customer trends

Over the course of the pandemic, the TTC continued to actively engage customers. Staff conducted a series of surveys aimed at tracking the changing travel behaviours, attitudes and perceptions of customers during the pandemic. Survey findings were used to inform safety measures, communication efforts and ridership forecasting over the last two years. The following highlights key learnings and trends over the course of the pandemic:

- Overall, about 80% of customers were satisfied with the TTC's response to the pandemic. Customers are most satisfied with the safety measures implemented to protect TTC employees and TTC's communication of safety information.
- Occupancy/vehicle crowding became the number one driver of customer satisfaction during the pandemic – ahead of elements like wait time.
- Personal errands (e.g. grocery store, doctor's office, etc.) were the top reason customers continued to use the TTC during the course of the pandemic (54% of customers)
- Commuting to work or school was the second most popular reason (41% of customers). Pre-pandemic (CSS Q4 2019), commuting was the top travel purpose (47%), followed by attending to personal business (26%).
- During the pandemic, women were more likely than men to use the TTC for personal errands (57% vs 49%) and men were more likely to be using the TTC for commuting (45% vs 39%).
- While women represent a larger portion of our ridership (pre-pandemic and currently), there were no significant differences in gender travel frequency when comparing 2019 and 2021.
- Overall the frequency of trips changed slightly between 2019 and 2021, with similar patterns shown across gender and income levels: more

customers took six or less trips in 2021 compared to 2019 and fewer customers are taking more than 30 trips in 2021 compared to 2019.

- Women overall were less satisfied with TTC services during the pandemic than men – with 85% of men saying they were satisfied with their last trip and 76% of women saying they were satisfied.
- Women also reported lower feelings of personal safety on the TTC than men during the pandemic (66% vs 74%).
- Those with incomes under $50,000 were more likely to be using the TTC during the pandemic than those with higher incomes.

TTC response

As an immediate response to the pandemic, the TTC implemented a demand-responsive service plan to serve our customers and their evolving need for public transit service. The plan was developed based on the following two principles:

1. Regular scheduled service focused on protecting high-ridership corridors and service to essential employment areas, grocery stores, pharmacies, healthcare facilities and Neighbourhood Improvement Areas (NIAs). Service continued to be provided in all areas of the city every 30 minutes or better based on demand. Some commuter-focused services, such as Downtown Express and select express routes were suspended.

2. Flexible bus service was provided through a pool of buses operated daily to deploy to routes in addition to scheduled service where capacity was required to meet known and growing demand.

The demand-responsive service plan initially delivered approximately 85% of pre-COVID service hours at the outset of the pandemic and through the summer. In fall 2020, service increased to approximately 95% of pre-COVID service hours with variation by mode based on demand. Figure 3 shows a map of the demand-responsive service network highlighting essential destinations. The TTC continued to maintain the demand-responsive service plan throughout 2021 and 2022.

Figure 3: Demand-responsive service plan
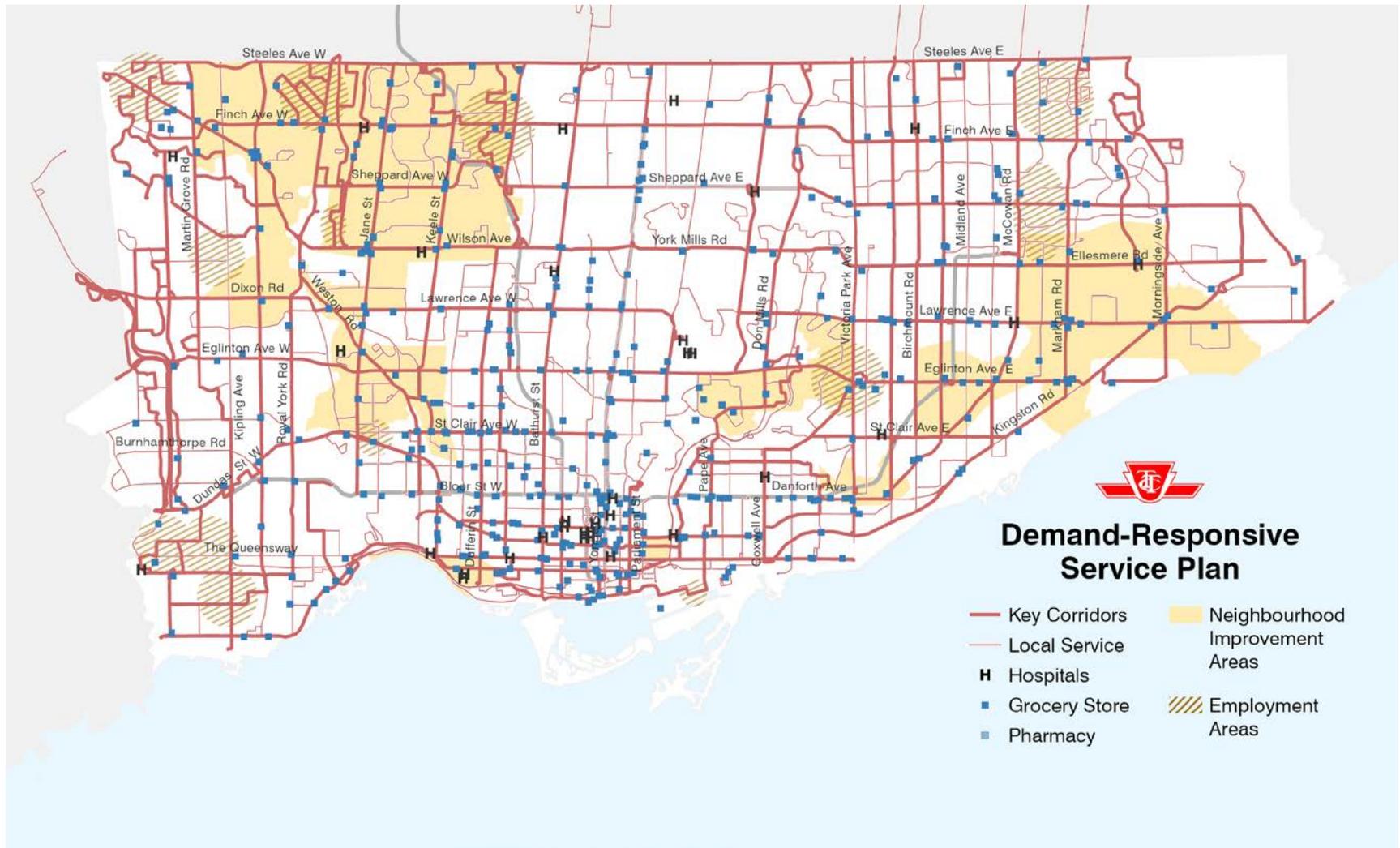
As a result of occupancy/vehicle crowding becoming the number one driver of customer satisfaction, the TTC launched real-time crowding information for bus routes in early 2021. The information was made available through two popular trip planning mobile apps as well as the TTC website. This allowed customers to plan ahead and take an alternate route or delay their trip if they were more comfortable doing so.

Safety and communication measures

Throughout the pandemic, public safety and effective communication have gone hand in hand in helping customers feel safe taking the TTC. With the mandatory face-covering policy having a significant impact on customer safety, strong messaging was used to remind customers of this mandate over the course of their trips, through station announcements, posters on and inside vehicles, and mask distribution at subway stations. When the first mass-vaccination clinics opened, posters inside stations and announcements inside vehicles were used to promote and guide customers to the clinics. A few temporary stops were added to express bus routes and a temporary shuttle was operated to facilitate travel to and from the clinics.

Conclusion

In alignment with the broader transit trends, the TTC also experienced a huge decline in ridership and was forced to quickly respond to ever changing ridership patterns over the last two and half years. The TTC deployed a demand-responsive service plan that protected high-ridership corridors and had a number of flexible buses to help mitigate fluctuations in demand. Overall about 80% of customers were satisfied with the TTC's response to the pandemic and the TTC continues to learn about the customers who continued to depend on transit. Timeliness of service and missed stops are the largest complaint areas.

## 2.5 Factors affecting transit ridership post COVID-19

There are a wide range of factors that influence the way in which people make travel choices, and which, ultimately, determine the extent to which the TTC can attract new riders. These include internal factors which are under the control of the TTC, such as: service design and quality, fare changes, amenities, partnerships and marketing and information programs. There are also a number of external factors over which the TTC has no direct control, such as: population and employment growth; cost of alternative transportation modes; local economic conditions; and land use patterns and policies. External factors can have a positive or a negative impact on ridership levels. The TTC regularly monitors these external factors in an effort to anticipate their potential impact on transit demand, and take actions to mitigate, or take advantage of them.

COVID-19 has brought about many new external factors in which the TTC will need to continue to monitor to understand its impact on ridership levels. The

pandemic has fundamentally changed people's travel patterns. At this time, it is unclear when the new normal situation (with respect to daily travel demand) will return and what the new normal will look like. Researchers are still trying to understand what longer-term impact the pandemic might have on mobility, and public transit in particular. Regardless of whether some people may prefer a return to pre-COVID "normal" or a fundamental transformation in how we plan our cities, our lives and behaviours will never return to being simply what they were before. Technology, worker expectations, climate pressures, and calls for social justice reform are unlikely to be turned back.

Figure 4 displays the estimated change in demand on TTC ridership as a result of COVID-19 impacts. The change can be explained largely by six key factors: population & employment change; telework office occupancy; secondary school; post-secondary classes; shopping, appointments and leisure activities; and mode share across the city.

Figure 4: Estimated change in demand on TTC ridership as a result of COVID-19 impacts as of November 2021
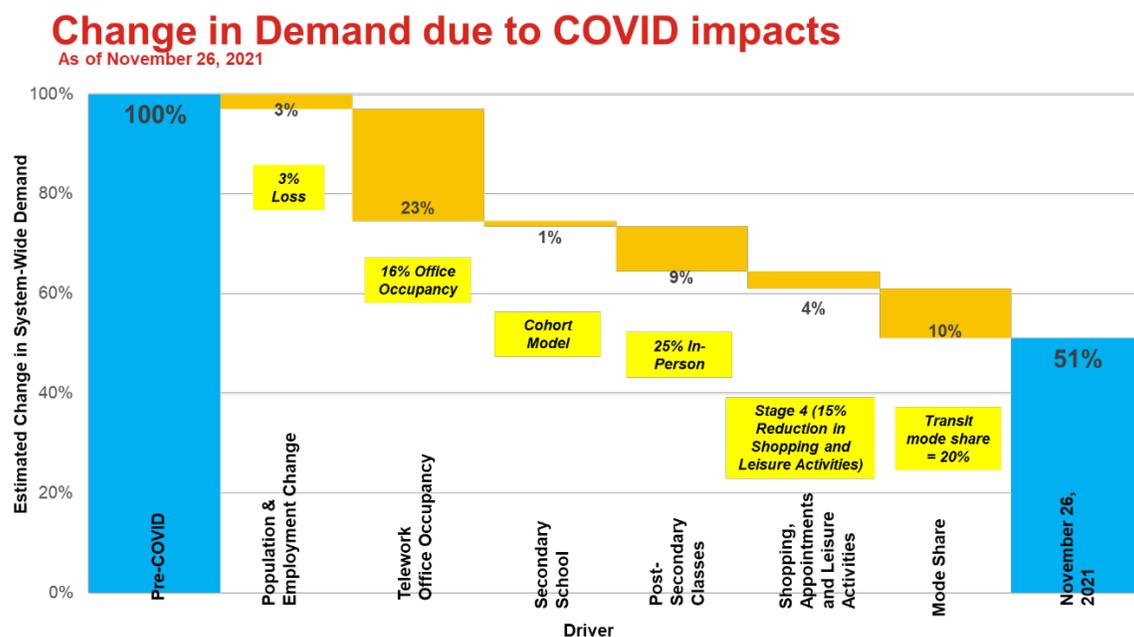
As we begin planning for a future beyond the pandemic, it will be important for the TTC to continue to monitor the following trends:

- **Telecommuting impacts on transit will likely continue**. Travel patterns are not expected to return to exactly what they were before COVID-19. While not all workers will become fully remote, many 9-to-5 office workers will not resume daily commutes. It is likely that many firms will retain some telecommuting practices; this will likely change expectations from the model of five days per week at the office and reduce the gap between peak hours and off-peak demand. As of spring 2022, we continue to see

the majority of employers maintaining a hybrid work model and downtown Toronto office occupancy remains low at 22% (May 2022). TTC has conducted three rounds of primary research with Toronto employers and all indicate that high levels of working from home will continue post pandemic for an indefinite time period.

- **Future of remote learning at post-secondary institutions.** At this time is it unclear what level of remote learning will remain in place at post-secondary institutions. If classes remain largely online, this will continue to impact transit ridership as post-secondary students will make fewer trips. TTC is working with the top 10 post-secondary institutions in the region to understand their plans for Fall 2022 and 5-year outlook.
- **A shifting retail landscape will continue to impact travel patterns.** Big changes in how our economy functions are impacting our travel needs. More of us are shopping online than ever before. At the click of a button we can order our groceries, a new television, clothes and much more — all of which must be delivered to us, as opposed to shopping in person. This has implications for transit ridership, as customers decide to make fewer trips. TTC has incorporated estimates on this trends into their short-term outlook (2022-2024) for ridership projections.
- **Shifts in transit mode share will likely continue.** During the pandemic many people shifted from transit to walking and cycling. The COVIDid-19 influenced Households' Interrupted Travel Schedules Survey (COVHITS) shows that in the City of Toronto, over a 24 hour period, walking and cycling went from a 13% mode share in 2016 to a 21% mode share in Fall 2021. At the same time, transit mode share went from 27% (in 2016) to 19% in Fall 2021. Other modes were more consistent between the time periods. While an overall increase in active mode trips is a good thing for the City of Toronto, it does have an impact on the financial health of the TTC.

2.6   Summary of lessons learned

The last two and a half years have been very challenging for all. With the sharp fall in office activity across CBDs, cities everywhere have aimed to increase the vibrancy and livability of their central areas, as well as that of their residential areas that often saw an increase in activity. With the disappearance of traffic congestion not having gone unnoticed, cities also aimed to manage the anticipated surge of traffic as part of re-openings through temporary and permanent cycling and transit infrastructure.

In alignment with the broader city trends, the City of Toronto's CBD also experienced a huge decline in office occupancy, resulting in economic and job losses to the surrounding service industry as well as a decrease in the economic benefits that the agglomeration of activities in the core brought. Several initiatives were introduced by the city to support local businesses, vibrancy, social

distancing, and equity, including outdoor dining areas, major road closures, cycling network expansion, and priority bus lanes.

Prior to the pandemic, transit played a number of roles in the city: it helped alleviate road congestion, it contributes to reaching emissions reduction targets, it enabled urban economic growth, and it provided essential mobility for many people. The pandemic has further highlighted the critical role the TTC plays in moving people across the city and contributing to economic sustainability. As we begin planning for a future beyond the pandemic, there is an opportunity for the TTC to learn more about who has continued to ride public transit, where people travelled to during the pandemic, what time of day people travelled and the economic importance of the TTC.

The following sections of this report will take a deeper dive into these patterns and identify opportunities for the TTC to further meet the needs of its customers. The analysis is largely focused on the bus network and compares two key time points (prior to 2022) with 2019 pre-pandemic trends:

1. **Peak pandemic** – spring (March-May) 2020 – the point in time where only essential trips were being made; and
2. **Most stable reopening** – fall (October-November) 2021 – the point in time where the city saw the lowest level of restrictions (prior to 2022) and the most stable in terms of trips/activity.

Unless otherwise stated, ridership noted within this report is referring to boardings (unlinked trips).

3   Who continued to ride

TTC customers rely on the TTC to access opportunities, such as work, school, groceries, shopping, recreation, and more. Immediately following the lockdown in March 2020, all stops saw their volumes significantly reduced. Despite the reduced ridership, some stops remained busy with high usage and a number of stops across the system retained a high percentage of their pre-COVID ridership activity. The most used stops during the peak of the pandemic are shown in Figure 5. The majority of the busiest stops are found in NIAs in the northwest part of the city. This is no surprise as there are a number of essential workplaces in this part of the city and many residents rely on transit as their main mode of travel.

In addition to identifying the busiest stops, we also examined the percentage of ridership retained at each stop during the peak of the pandemic compared to 2019 ridership levels. Figure 6 displays the results. There is some level of retention across the city, demonstrating the widespread use of the TTC.

However, major concentrations continue to occur in NIAs and essential work destinations.

As re-openings continued throughout mid-2021, ridership had begun to steadily increase, peaking at 53% in December 2021 prior to the Omicron wave. The map (Figure 7) below shows the busiest stops across the city in Fall 2021.
The TTC's busiest stops prior to the pandemic continue to show up as the busiest during this recovery period: Wilson, Lawrence, Dufferin, Finch West and Eglinton East corridors have the majority of the busiest stops.

By November 2021, a large percentage of stops had recovered most of their ridership, covering a much larger part of the network (Figure 8). Major corridors such as Jane, Dufferin, Keele and Eglinton East continue to lead in terms of recovery.

Figure 5: Spring 2020 – Top 10% busisest stops - Total daily boardings ("ONs")
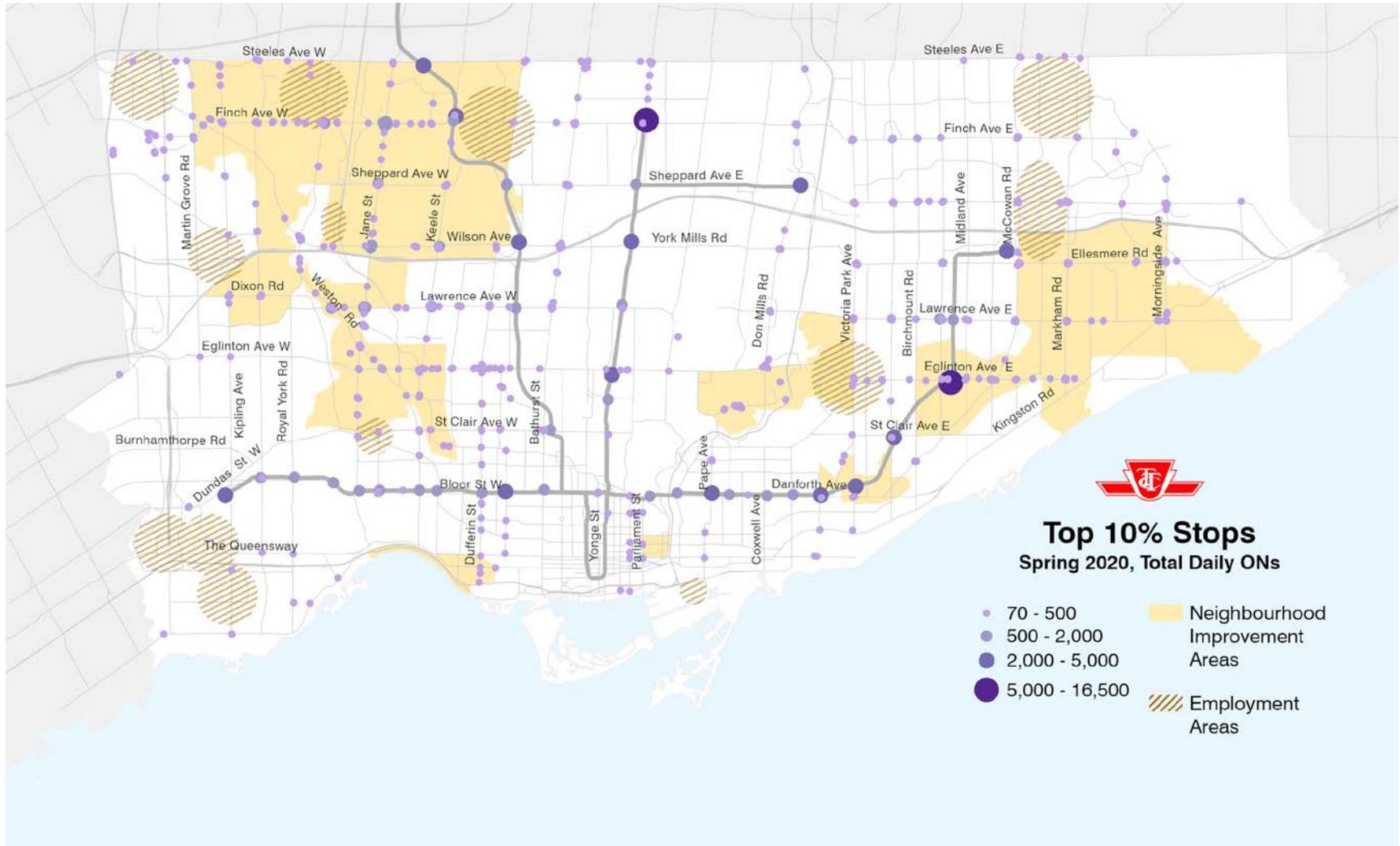
Figure 6: Spring 2020 – % of ridership retained in spring 2020 compared to 2019 (total daily boardings)
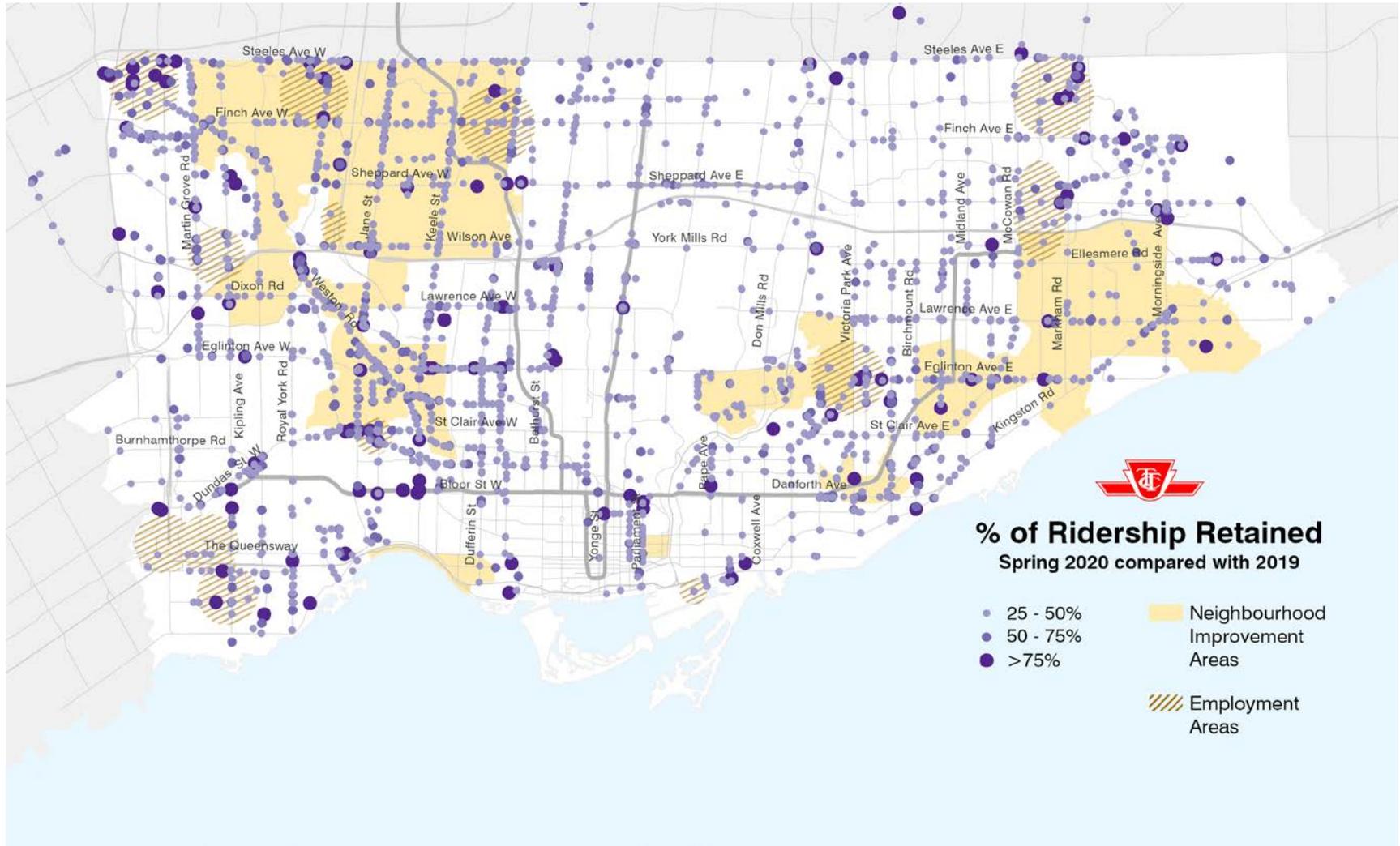
Figure 7: Fall 2021 – Top 10% busiest stops - Total daily boardings ("ONs")
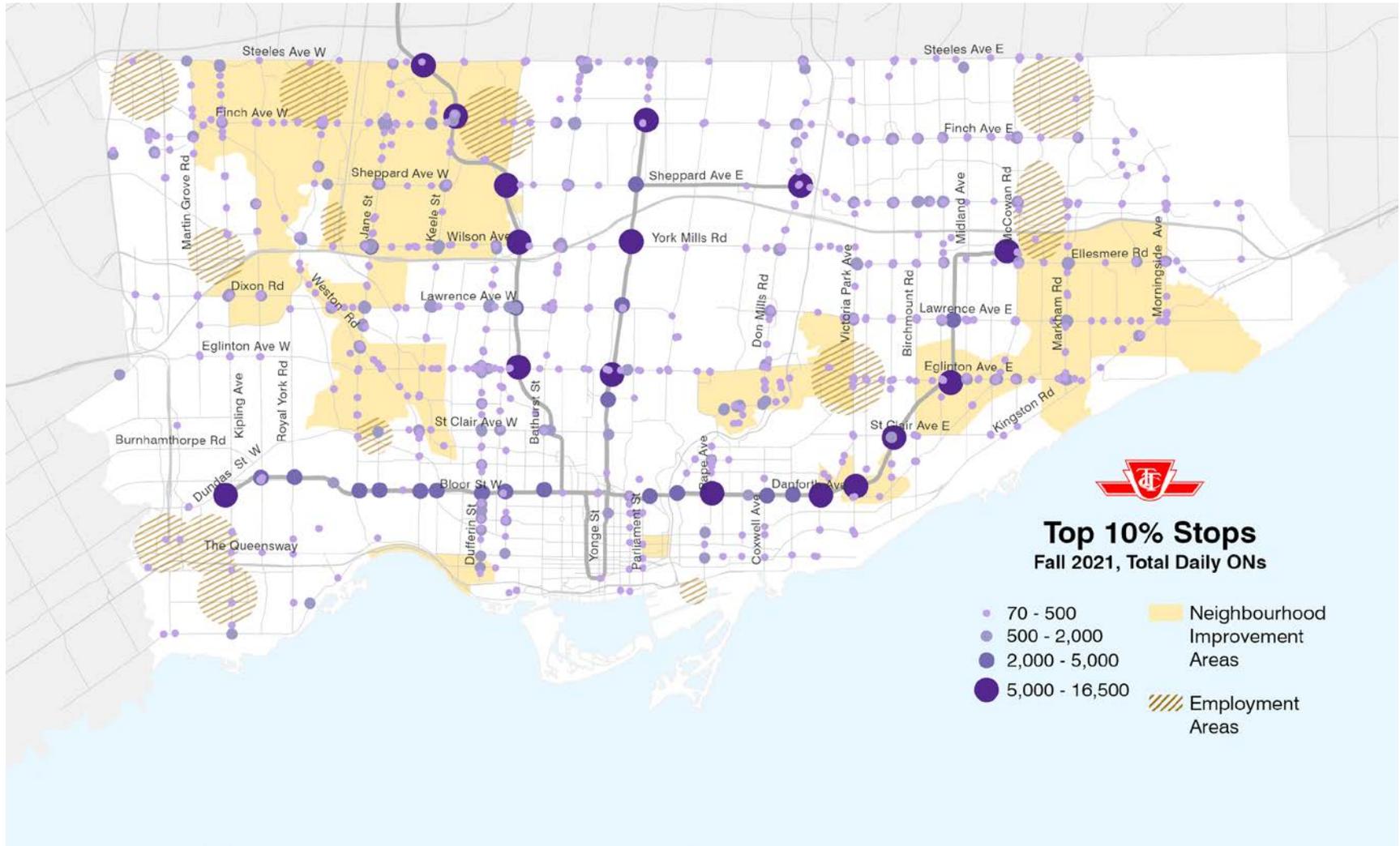
Figure 8: Fall 2021 – % of ridership recovered in fall 2021 compared to 2019 (total daily boardings)
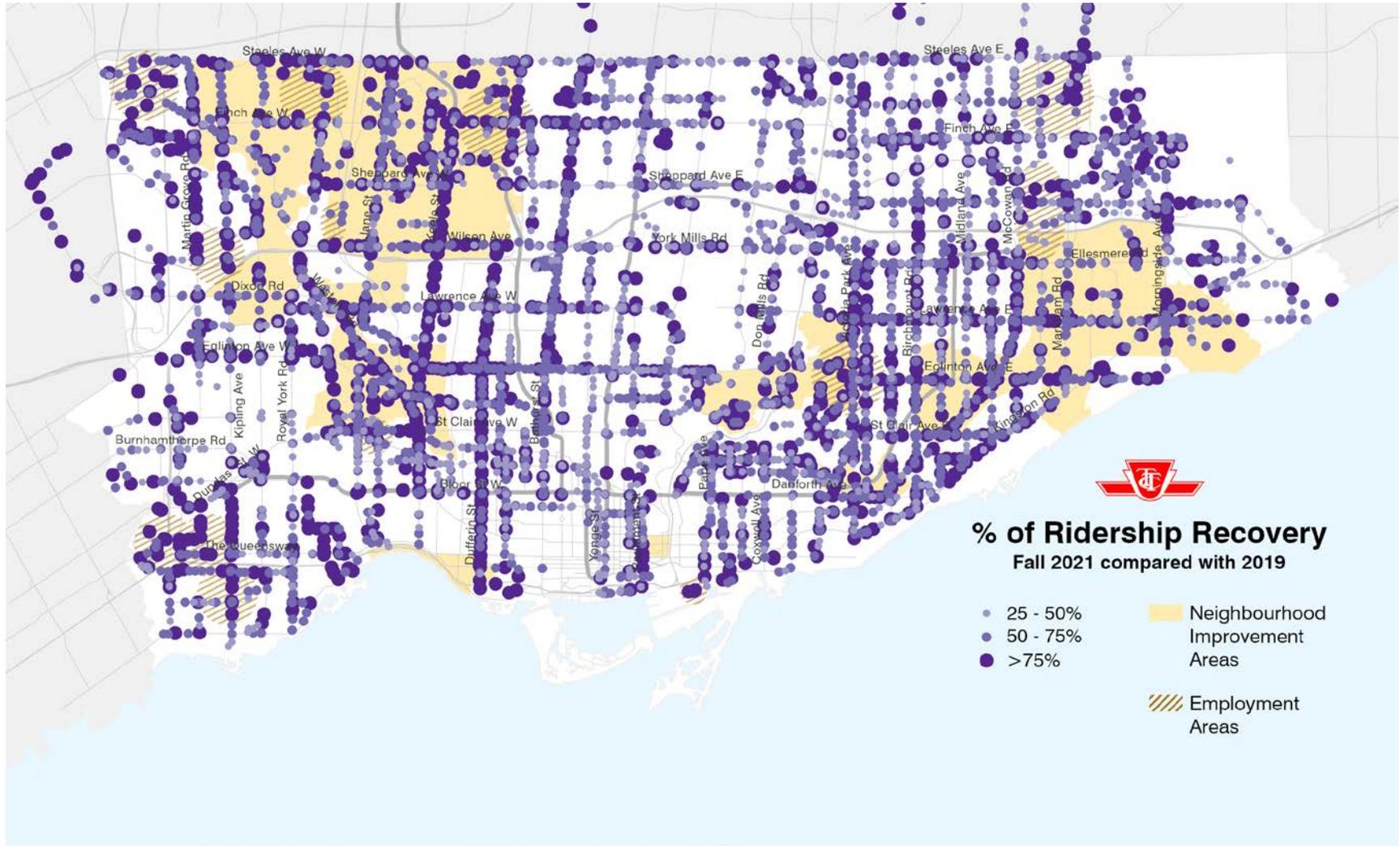
Customer research performed by the TTC over the course of the pandemic, supports these findings. Survey results found that most trips being made were essential errands, with 54% of customers selecting that reason. Commuting to work or school was the second most popular reason, with 41% of customers selecting that reason. Pre-pandemic (CSS Q4 2019), commuting was the top travel purpose (47%), followed by attending to personal business (26%).

Survey results also showed that essential errands were being disproportionally made by women. Table 1 summarizes the trip purpose by demographic variable over the course of the pandemic. It was also found that customers with low-income were more likely to have continued taking the TTC than customers with high income, which corresponds with many essential industries such as retail, manufacturing, food processing, and warehousing having primarily low-wage workers.

Table 1: Summary of trip purposes over the pandemic by demographic variable

		Gender		Age			Household income					
	Total	Male	Female	<25	25 to 54	55+	<$30	$30K - <$50K	$50K - <$70K	$70K - <$90K	$90K+	Prefer not to respond
Base	787	284	491	133	519	135	147	106	116	109	200	109
To run personal errands (e.g., grocery store, doctor's office, etc.)	54%	49%	57%	40%	55%	63%	67%	64%	51%	59%	44%	45%
Commuting to work or school	41%	45%	39%	63%	43%	16%	34%	43%	39%	47%	41%	48%
Visiting friends or family	30%	27%	33%	35%	31%	22%	28%	37%	34%	30%	28%	30%
Entertainment, recreation	24%	26%	24%	32%	24%	19%	22%	25%	27%	25%	27%	19%
Dining at a bar/restaurant	13%	13%	12%	20%	12%	7%	10%	8%	13%	21%	13%	11%
Daycare or other childcare service	4%	4%	4%	2%	5%	1%	3%	5%	3%	11%	3%	2%
Other	4%	4%	4%	2%	3%	10%	8%	2%	3%	3%	4%	4%

As shown in the maps above, throughout the pandemic, there was very little change in and/or between the top 10% of stops. Geographically, the most-used stops remained along key corridors like Jane, Dufferin and Finch West serving NIA's and essential destinations. Collectively, the top 10% of stops in each time period make up the majority of all daily ONs for the network.

The observed trends and customer research collected during the pandemic suggests that there were three key customer groups that continued to rely on transit throughout the COVID-19 pandemic: people with low-income, women, and

shift workers. The following sections describe the travel behaviors of these customer groups.

People with low-income
Approximately 1 in 5 customers on the TTC belong to a household that earns less than $40,000 a year. People with low-income are more likely to live in a NIA and not have access to a car. These customers rely on the TTC network to access opportunities, not just employment, but education, shopping for groceries and other necessities, community centres, libraries, and recreation.

Lower paying jobs tend to be more spatially distributed around the city. As a result, people with low income are more likely to travel on bus routes that connect across the city in order to access their place of work.

Throughout the COVID-19 pandemic, they continued to rely on transit. In late January 2022, about two in three trips made by customers in low income households were to run personal errands, and just over one in three were commutes to work or school.

Women
Many women continued to rely on transit throughout the COVID-19 pandemic. Women are more likely to travel during the midday, with caregiving and domestic responsibilities as well as shift-work taking place during this time of day.

Women also trip-chain, which is making multiple trips in quick succession, more often than men. For instance, picking up a child on the way home from work, then buying some groceries before arriving home, would be an example of trip chaining as three trips were made one after the other:

1. Work to school/daycare.
2. School/daycare to grocery store.
3. Grocery store to home.

As a result, women are more likely to travel in off-peak periods as well as make multiple short local trips, most of which take place on the bus network.

In late January 2022, 57% of trips made by women were to run personal errands – compared to 49% for men. Conversely, the share of commute trips made by women was 39%, compared to 45% for men.

Safety is another reason why women often travel in the midday, as there is a fear of travelling at night due to safety and security concerns. As part of the development of Toronto's Gender Equity Strategy 2022-2030, City of Toronto staff conducted extensive public engagement to gather feedback and develop a strategy that reduces gender inequities and strengthens women's, girls' and gender diverse residents' resiliency. Results of the consultation show that transit was the most common service accessed. Some of the feedback for improvement

included: improved lighting at TTC bus stops and ensuring that TTC drivers respond to request stops from women and gender diverse people.

Opportunities exist to further engage customers to understand how safety and security affect travel experience and behavior on the TTC.

Shift Workers
Shift workers make up the majority of manufacturing and retail & services workers. They work in essential workplaces such as hospitals, long-term care homes, construction sites, grocery stores, manufacturing and food processing plants, and warehouse and distribution centres.

Many of these require workers to be present early in the morning. Often operating late into the night or 24/7, they also require multiple shifts, with start and end times often taking place outside of the peak periods. As well, essential workplaces are less concentrated downtown, being more spatially distributed across the city similarly to lower wage jobs.

Because of the nature of their employment, shift workers are more likely to rely on off-peak service and use bus routes that connect across the city.
With office workers having primarily worked remotely throughout the pandemic, shift workers travelling to essential workplaces made up a higher share of ridership commuting to work.

4   Where people travelled to

Prior to the pandemic 50% of TTC trips were destined to the downtown core, where a large portion of professional and general office employment is located. With office-workers and post-secondary students working and learning from home, the share of trips being made by essential workers increased. As essential trip destinations (such as warehouses, hospitals, and grocery stores) are more spread out, bus routes that crossed the city and connected to a higher number of these destinations had the most ridership. While nearly all TTC routes connect to rapid transit, bus routes are more than a feeder to the subway – they are arranged in a grid that is designed to maximize the number of connections that customers can make to other routes, allowing them to reach various destinations across the city. This allows the TTC to efficiently serve demand that is dispersed along corridors and across the city.

Even at the height of pandemic restrictions in spring 2020 the TTC continued to operate high-ridership corridors. Figure 9 and Table 2 below show the top 20 routes by ridership in spring 2020. The top 20 routes are very similar to the 2019 top 20 routes.

Figure 9: Spring 2020 top 20 routes by ridership
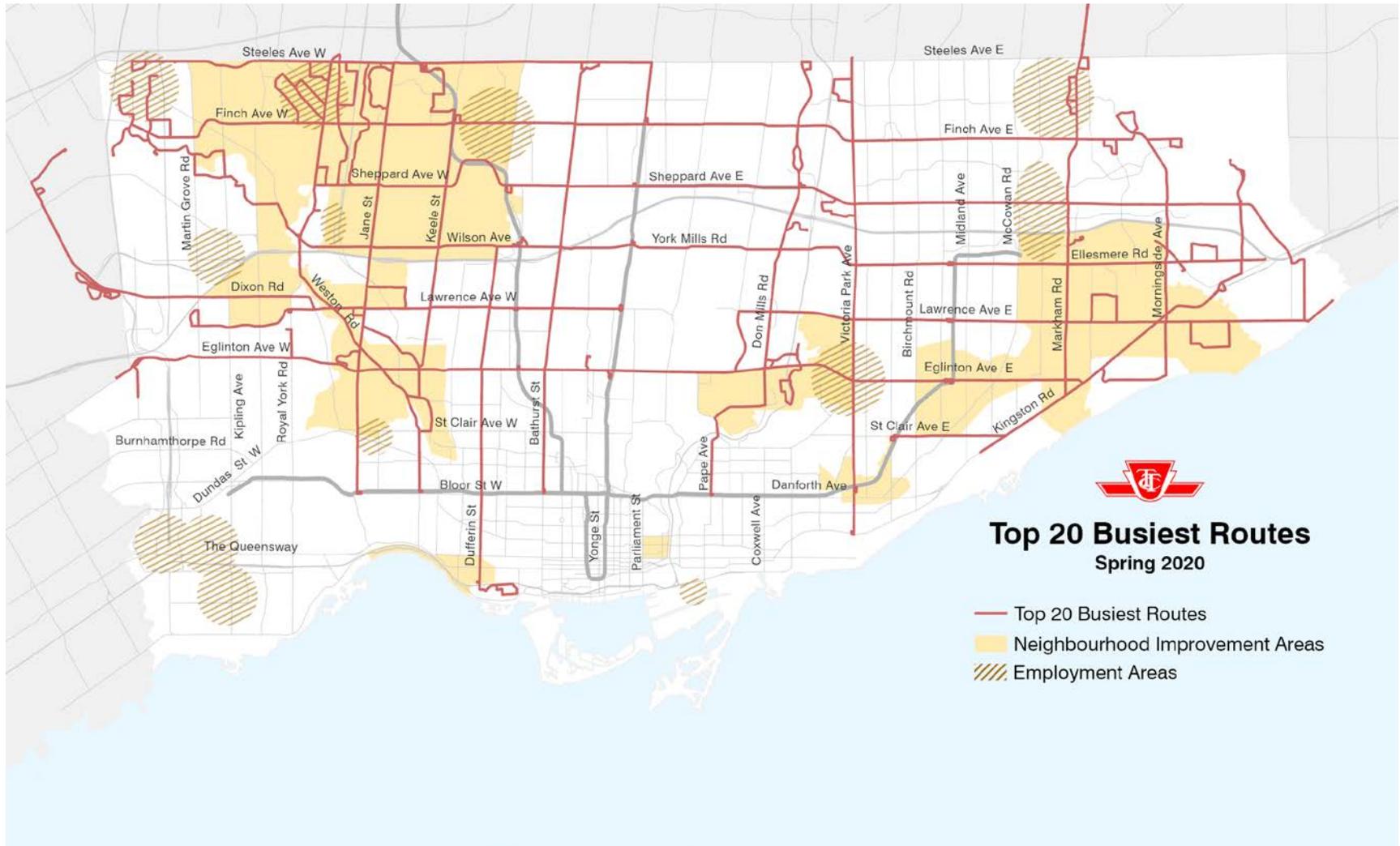
Table 2: Spring 2020 top 20 routes by ridership

Route	Ridership
36 Finch West	18,405
96/165 Wilson Corridor	15,625
35 Jane	14,550
52 Lawrence West	14,095
86/116 Eglinton East Corridor	12,165
32 Eglinton West	11,720
29 Dufferin	11,310
54 Lawrence East	9,800
60 Steeles West	9,700
7 Bathurst	8,665
85 Sheppard East	8,335
25 Don Mills	7,710
39 Finch East	6,990
84 Sheppard West	6,880
41 Keele	6,820
95 York Mills	6,525
102 Markham Rd	6,385
34 Eglinton East	6,235
89 Weston	5,720
24 Victoria Park	5,660

In addition to the routes with the highest ridership, there are many other routes that out-performed major routes in terms of the percentage of ridership retained from 2019. Of the top 20 routes by percentage of ridership retained in Spring 2020, four were in the top 20 by ridership. Figure 10 and Table 3 below show the ratio of ridership retained, as well as whether they serve an employment area or NIA. Thirteen of the top 20 routes travelled through NIAs, demonstrating that low-income residents continued to rely on the TTC to run essential errands and to access essential work.

Figure 10: Spring 2020 ratio of ridership retained from 2019

Table 3: Spring 2020 top 20 routes by ratio of ridership retained from 2019

Route	2019 Ridership	2020 Ridership	2020 ratio of ridership retained (%)
22 Coxwell	5,235	2,155	**41%**
46 Martin Grove	7,375	2,925	**40%**
161 Rogers Rd	4,400	1,680	**38%**
73 Royal York	8,600	3,280	**38%**
123 Sherway	6,545	2,475	**38%**
117 Alness-Chesswood	1,600	575	**36%**
65 Parliament	4,960	1,740	**35%**
40 Junction-Dundas West	6,645	2,325	**35%**
36 Finch West	52,985	18,405	**35%**
160 Bathurst North	3,280	1,135	**35%**
118 Thistle Down	3,200	1,100	**34%**
41 Keele	19,915	6,820	**34%**
35 Jane	43,060	14,550	**34%**
69 Warden South	4,400	1,480	**34%**
70 O'Connor	6,550	2,180	**33%**
80 Queensway	2,150	705	**33%**
7 Bathurst	26,470	8,665	**33%**
79 Scarlett Rd	7,290	2,380	**33%**
89 Weston	17,625	5,720	**32%**
113 Danforth	6,071	1,935	**32%**

These routes were less sensitive to changes in demand as a result of public health restrictions, meaning that pre-COVID a greater share of their ridership was already making an essential trip. Although most of these routes are not major grid routes, they play a vital role in connecting customers to essential trip destinations such as employment areas, hospitals, and grocery stores. In addition to major grid routes operating on arterial roadways, essential routes such as the ones shown in the map (Figure 10) could be considered as part of a base bus network.

Figure 10 and Table 4 also highlight the routes with the lowest ratio of ridership retained compared to 2019. These routes are mostly concentrated in the northeast area of the city where a larger portion of high income professional workers live. It's important to note that 39 Finch East is highlighted as the lowest percentage of ridership retained, however, it does fall within the top 20 corridors in terms of ridership. This indicates the route has a diverse ridership profile. Many people rely on it to make essential trips, however, a large portion of its customers also stopped riding during the peak of the pandemic.

Table 4: Spring 2020 bottom 20 routes by ratio of ridership retained from 2019

Route	2019 Ridership	2020 Ridership	2020 ratio of ridership retained (%)
39 Finch East	58,635	6,990	**12%**
109 Ranee	4,610	685	**15%**
134 Progress	10,160	1,605	**16%**
88 South Leaside	4,820	780	**16%**
167 Pharmacy North	1,665	275	**17%**
13 Avenue Rd	2,050	345	**17%**
19 Bay	9,285	1,575	**17%**
74 Mount Pleasant	2,315	400	**17%**
25 Don Mills	44,610	7,710	**17%**
61 Avenue North	3,785	660	**17%**
11 Bayview	10,140	1,815	**18%**

63 Ossington	23,220	4,165	**18%**
55 Warren Park	1,695	305	**18%**
51 Leslie	3,120	565	**18%**
38 Highland Creek	10,470	1,900	**18%**
53 Steeles East	24,480	4,510	**18%**
122 Graydon Hall	4,730	875	**19%**
42 Cummer	8,430	1,570	**19%**
24 Victoria Park	29,225	5,660	**19%**
57 Midland	12,640	2,505	**20%**

In mid-2021, as more and more restrictions were lifted, ridership started to steadily increase, this resulted in ridership peaking at 53% in December 2021. While most office workers and post-secondary students continued to work from home, the top five routes carried upwards of 30,000 customers a day. Figure 11 and Table 5 below show the top 20 routes by ridership in Fall 2021. The top 20 routes are very similar to 2019 and Spring 2020 top 20 routes.

**Figure 11: Fall 2021 top 20 routes by ridership**
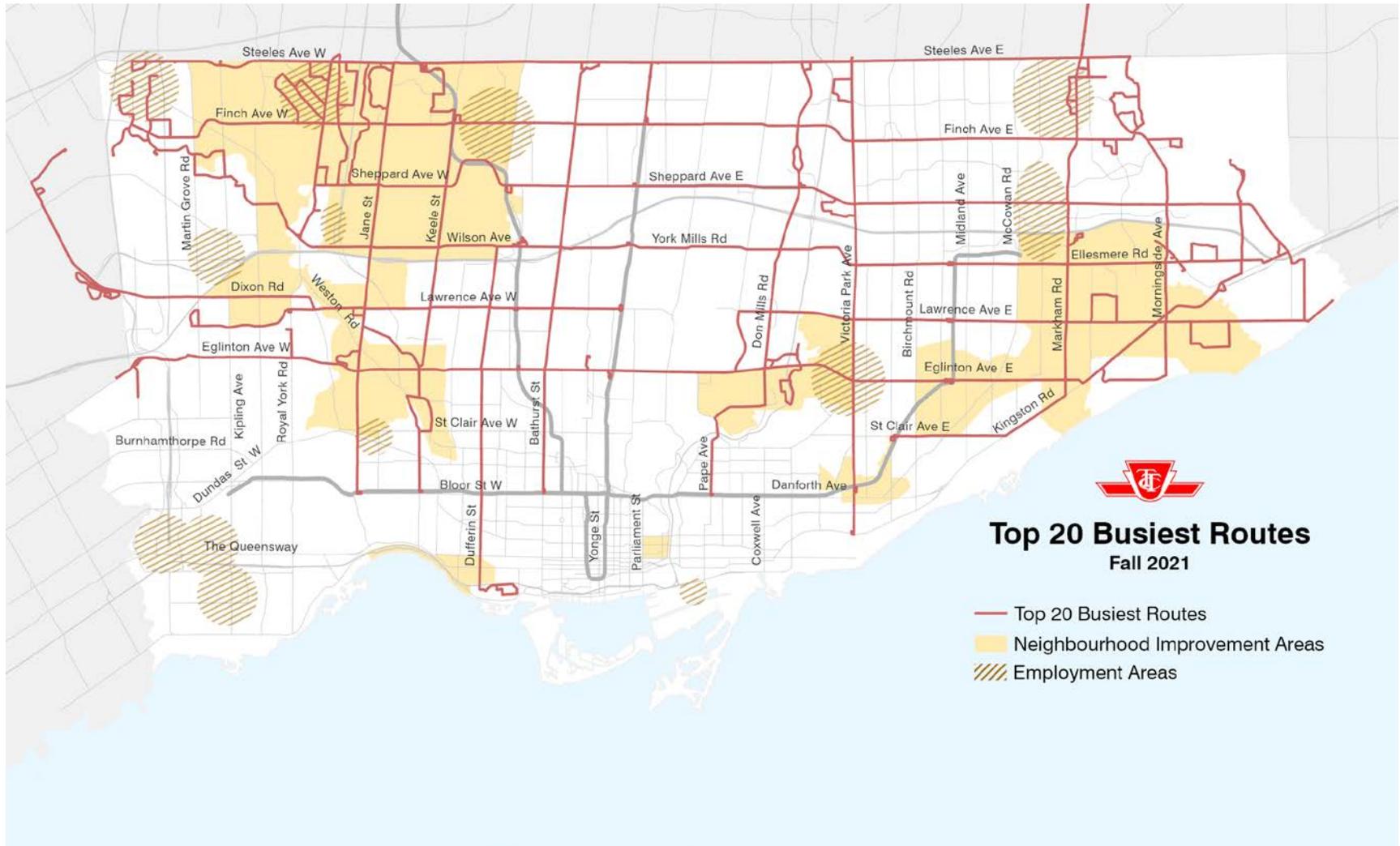
Table 5: Fall 2021 top 20 routes by ridership

Route	Ridership
96/165 Wilson Corridor	34,205
29 Dufferin	33,835
52 Lawrence West	30,655
36 Finch West	30,555
86/116 Eglinton East Corridor	29,570
35 Jane	27,835
25 Don Mills	27,565
39 Finch East	25,625
32 Eglinton West	23,705
54 Lawrence East	23,690
85 Sheppard East	22,740
102 Markham Rd	19,930
60 Steeles West	19,770
41 Keele	19,110
84 Sheppard West	18,365
95 York Mills	18,095
24 Victoria Park	17,820
7 Bathurst	17,130
34 Eglinton East	14,140
53 Steeles East	13,320

In Fall 2021, there continued to be many other routes that out-performed major routes in terms of the percentage of ridership recovered from 2019. Figure 12, Table 6 and Table 7 below show the ratio of ridership recovered, as well as whether they serve an employment area or NIA. A similar trend as in Spring 2020 continued, with routes with stronger recoveries having been more likely to serve employment areas and NIAs. However, this correlation was weaker compared to Spring 2020 as other trip purposes such as secondary schools, retail centres, and some offices had re-opened.

Figure 12: Fall 2021 ridership recovery ratio compared to 2019
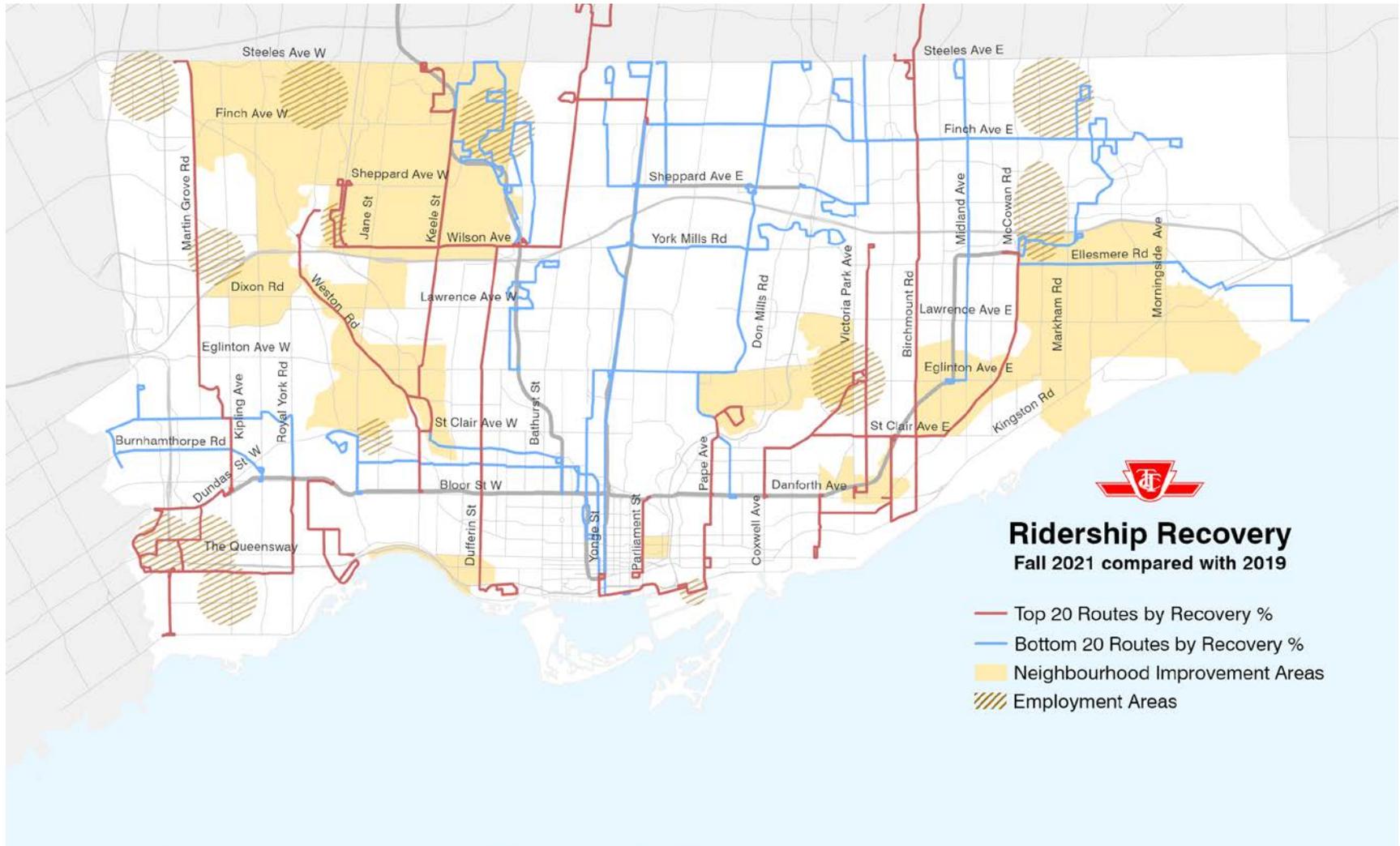
Table 6: Fall 2021 top 20 routes by recovery ratio

Route	2019 Ridership	2021 Ridership	2021 Ridership Recovery
119 Torbarrie	1,685	1,625	**96%**
41 Keele	19,915	19,110	**96%**
64 Main	4,075	3,295	**81%**
123 Sherway	6,545	5,210	**80%**
69 Warden South	4,400	3,470	**79%**
29 Dufferin	43,210	33,835	**78%**
67 Pharmacy	5,730	4,310	**75%**
81 Thorncliffe Park	6,455	4,840	**75%**
160 Bathurst North	3,280	2,455	**75%**
66 Prince Edward	5,030	3,700	**74%**
65 Parliament	4,960	3,565	**72%**
89 Weston	17,625	12,610	**72%**
70 O'Connor	6,550	4,660	**71%**
16 McCowan	11,240	7,965	**71%**
135 Gerrard	2,385	1,685	**71%**
125 Drewry	3,205	2,220	**69%**
17 Birchmount	11,125	7,665	**69%**
46 Martin Grove	7,375	5,075	**69%**
72 Pape	8,555	5,890	**69%**
15 Evans	2,550	1,755	**69%**

Table 7: Fall 2021 bottom 20 routes by recovery ratio

Route	2019 Ridership	2021 Ridership	2021 Recovery
26 Dupont	3,845	1,325	**34%**
19 Bay	9,285	3,220	**35%**
134 Progress	10,160	3,670	**36%**
55 Warren Park	1,695	665	**39%**
13 Avenue Rd	2,050	810	**39%**
167 Pharmacy North	1,665	700	**42%**
38 Highland Creek	10,470	4,435	**42%**
57 Midland	12,640	5,370	**42%**
39 Finch East	58,635	25,625	**44%**
97 Yonge	4,490	2,015	**45%**
122 Graydon Hall	4,730	2,185	**46%**
117 Alness-Chesswood	3,005	1,440	**48%**
127 Davenport	1,595	770	**48%**
56 Leaside	4,310	2,090	**49%**
109 Ranee	4,610	2,245	**49%**
104 Faywood	3,305	1,610	**49%**
50 Burnhamthorpe	2,400	1,180	**49%**
48 Rathburn	2,055	1,015	**49%**
98 Willowdale-Senlac	2,420	1,195	**49%**
51 Leslie	3,120	1,560	**50%**

41 Keele was the only route to have joined the top 20 busiest routes in both Spring 2020 and Fall 2021, serving employment areas and NIAs.

41 Keele was also a top 20 corridor by ridership retained and recovery in both Spring 2020 and Fall 2021. Minor local routes serving essential errands and employment areas also recovered strongly in both periods, such as 123 Sherway. Although they do not cross the city, minor routes such as these are vital for residents accessing essential work and services such as grocery stores. This analysis reinforces the widespread use of the bus network and confirms that service coverage across the city is important. Customers rely on our routes for a variety of purposes, therefore, it is important to maintain service on our expansive network.

As routes serving employment areas and NIAs generally experienced stronger ridership recovery, there are opportunities to review service levels and connections to ensure the routes continue to meet the needs of our customers. For routes experiencing slower recovery there are opportunities to review service levels to match capacity with demand and to explore alternative service delivery options, such as microtransit, in an effort to maintain coverage.

5   What time of day people travelled

Customers who continued to make essential trips made those trips at different times-of-day compared to office workers. In the onset of the pandemic, this became evident as some time periods retained a higher share of ridership than others.

5.1   Weekday trends

With essential errands making up most trips, afternoons, including the midday and afternoon-peak periods, as well as weekends, recovered faster compared to the morning peak period. Additionally, the early morning experienced stronger ridership recovery due to shift workers continuing to commute to work. Figure 13 below shows these trends over the course of the pandemic by showing the system wide average daily tap profile by hour in April 2019, April 2020, and November 2021.

Figure 13: System wide average daily tap profile by hour

Average Daily Tap Profile by Hour

■ Spring 2019 ■ Spring 2020 ■ Fall 2021

% of 2019 ridership
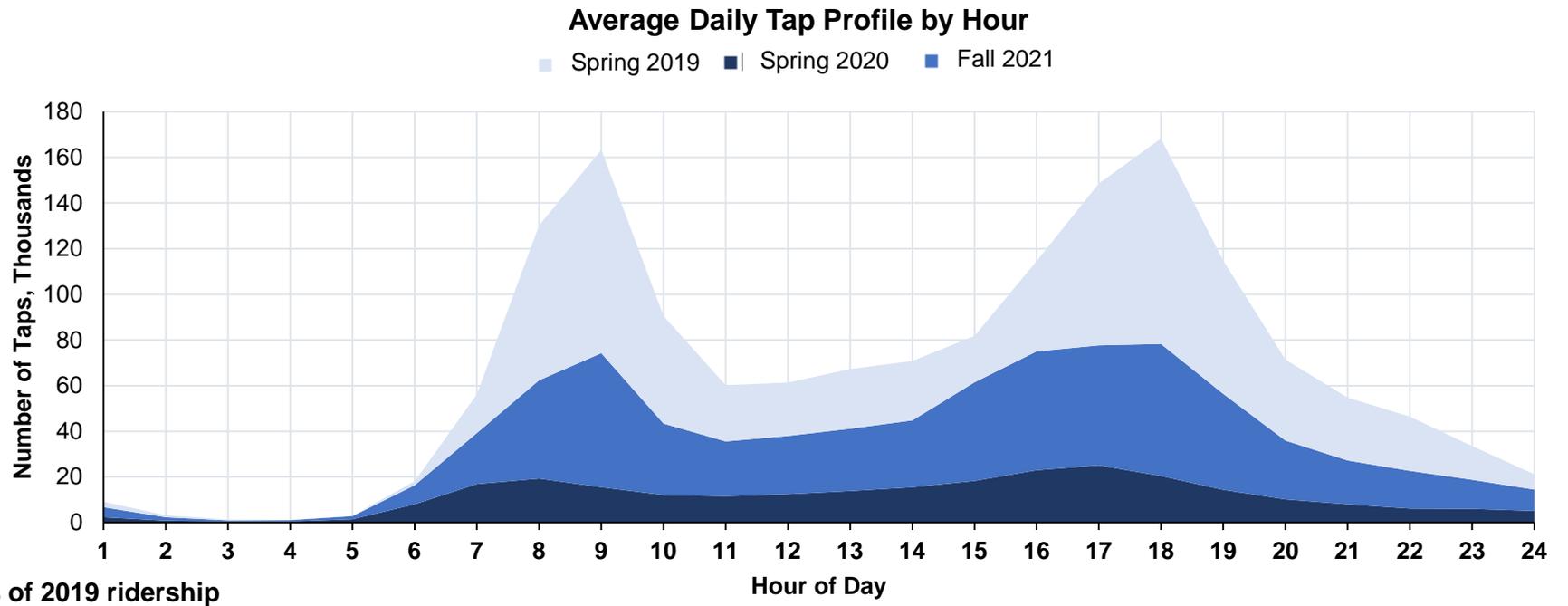
| Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
■ Spring 20	26%	23%	30%	37%	49%	44%	30%	15%	9%	13%	19%	20%	21%	22%	22%	20%	17%	12%	13%	14%	15%	13%	18%	24%
■ Fall 21	74%	69%	72%	86%	98%	90%	70%	48%	45%	48%	59%	62%	61%	63%	75%	65%	52%	46%	49%	50%	50%	49%	56%	68%

Figure 14 to Figure 16 show, by mode, the average daily tap profile by hour in 2019, 2020, and 2021. Note that the subway and bus profiles do not include customers that transfer from a bus to the subway and vice versa. For the subway and streetcar networks, both peak periods experienced the biggest decline in ridership, highlighting the significant role that the office worker plays in demand. By fall 2021, the decline in ridership on the bus network during the peak periods was smaller compared to the subway and streetcar networks. During the PM peak period, the first half of the period recovered faster, given shift workers and school tends to end around 3 p.m.

**Figure 14: Subway average daily tap profile by hour**

Average Daily Tap Profile by Hour - Subway

■ Spring 2019 ■ Spring 2020 ■ Fall 2021
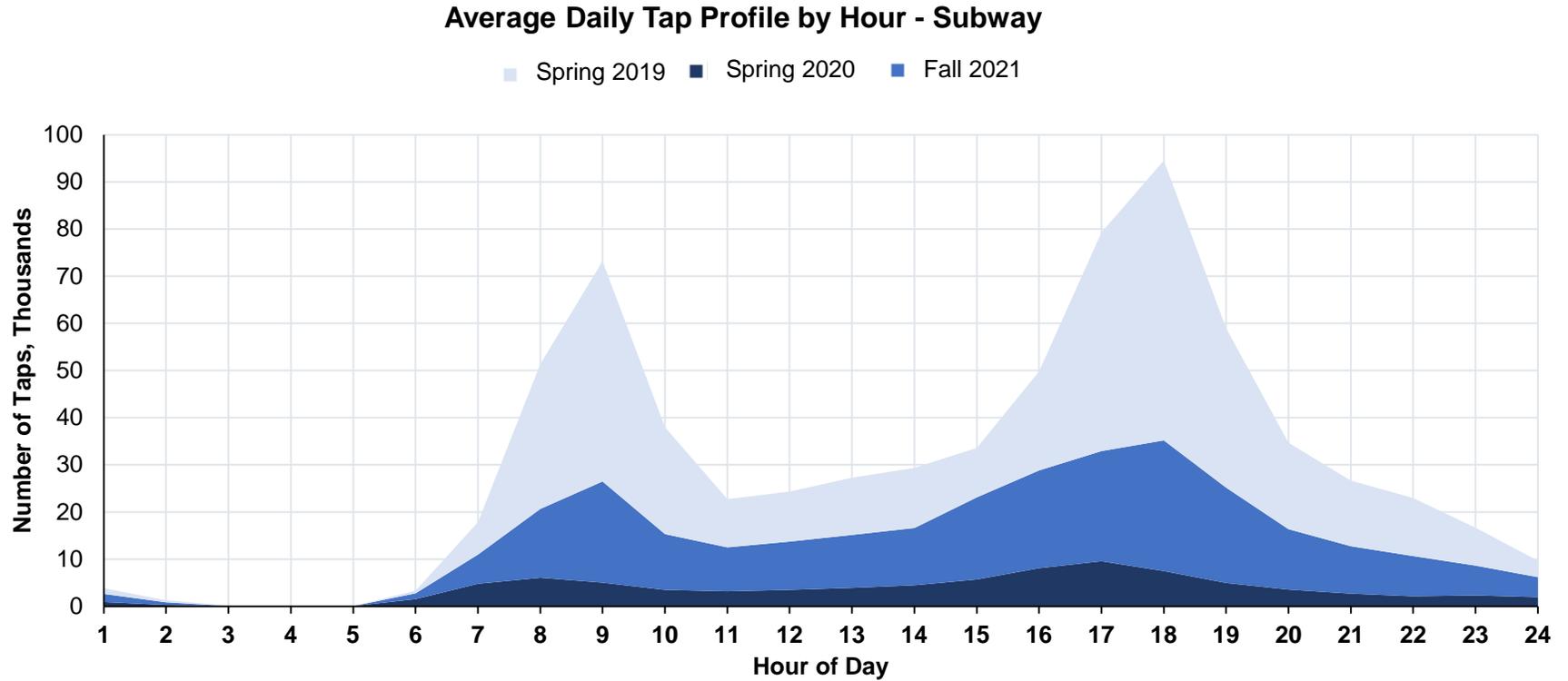
% of 2019 ridership

Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
■ Spring 20	23%	21%				45%	27%	12%	7%	9%	14%	14%	14%	15%	17%	16%	12%	8%	8%	10%	10%	9%	14%	20%
Fall 21	68%	67%				83%	61%	40%	36%	40%	55%	56%	55%	57%	69%	58%	41%	37%	43%	47%	48%	46%	52%	64%

Figure 15: Streetcar average daily tap profile by hour

Average Daily Tap Profile by Hour - Streetcar

■ Spring 2019　■ Spring 2020　■ Fall 2021
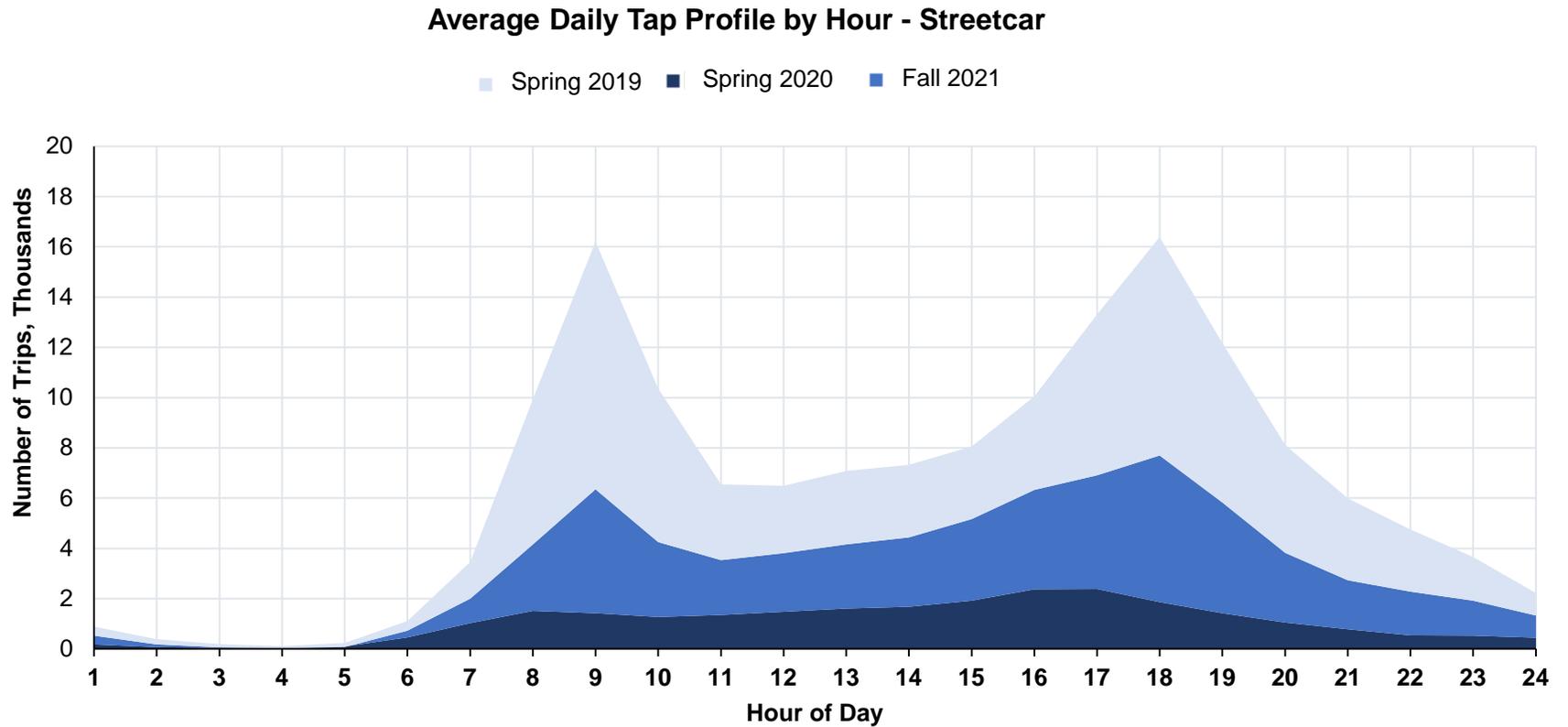
% of 2019 ridership

Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
■ Spring 20	20%	19%	19%	46%	41%	42%	30%	15%	9%	12%	21%	23%	23%	23%	24%	24%	18%	11%	12%	13%	13%	11%	14%	20%
Fall 21	60%	48%	31%	18%	32%	65%	58%	42%	39%	41%	54%	59%	59%	61%	64%	63%	52%	47%	48%	47%	46%	48%	52%	60%

Figure 16: Bus average daily tap profile by hour

Average Daily Tap Profile by Hour - Bus

■ Spring 2019 ■ Spring 2020 ■ Fall 2021
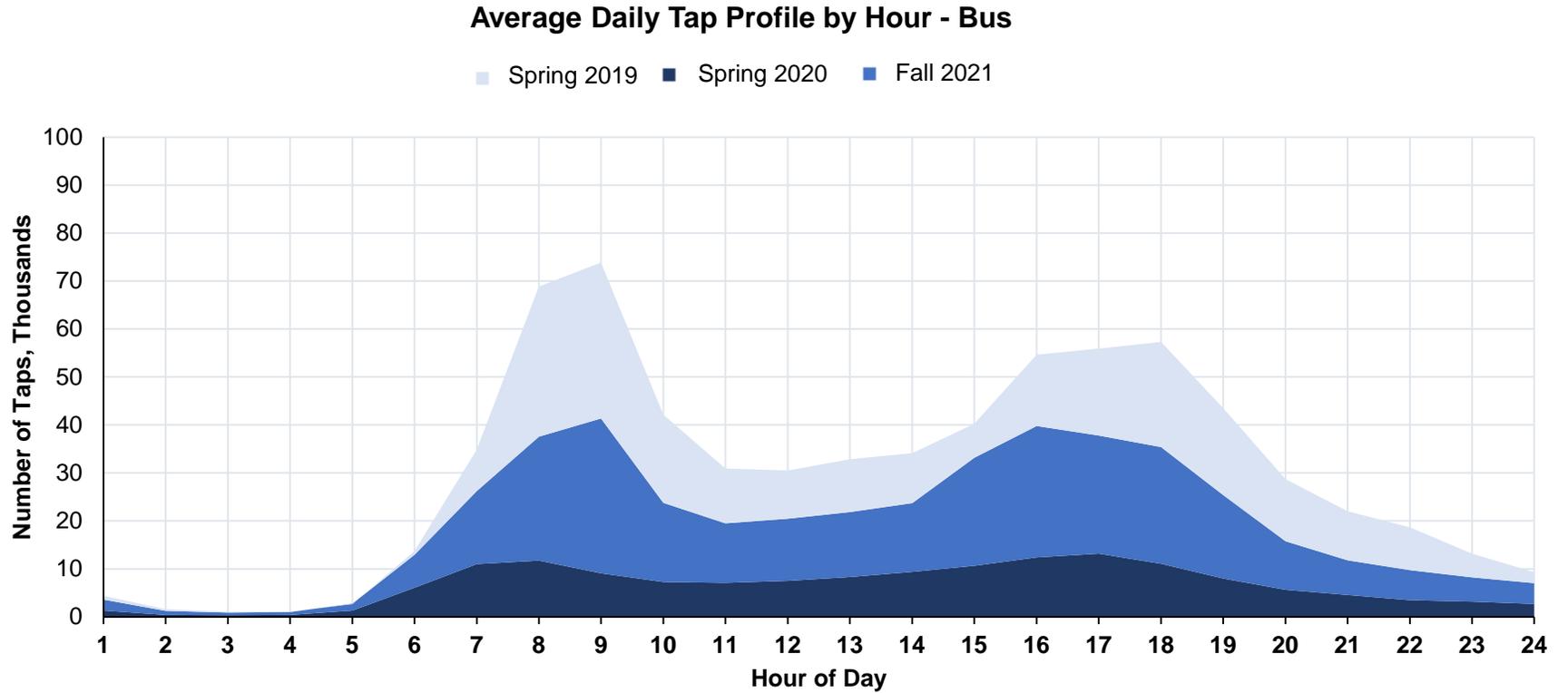
% of 2019 ridership

Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
■ Spring 20	30%	26%	30%	35%	48%	44%	32%	17%	12%	17%	23%	25%	25%	27%	26%	23%	23%	19%	18%	20%	21%	19%	24%	29%
■ Fall 21	82%	77%	78%	95%	104%	94%	75%	55%	56%	56%	63%	67%	66%	70%	82%	73%	68%	62%	58%	55%	53%	52%	62%	76%

5.2 Weekend trends

Figure 17 to Figure 19 show, by mode, the average weekend daily tap profile by hour in 2019, 2020, and 2021. Note that the subway and bus profiles do not include customers that transfer from a bus to the subway and vice versa. In general, weekend ridership did not decline as much as weekday ridership. Demand on the subway recovered strongest during the early morning and late afternoon, while the streetcar network experienced relatively consistent recovery rates across the midday. The bus network has a similar trend to the subway, in that the early morning period saw strong recovery as well as the late afternoon. These trends are consistent with early morning and afternoon shift workers, as well as essential errands taking place in the afternoon.

Figure 17: Subway weekend average daily tap profile by hour

**Average Weekend Daily Tap Profile by Hour - Subway**

Spring 2019 ■ Spring 2020 ■ Fall 2021
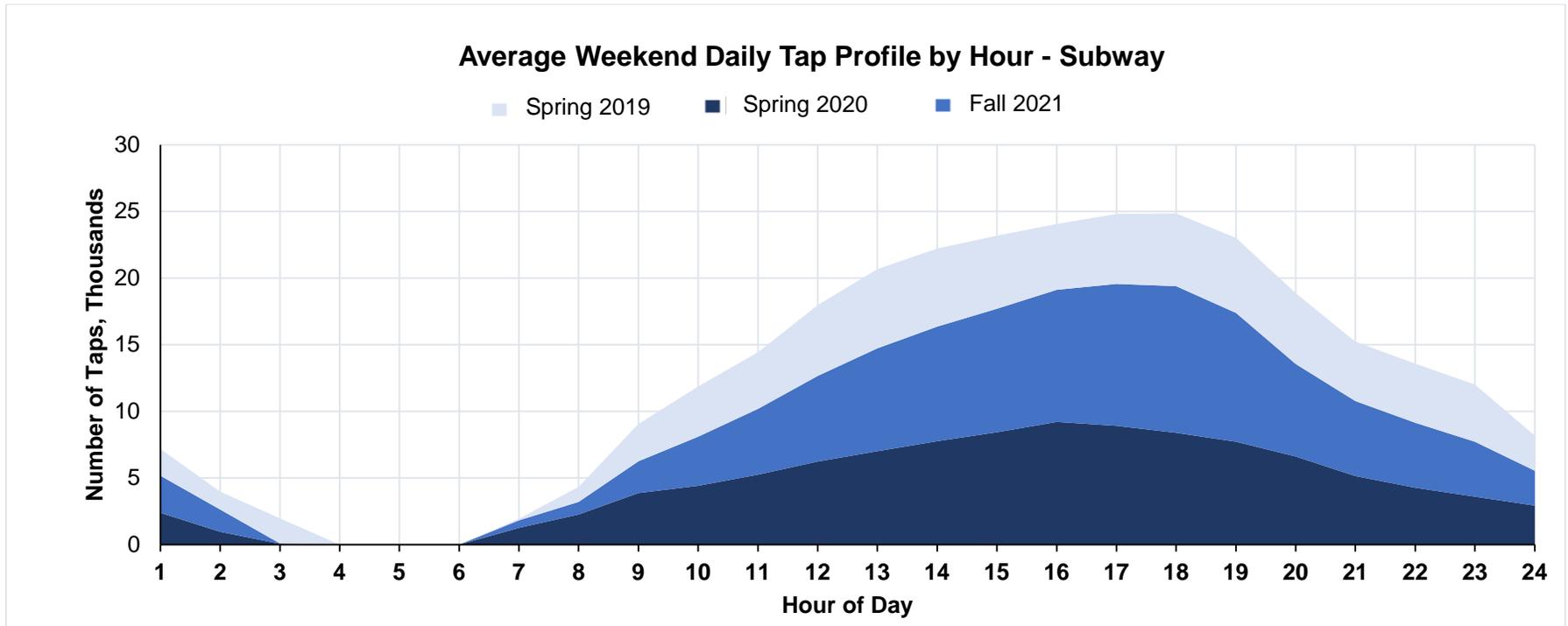
% of 2019 ridership

Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
■ Spring 20	33%	24%				78%	64%	52%	43%	37%	36%	35%	34%	35%	36%	38%	36%	34%	34%	35%	34%	31%	30%	36%
■ Fall 21	72%	66%				106%	94%	74%	69%	68%	71%	70%	71%	74%	76%	80%	79%	78%	76%	72%	71%	67%	64%	68%

Figure 18: Streetcar weekend average daily tap profile by hour

Average Weekend Daily Tap Profile by Hour - Streetcar

Spring 2019 ■ Spring 2020 ■ Fall 2021
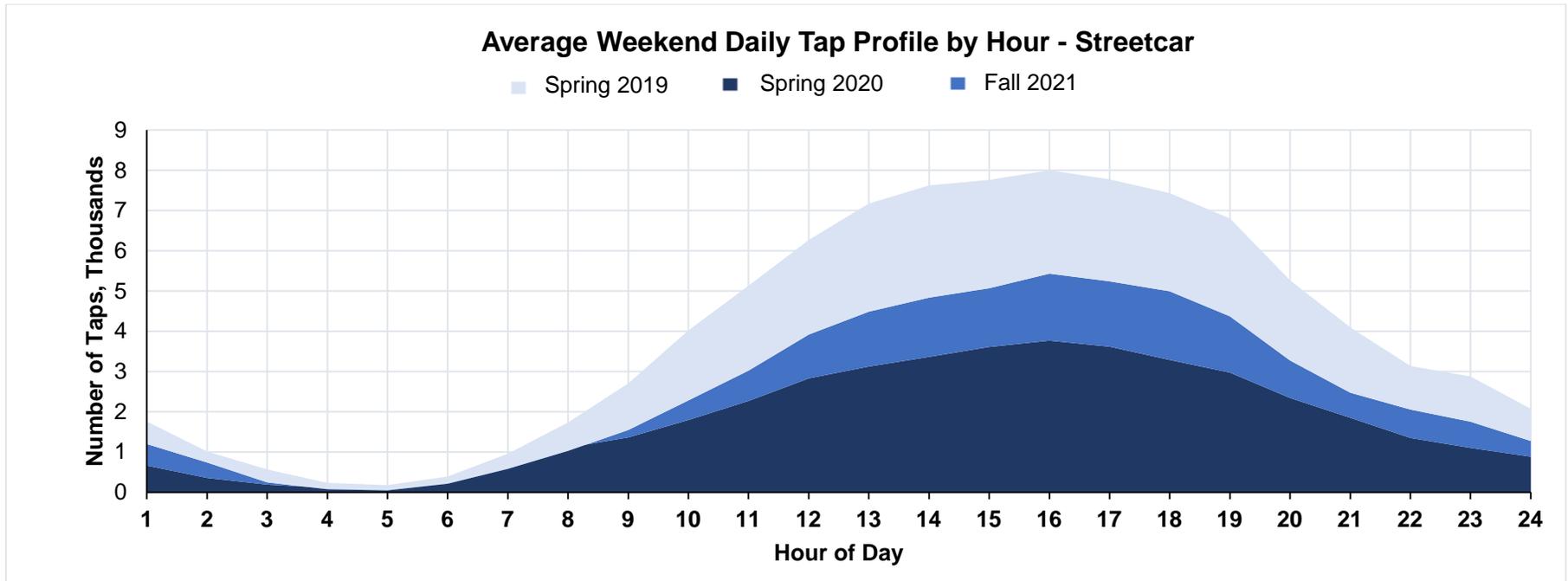
% of 2019 ridership

Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
■ Spring 20	38%	35%	34%	47%	57%	78%	72%	64%	50%	45%	44%	45%	44%	44%	46%	47%	47%	44%	44%	44%	45%	43%	38%	43%
■ Fall 21	68%	73%	43%	33%	24%	54%	61%	59%	57%	57%	59%	62%	63%	63%	65%	68%	67%	67%	64%	62%	60%	66%	61%	61%

Figure 19: Bus weekend average daily tap profile by hour

Average Weekend Daily Tap Profile by Hour - Bus

Spring 2019 ■ Spring 2020 ■ Fall 2021
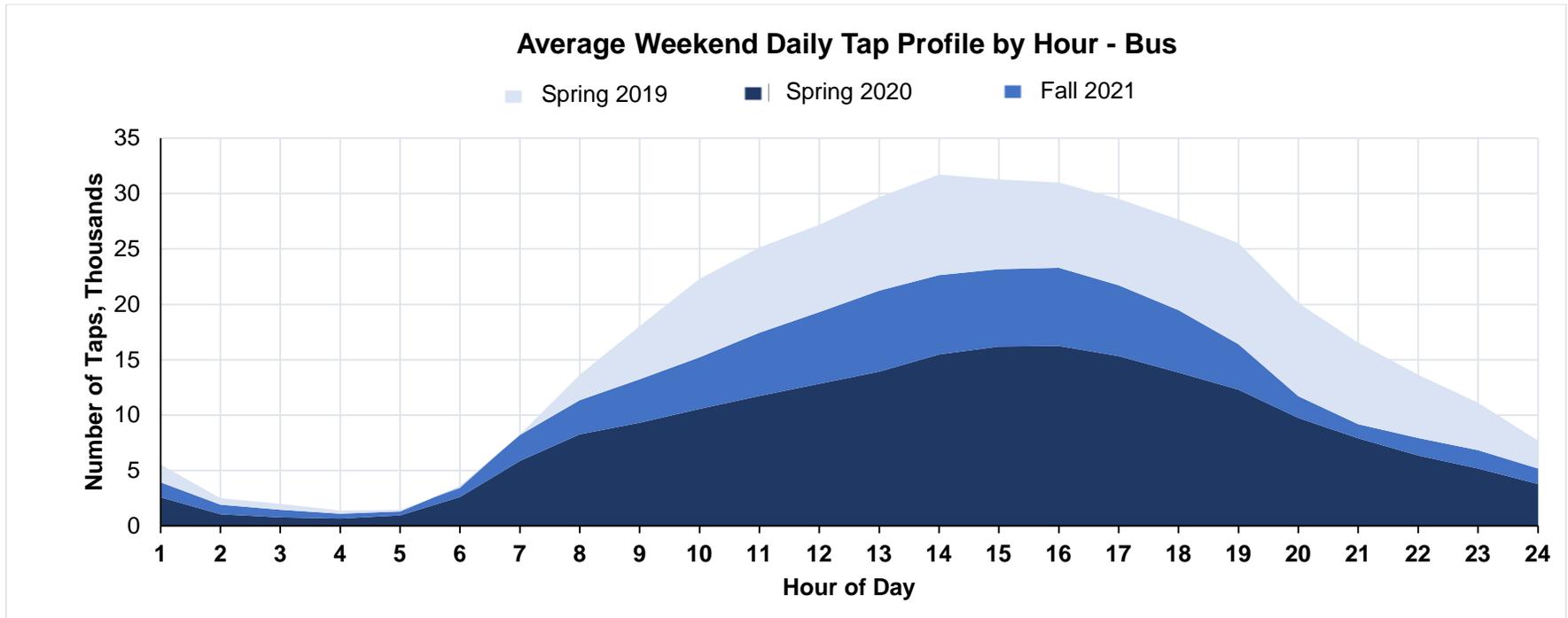
% of 2019 ridership

Hour of Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Spring 20	47%	42%	39%	49%	65%	76%	71%	61%	52%	47%	47%	47%	47%	49%	52%	52%	52%	50%	48%	48%	48%	47%	47%	49%
Fall 21	71%	77%	73%	79%	89%	104%	100%	83%	73%	68%	69%	71%	72%	71%	74%	75%	74%	70%	64%	58%	55%	58%	61%	67%

5.3 Importance of the overnight "Blue Night" network

Operating from 1:30 a.m. to 5:30 a.m. (8:00 a.m. Sundays), the Blue Night Network operates 30-minute-or-better service on major corridors in order to connect to over 95% of residents within a 15-minute walk. Shift workers make up a significant portion of Blue Night Network ridership, relying on it to access shifts that start or end in the early morning or late into the night. As shift workers continued to rely on transit due to the essential nature of their work, many Blue Night routes retained most of their ridership in Fall 2020 and Fall 2021 (see Figure 20 and Figure 21).

In early-2021, the 353 Steeles Blue Night route received additional service as to better connect shift workers to a newly opened Amazon Fulfillment Centre in the Passmore Industrial area.

Figure 20: Fall 2020 Blue Night Network ridership compared to 2019
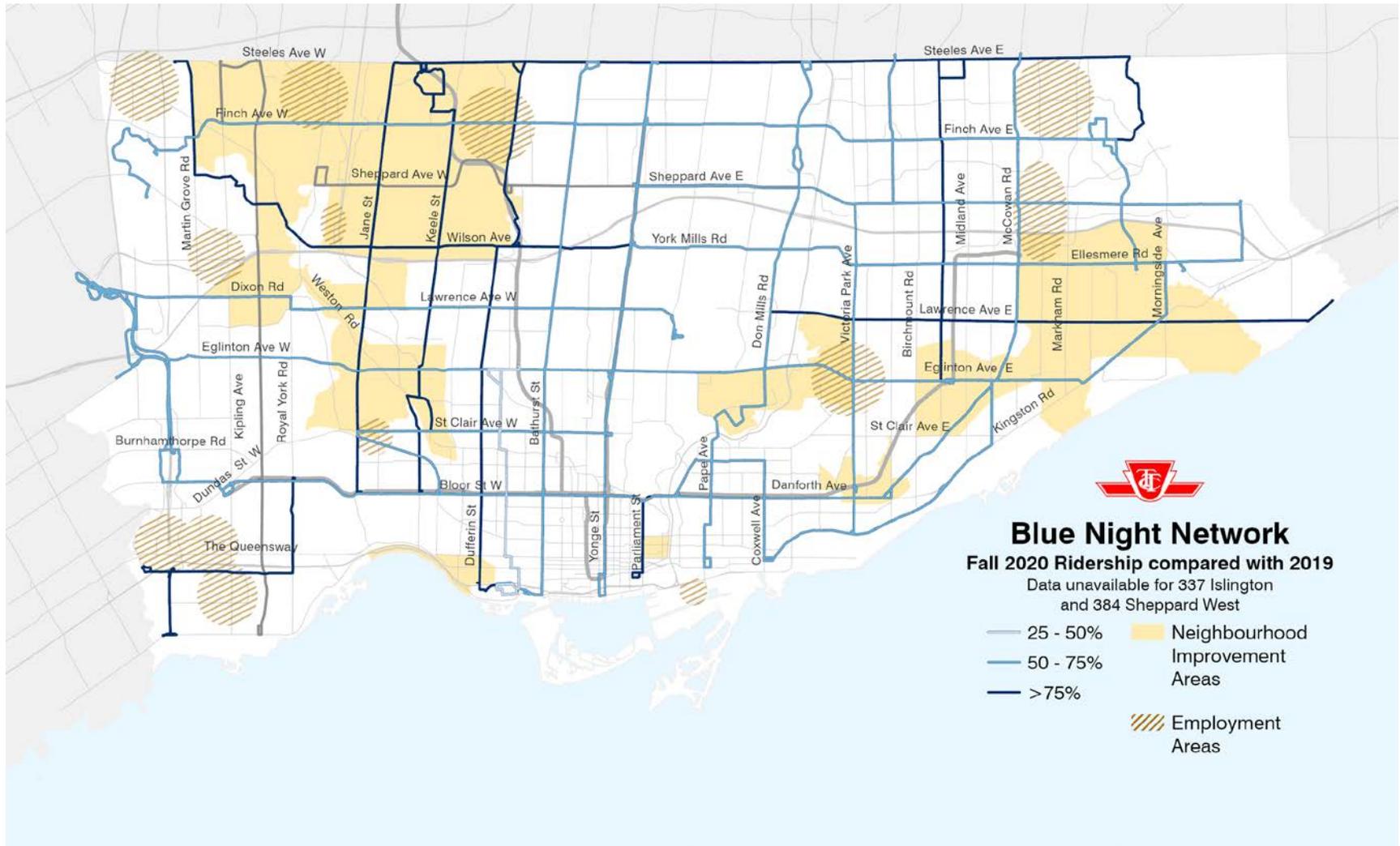
Figure 21: Fall 2021 Blue Night Network ridership compared to 2019
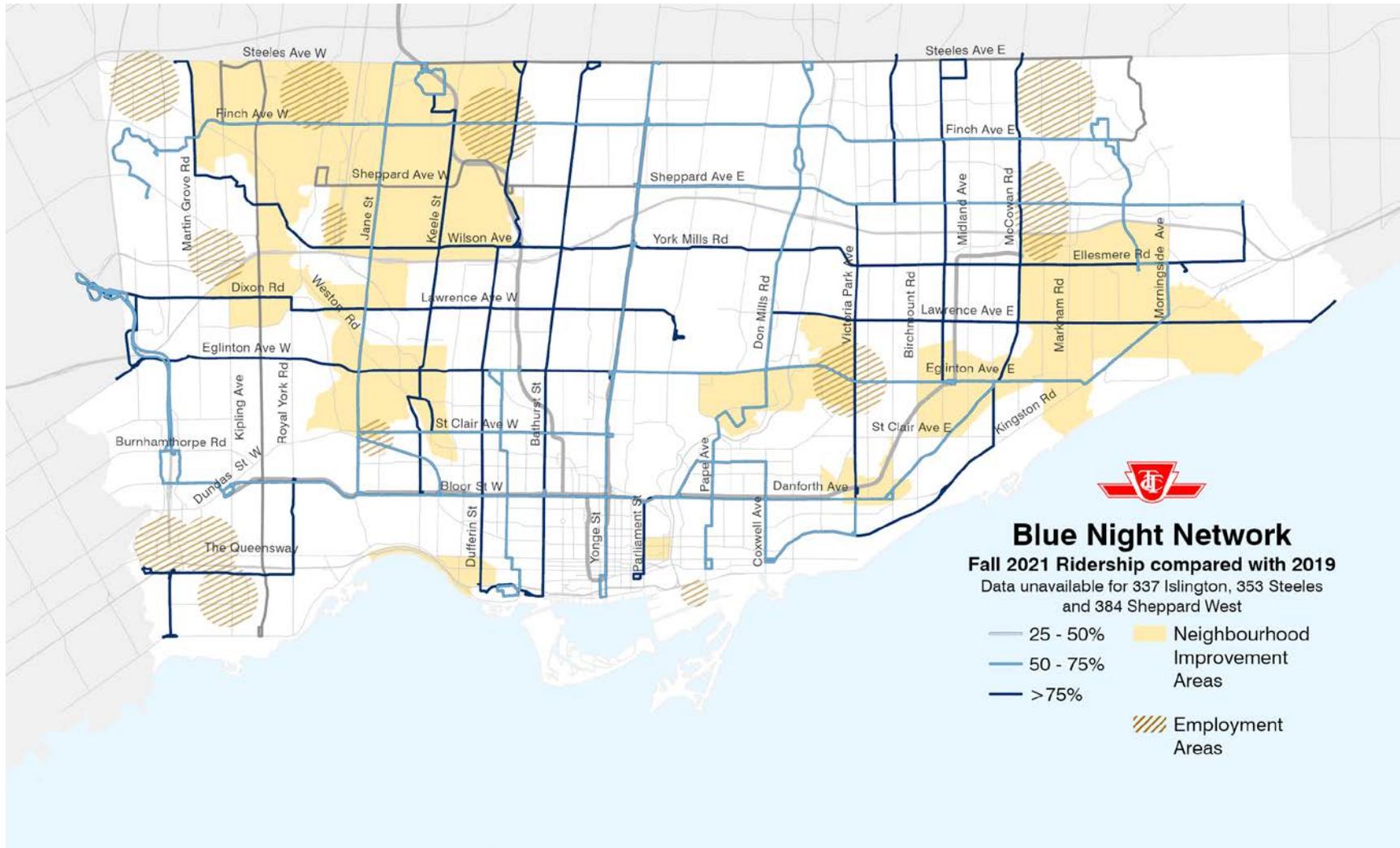
6   Importance of RapidTO

TTC's route network is designed to provide service across all corners of the city. However, the fastest transit services (subways) are concentrated in the central and southern districts of the city that are most heavily settled with the greatest density of population and employment. While the TTC provides frequent bus and streetcar service across all corners of the city, long travel times as a result of slow speeds operating in mixed traffic result in low-income residents living in the northwest and northeast parts of the city having significantly less access to opportunities. The COVID-19 pandemic further exacerbated this trend, as essential workers continued to make long bus trips to essential destinations spread out across the city.

At the onset of the COVID-19 pandemic, traffic congestion plummeted as people stayed home. As roads emptied out across the entire day, TTC buses experienced significant travel time savings as they were no longer impeded by traffic. Figure 22 below shows changes in travel time across major bus routes in the afternoon peak period at the peak of the pandemic in spring 2020. Green segments signify travel time savings of over 10%, and dark green segments over 25%.

Figure 23 displays bus network travel time changes comparing fall 2021 to 2019. Most of the green segments, indicating travel time savings of over 10%, have disappeared compared to spring 2020.

Figure 22: Change in average bus travel time comparing spring 2020 to 2019
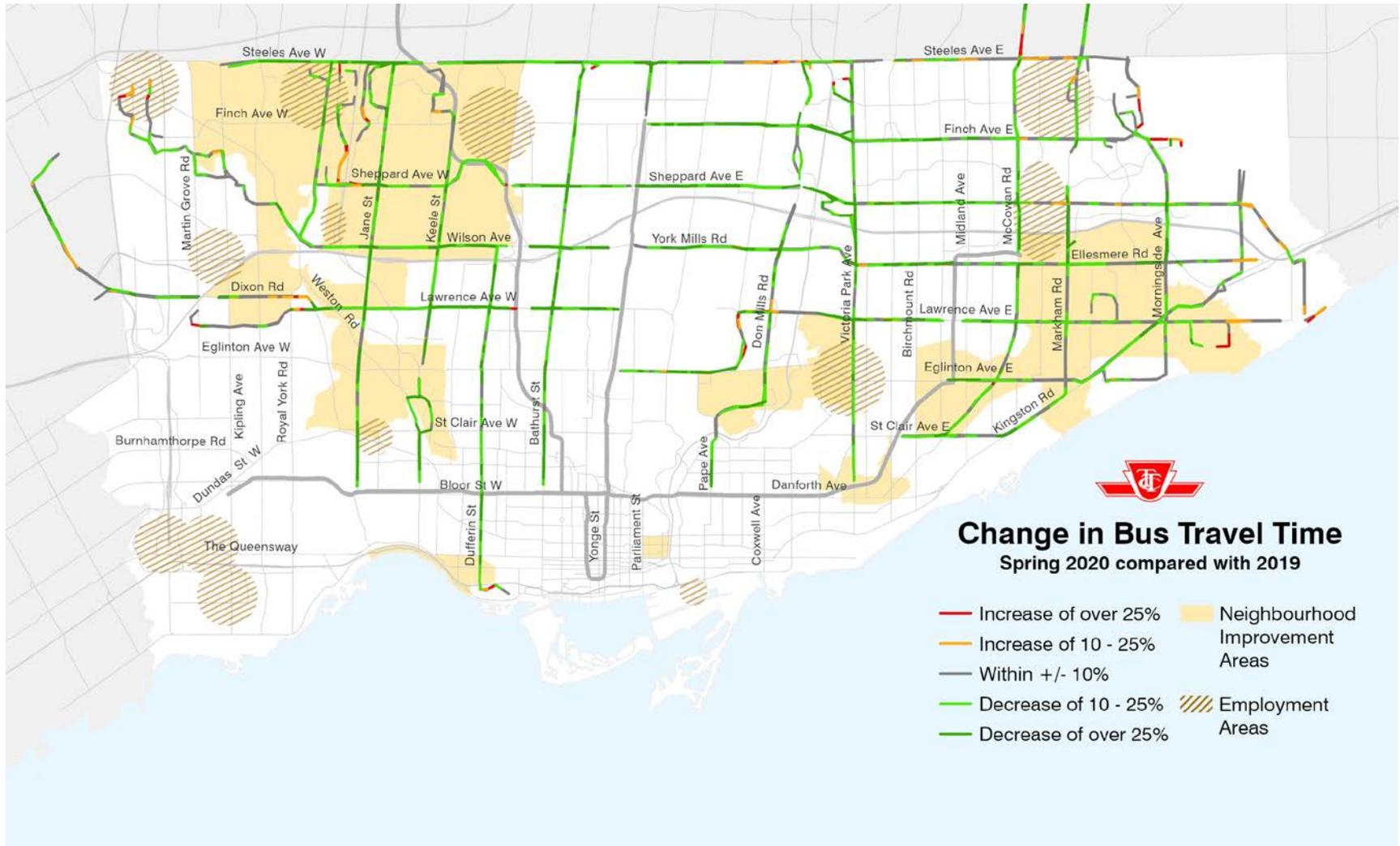
Figure 23: Change in average bus travel time comparing fall 2021 to 2019
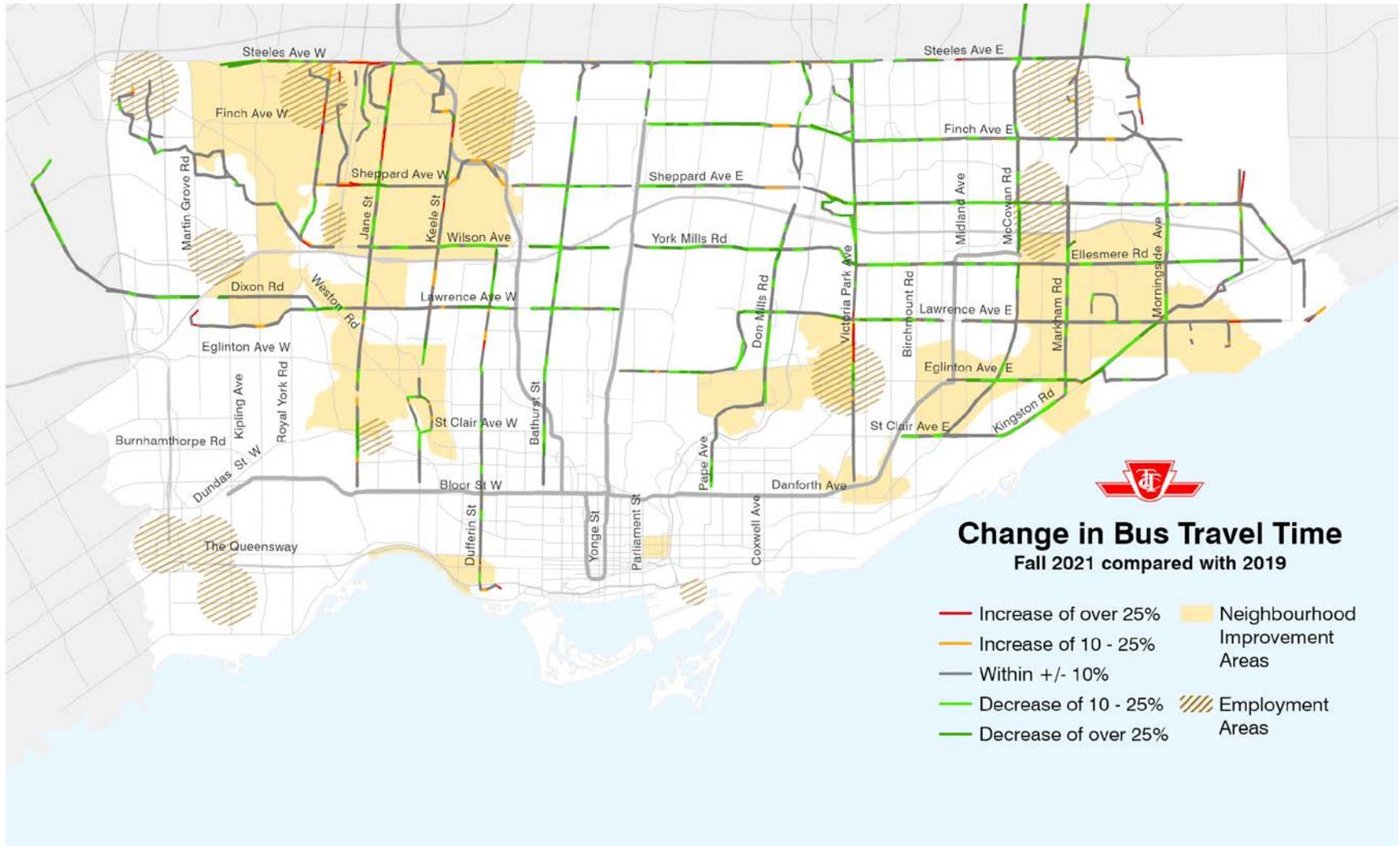
By November 2021, many activities, such as retail, dining, schools, and some offices, had reopened. Traffic volumes across the city had recovered to over 85% of pre-pandemic. Bus travel times are generally comparable to pre-pandemic times, with some segments on Jane Street, Keele Street and Steeles Avenue West becoming slower. However, the Eglinton East corridor continued to experience travel time savings similar to the savings experienced during the peak of the pandemic in spring 2020. This is due to the installation of the Eglinton East RapidTO bus lanes in fall 2020.

RapidTO was a key action identified in the 5-Year Service Plan & 10-Year Outlook. As part of the plan, the TTC identified five corridors for transit priority treatment on some of TTC's most heavily used bus routes in an effort to increase access to opportunities for those that need it most on the outer areas of the city.

Travel time analysis was conducted on the top five corridors to compare the impacts of bus lanes on RapidTO: Eglinton Avenue East. Figure 24 below shows the average travel times over the course of the pandemic on the top five corridors. As was the case across the network, travel times declined at the onset of the pandemic, but generally recovered by November 2021. Due to the installation of bus lanes, the Eglinton East RapidTO corridor was the most successful in maintaining its pandemic induced travel time savings.

Figure 24: Travel time comparison on top five RapidTO corridors
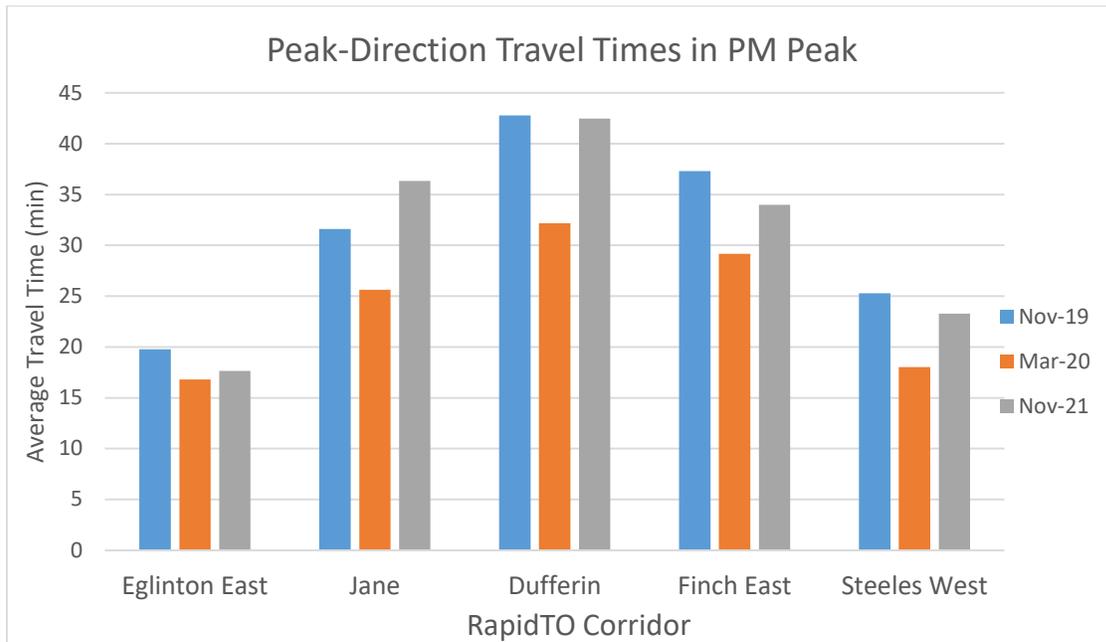
The results demonstrate that transit priority treatments like priority bus lanes are an effective tool to improve transit service on busy bus corridors. As we look to recover from the pandemic, the need to improve bus travel times and ensure transit remains an attractive travel option continues to be as strong as it was prior to the pandemic. On RapidTO: Eglinton Avenue East, bus lanes have successfully locked in the travel time savings that were achieved at the height of the pandemic when traffic congestion was minimal. Customers on this corridor now have faster travel times, which means they can reach more opportunities in the same amount of time.

The second RapidTO corridor currently being studied is Jane Street between Eglinton Avenue West and Steeles Avenue West.

In addition to the five corridors identified in the 5YSP, the city and the TTC are working to develop the RapidTO Bus & Streetcar Priority Plan. This plan identifies 20 corridors that will be studied over the next 10 years, with the goal of studying and implementing transit priority solutions on bus and streetcar corridors. In order to support an equitable and sustainable recovery, major bus and streetcar routes need to become faster and more reliable options for travelling across the city. The RapidTO Bus & Streetcar Priority Plan supports this objective. The plan will be presented to City Council in 2023 for approval.

7   Economic importance of transit in the City of Toronto

The TTC plays a critical role in connecting people to opportunities such a jobs, school, social events, and other activities that drive an economy. Prior to the pandemic, the TTC's largest customer group was the office worker, with the primary trip purpose being commuting to work. The largest impact on transit demand was a result of office workers telecommuting at the onset of the pandemic, which we estimate accounts for an average loss of 26% of pre-COVID demand

While the pandemic has highlighted the critical role the TTC plays as an essential service, it has also highlighted the critical role of the office worker as a transit customer. The TTC's success as an essential service relied on the office worker customer group, as high ridership levels contributed to revenue that kept the TTC's expansive network funded. Many office workers are destined to downtown, in which case they take the subway for all or part of their trip. Many of these trips have a lower cost per passenger which helps subsidize the rest of the network. COVID-19 upended this dynamic, creating severe funding challenges for the TTC.

Over the last two years, the TTC has been fortunate to receive COVID relief funding from the other orders of government in order to maintain high levels of service across the city. From the TTC's June 23 Financial Update, taking into account funds received up to January 2022, the TTC had received $1.453 billion in funding relief which recognize the importance of public transit as an essential service and the critical role it plays in the city's environmental, social and economic well-being and vitality, particularly in post-COVID recovery.

Maintaining pre-pandemic service levels is critical to recovery in order to avoid the negative ridership spiral that could occur should major service cuts need to be implemented. This could leave many vulnerable Torontonians without a means of travel. In addition to continuing advocacy for a more sustainable funding model for transit, the TTC will continue to review service levels and explore innovative opportunities such as microtransit to ensure customers continue to have travel options.

Low ridership levels not only affect the TTC and its financial health, but it also affects the economic vitality of the city and region as a whole. A report from the C.D. Howe Institute in April 2021 estimated that there was an economic loss ranging between $1.2 billion to $1.4 billion in the Toronto region due to decreased agglomeration, solely from examining TTC ridership losses, which includes those who stopped using transit but continued to make trips with another mode. These economic benefits will continue to diminish if people increasingly decide to telecommute which will create a more geographically dispersed workforce.

The report also highlights how transit not only benefits the customers who ride transit but the city as a whole also benefits. Here are a few examples:

- The TTC allows people to travel further than they otherwise would if they could only walk or bike. This provides our customers with greater access to job opportunities, but it also provides employers with greater access to labour pools.
- The TTC allows its customers to travel further in less time to access services and amenities. A new transit service may make it feasible for someone to travel into a neighbourhood to have dinner at a popular restaurant, which before the transit service improvement would have taken them too long. This not only benefits the customer who can now reach the popular restaurant, but also benefits others if this helps keep the restaurant financially viable.

The analysis completed by C.D. Howe demonstrates the importance of the TTC in the City of Toronto and how maintaining pre-pandemic service levels are critical to the economic recovery of the region. As businesses and households reconsider their long-term locations and travel decisions, it is imperative that the TTC continue to be an attractive travel option making it easy for people to travel around the city and experience the benefits of agglomeration.

The C.D. Howe report also studied the economic benefits of investment in transit service by measuring the agglomeration benefits of the proposed service improvements in the 5-Year Service Plan & 10-Year Outlook. This includes implementation of Lines 5 and 6, automatic train control (ATC) on Line 1, the five RapidTO corridors, and new express routes on Warden and Kennedy. It is estimated that the agglomeration economic benefits of the proposed service improvements will be $377-million per year, which would add on to the agglomeration benefits of the existing system. This further demonstrates the importance of continuing to invest in public transit service in the City of Toronto.

8 Policy analysis

The following section presents a summary of how existing TTC policies and initiatives support the travel behaviours and trends identified for people with low income, women and shift workers. All of which relied on the TTC during the pandemic (Table 8).

Table 8: Summary of TTC policies and initiatives that support people with low income, women and shift workers

Existing TTC policy or initiative
All Day, Every Day Network Over 130 routes operate every 30 minutes or better from 6:30 a.m. to 1 a.m. every day (8 a.m. Sundays)
10-Minute Network (Walk up and go) 40 routes operate every 10 minutes or better from 6:30 a.m. to 1 a.m. every day (8 a.m. Sundays)
Express Bus Network Express bus service operates on most grid routes every 15 minutes or better in peak and some off-peak periods.
Blue Night Network Operates from 1:30 a.m. to 6 a.m. (8 a.m. Sundays) to serve 95% of residents within a 15-minute walk.
Grid network service standard Service designed to operate as a grid, facilitating transfers and trips that are not downtown bound.
Off-Peak crowding service standard Off-Peak service scheduled to provide a seat to every customer – providing an increase in frequency.
Two-Hour transfer Customers can make multiple trips within two hours.
Fair Pass Discounted fare for low-income customers in eligible social assistance programs.
Request stop program Customers can request to be dropped off in between two bus stops between 9 p.m. and 5 a.m.
Designated Waiting Areas Station platform areas equipped with enhanced lighting, security cameras, and an intercom.
Easier access Program to make stations accessible by installing elevators in all stations by 2025, which will make it easier to use strollers across the system.
Children under 12 ride for free Fare policy that allows children under 12 to ride for free reducing costs for families.
Transit stop amenities Program to make stops accessible, shelters and street furniture program, real-time information displays etc.
Real time crowding information for bus network Real-time crowding information for bus routes made available through two popular trip planning mobile apps as well as the TTC website. Allows customers

to plan ahead and take an alternate route or delay their trip if they were more comfortable doing so.

Traditionally transit agencies tend to design their service and network to accommodate the AM/PM peak commuter. With the support of the TTC Board and City Council in 2015, the TTC was able to implement a wide array of service improvements across the city that included:

a. introducing new periods of operation (all-day, every-day network);
b. introducing new express bus services;
c. improving off-peak crowding standards;
d. introducing a 10-minute-or-better network; and
e. expanding the overnight transit network.

The service added as part of this initiative, in addition to, maintaining these levels of service during the pandemic benefited our customers who continued to ride. Building on the improvements made in 2015, the TTC's 5-Year Service Plan & 10-Year Outlook focuses on addressing the following:

- Delivering reliable and frequent service;
- Enhancing transit priority on the bus and streetcar network;
- Integrating surface transit with new rapid transit lines, neighbouring transit agencies and other transportation modes;
- Identifying local service improvement opportunities with community groups; and
- Improving the overall transit rider experience, from beginning to end.

The results of this analysis demonstrates and verifies that the pillars and actions identified in the Plan should continue to be implemented. Actions such as 3.1 Improve surface transit schedules, 4.1 Explore bus transit lanes and 1.7 Apply an equity lens to service planning, all support the travel behaviours of customers that continued to rely on the TTC during the pandemic.

While the TTC has policies, standards and programs in place to support these key customer groups, there are always opportunities for continuous improvement.

9   Opportunities for further study

The COVID-19 pandemic has emphasized the role the TTC plays as an essential service. Through this study the TTC has completed a review of ridership levels and travel patterns over the course of 2020 and 2021 and identified key findings about how customers used the transit network over the pandemic.

Pre-COVID, the office worker was the largest customer group representing approximately 26% of TTC ridership. Throughout the pandemic, three key customer groups continued to rely on transit: people with low income, women, and shift workers. Customers who continued to rely on the TTC during the pandemic have travel behaviours that differ from the traditional 9 to 5 office worker. They generally travel in off-peak times, make longer bus trips to destinations spread out across the city and women often trip-chain, making multiple stops during their trip.

As we begin planning for a future beyond the pandemic, current research suggests high levels of working from home will continue post pandemic for an indefinite time period in Toronto. This means that the office worker may no longer be the largest customer group and adjustments to how we design our network and plan our service levels should be explored. As a first priority, the TTC will seek to better understand the needs and priorities of people with low income, women and shift workers. Given the diverse travel needs of these customers, improving service for these customer groups will benefit all customers who ride the TTC. Second, the TTC will continue to monitor telecommuting trends and identify opportunities to improve service for these customers. We will continue to review service levels to ensure capacity aligns with post-pandemic travel patterns and explore different service delivery options such as microtransit.

The findings from this report will be used to inform the guiding principles for the 2023 Annual Service Plan, as well as the work plan for the development of a new 5-Year Service Plan (2024-2028) & 10-Year Outlook. The following sections provide more details on work being planned.

9.1   2023 Annual Service Plan

As part of the 5-Year Service Plan & 10-Year Outlook (2020-2024) process, we committed to developing (and consulting stakeholders and the public on) detailed Annual Service Plans (ASPs) every year.

Annual Service Plans build on the 20-point action plan in the 5YSP and identify how the TTC will serve customers in the coming year. They focus on modifying and improving service for our customers and refining previously identified service planning initiatives to address emerging and changing priorities.

The 2023 ASP will continue to refine the initiatives approved by the TTC Board in the 5-Year Service Plan & 10-Year Outlook (2020-2024), with a particular focus on three main priorities:
- **COVID-19 Learnings,** understand the travel patterns of customer groups who largely continue to use the TTC during the pandemic (low income, women and shift workers) and apply these learnings to identify needs and priorities that benefit all customers.

- **Line 3 surface network adjustments**, covering proposed changes to the bus network as a result of the Line 3 Scarborough closure; and
- **Line 6 surface network adjustments,** covering proposed changes to the bus network connecting to Line 6 Finch West.

From June to December 2022, the TTC will engage customers, stakeholders, and the general public to help inform the 2023 Annual Service Plan. The consultation process builds on the 5-Year Service Plan & 10-Year Outlook (2020-2024), in which we committed to consulting the public and stakeholders annually to inform the development of detailed ASPs.

Consultation will follow a two-round process.

Round One: Summer
The focus of Round One will be:

- Learning about how our customers' preferences, needs, and priorities have adjusted during the COVID-19 pandemic (particularly women, shift workers, and low income customers – who have continued to heavily rely on transit throughout the pandemic).
- Sharing and discussing priority service initiatives, including draft proposed surface network changes to support the opening of Line 6 Finch West and closure of Line 3 Scarborough.

Round One engagement will include virtual stakeholder meetings with city-wide and area-specific organizations, focus groups with key customer audiences (organized through the TTC's new Customer Panel), and surveys (available online, by request in the mail, and supported by a dedicated phone line).

Round Two: Fall
The focus of Round Two will be sharing and seeking feedback on proposed final recommendations for 2023 ASP (and how feedback from Round 1 informed the proposed final recommendations).

Round Two engagement will include another round of virtual stakeholder meetings, Pop Ups at key locations, a survey, and Youth Ambassador-led engagement (building on our successful program to provide paid work and skill development opportunities for youth to engage their communities on service initiatives).

The final plan will be presented to the Board in early 2023.

9.2 5-Year Service Plan (2024-2028) & 10-Year Outlook

After the completion of the 2023 ASP, the TTC will begin development of a new 5-Year Service Plan (2024-2028) & 10-Year Outlook. The new plan will build on

the COVID-19 lessons learned to identify adjustments that continue to meet customer needs and include a longer term plan to adapt to our "new normal." We will continue to review ridership patterns and service levels to ensure capacity aligns with post-pandemic travel patterns. Again, customer consultation will play a key role in the development of the plan. Three rounds of consultation are planned as part of the study work plan.

As a result of this study, TTC staff have identified opportunities for additional technical work to help inform the development of the new 5-Year Service Plan (2024-2028) & 10-Year Outlook:

- Review service levels to ensure capacity aligns with post-pandemic travel patterns;
- Explore ways to support travel behaviours of people with low income, women and shift workers by reviewing service design and service quality;
- Conduct further research on the hybrid work model and commuter trends. For example: review trends by day of the week and how this may impact service levels or future schedules;
- Explore innovative service delivery options such as microtransit;
  - Pilot the use of a Wheel-Trans bus on a scheduled fixed-route service to understand potential operational savings
  - Pilot the use of a Wheel-Trans bus in a neighbourhood microtransit/dial-a-ride service offering
- Consider reviewing existing TTC service standards to specifically reference equity deserving groups;
- Analyze Transportation Tomorrow Survey (TTS) by gender, income and occupation to generate additional insights on travel behavior for all customer segments;
- Continue to leverage the Customer Satisfaction Survey to collect gender, income and occupation related data in conjunction with customer satisfaction drivers; and
- Leverage the TTC's new customer panel to conduct targeted research.

10 Conclusion

This report provides an overview of actual service experience with regards to COVID-19 over the past two and a half years.

COVID-19 has upended our lives but one thing remains true – transit is critical to the prosperity of Toronto and the region.

Based on the work-completed to-date, the opportunities identified in this report will form the basis for engagement with the community as part of the 2023 ASP process. Work will then begin to develop a new 5-Year Service Plan (2024-2028) and 10-Year Outlook.