

2022 CYCLING YEAR IN REVIEW

TRANSPORTATION SERVICES



MAJOR CYCLING ACHIEVEMENTS IN 2022

In 2022, the City completed its first protected intersection and floating bus platform as part of the York University Cycling Connections Project, which was also the site of a walking visit by specialists and advocates for people with disabilities to assess the safety and efficiency of accessibility features. See pages 5 - 24 for a full account and results of the site visit.

The City has also been working on increasing the quality of new and existing bikeways by investing in raised and interim height cycle tracks and poured-in-place concrete. While these projects take longer to construct than painted bikeways, they are expected to provide a higher level of comfort. In 2022, Chesswood Avenue, Wellington Street and College Street projects started construction on permanent protected bikeways and are expected to be complete in 2023.

BIKEWAY INSTALLATIONS IN KM 2016-2022*

| Bikeway Type | Three-Year Period | | | Three-Year Period | | | 2022 | Total Network |
|------------------------------------------------------|-------------------|-------------|-------------|-------------------|-------------|-------------|-------------|---------------|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | | |
| Multi-use Trails | 3.5 | 4.0 | 4.8 | 1.8 | 2.8 | 1.7 | 2.0 | 388.1 |
| Cycle Tracks (includes bi-directional tracks) | 2.8 | 3.1 | 1.8 | 1.5 | 24.4 | 9.0 | 3.9 | 78.9 |
| Bicycle Lanes (includes buffered and contra-flow) | 0.7 | 4.2 | 5.4 | 1.3 | 5.7 | 8.7 | 5.4 | 136.6 |
| Wayfinding Sharrows | 1.1 | 0.6 | 3.2 | 0.6 | 2.8 | 3.3 | 6.5 | 55.4 |
| TOTAL | 8.1 | 11.9 | 15.2 | 5.2 | 35.7 | 22.7 | 17.8 | 659.0 |

*Along with the kms delivered in 2022, there were an additional 17 kms of bikeway installations under construction as of December 2022.

All kilometres are reported in centreline, which measures the length of the road / trail segment. Reporting excludes signed routes, which were counted in the previous year.

21.6 KM OF BIKEWAY UPGRADES



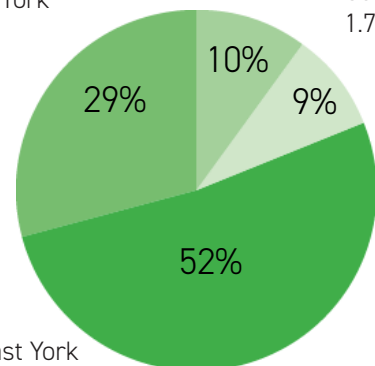
Upgrades included:

- protection added in existing bicycle lanes for people cycling, in the form of concrete barriers, curbs or flexible posts
- line markings refreshed to bring cycling facilities up to standard
- multi-use trails resurfaced, with accessibility elements added

BIKEWAY INSTALLATIONS BY DISTRICT

Etobicoke York
5.3 km

Scarborough
1.75 km



Toronto-East York
9.26 km

BIKE SHARE TORONTO



| | 2020 | 2021 | 2022 | System Total |
|----------------------------------------|------------------------|------------------------|------------------------|-------------------------|
| Bike Share Stations Installed | 140 | 13 | 38 | 625 |
| Total Number of Bikes in System | 6,815 | 6,815* | 7,140 | 7,140 |
| Yearly Memberships Purchased | 18,855 | 25,118 | 31,838 | 127,653 since 2015 |
| Number of Rides (year-to-date) | 2.9 million | 3.4 million | 4.5 million | 15.9 million since 2011 |
| Year-over-year Average Number of Rides | +21% from 2019 to 2020 | +17% from 2020 to 2021 | +32% from 2021 to 2022 | -- |

Bike Share Toronto is operated by the Toronto Parking Authority.

*There was no increase between 2020 and 2021, as 2020 marked the last year of the previous four-year expansion.

BICYCLE PARKING

| Installations by Transportation Services in 2022 | |
|--------------------------------------------------|---|
| Bicycle Corrals | 2 |
| Multi-bicycle Racks | 9 |

| Overall Total Bike Parking Managed by Transportation Services in 2022 | |
|-----------------------------------------------------------------------|----------|
| Bicycle Corrals | 31 |
| Post and Ring | 17,067** |
| Multi-bicycle Racks | 233 |
| Bicycle Lockers | 21 |
| Bicycle Stations | 4 |

**No new installations in 2022, as the post and ring racks were undergoing maintenance and repairs.

CYCLING NETWORK BUDGET - PROGRESS (2019-2022) AND PROPOSED (2023)

| \$ (in millions) | 2019 Actual | 2020 Actual | 2021 Actual | 2022 Estimate*** | 2019-2022 Total | 2023 Proposed |
|---------------------------------------------------------------------------------------------------|-------------|-------------|-------------|------------------|-----------------|---------------|
| Bikeway implementation (i.e., multi-use trails, cycle tracks, bicycle lanes, wayfinding sharrows) | 14.4 | 24.7 | 18.9 | 18.9 | 76.9 | 20.0 |
| West Toronto Railpath**** | | | | | | 10.0 |
| TOTAL | 14.4 | 24.7 | 18.9 | 18.9 | 76.9 | 30.0 |

***Estimated spend, to be confirmed at year-end closing

****To be delivered by Metrolinx

CYCLING SERIOUS INJURIES OR DEATHS 2016-2022

| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|--------------------------------------------------------------------------------|------|------|------|------|------|------|------|
| Number of fatalities | 1 | 4 | 4 | 1 | 4 | 1 | 2 |
| Number of serious injuries | 37 | 48 | 39 | 36 | 27 | 20 | 25 |
| Rate of cycling fatalities per 100,000 resident population | 0.04 | 0.15 | 0.15 | 0.04 | 0.15 | 0.04 | 0.07 |
| Rate of people seriously injured while cycling per 100,000 resident population | 1.35 | 1.76 | 1.43 | 1.32 | 0.99 | 0.73 | 0.92 |

NEW BIKEWAY PROJECTS COMPLETED IN 2022

| Project Name | Street | From | To | Bikeway Type | KMs |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------|-----------------------------------------------------------|--------------|
| Bartlett-Havelock-Gladstone Cycling Connections | Bartlett Ave | Davenport Rd | Bloor St W | Bike Lane - Contra-flow and Neighbourhood Traffic Calming | 1.50 |
| | Havelock St | Bloor St W | Dewson St | | 0.57 |
| | Gladstone Ave | Sylvan Ave | A point 10 m south | | 0.01 |
| | | College St | Lindsey Ave | | 0.12 |
| | Lindsey Ave | Gladstone Ave | Havelock St | | 0.13 |
| Contra-flow bike lane connections | Cambridge Ave | Danforth Ave | A point 40 m north | Bike Lane - Contra-flow | 0.04 |
| Cycle track extensions and installations | Shoreham Dr | Black Creek | Jane St | Cycle Track | 0.40 |
| | Danforth Ave | Dawes Rd | Victoria Park Ave | Cycle Track | 0.71 |
| | George St S | The Esplanade | Wilton St | Contra-flow Cycle Track | 0.05 |
| | The Esplanade | George St S | Lower Sherbourne St | Bi-directional Cycle Track | 0.31 |
| | University Ave | Adelaide St W | King St W | Cycle Track | 0.15 |
| | Willowdale Ave | Empress Ave | Maplehurst Ave | Cycle Track | 0.86 |
| | Bloor St W | Symington Ave | Dundas St W | Cycle Track | 0.39 |
| | Steeles Ave E | Kennedy Rd | Midland Ave | Cycle Track | 0.50 |
| Multi-use trail projects | Morningside Avenue | Steeles Ave E | Passmore Ave | Multi-use Trail | 0.65 |
| | The Meadoway | Military Trail Rd/ Orton Park Rd | Highland Creek | Multi-use Trail | 0.60 |
| Palmerston-Tecumseth Cycling Connections | Palmerston Ave | Dupont St | Bloor St W | Bike Lane - Contra-flow and Neighbourhood Traffic Calming | 1.00 |
| | | College St | Queen St W | | 1.00 |
| | Tecumseth St | Queen St W | Niagara St | | 0.64 |
| Scarlett-Runnymede Connection Improvements | Eileen Ave/Castleton Ave/ Esposito Cres/Jane St/ Pritchard Ave/Runnymede Rd/ Florence Cres | Scarlett Rd | Runnymede Rd | Wayfinding Sharrows | 1.40 |
| | Runnymede Rd | St. Clair Ave W | Liverpool St | Cycle Track | 0.10 |
| Waterfront Cycling Connections | New Cherry St | Commissioners St | Polson St | Multi-use Trail | 0.50 |
| | Commissioners St | Cherry St | End of Cherry St | Cycle Track | 0.30 |
| Wayfinding routes | Brookmere Rd/Elmhurst Dr/ Turpin Ave | Kipling Rd | West Humber Trail | Wayfinding Sharrows | 2.20 |
| | Highland Ave/Roxborough Ave/ MacLennan Ave | Mt Pleasant Rd | Old Bridle Path | | 1.40 |
| | Pineway Blvd | Cummer Ave | Finch Corridor Trail | | 0.71 |
| Woodfield Road-Monarch Park Avenue Project | Woodfield Rd | Queen St E | Eastern Ave | Bike Lane - Contra-flow | 0.20 |
| | | Eastern Ave | Lake Shore Blvd E | Bike Lane | 0.20 |
| | | Woodfield Rd (south curb) | Lake Shore Trail | Multi-use Trail | 0.05 |
| York University & Downsview Cycling Connections | Keele St | 10 m N of Dovehouse Ave | 10 m S of Dovehouse Ave | Multi-use Trail | 0.06 |
| | | 150 m S of Sheppard Ave W | 30 m N of Sheppard Ave W | | 0.18 |
| | Sunfield Rd | Diana Dr | Wycombe Rd | Wayfinding Sharrows | 0.31 |
| | | Sheppard Ave W | Wycombe Rd | | 0.38 |
| | Diana Dr | Sunfield Rd | Keele St | 0.10 | |
| | Sheppard Ave W | 100m E of Sentinel Rd | Sunfield Rd | Bi-directional Cycle Track | 0.16 |
| | | | | TOTAL | 17.88 |

YORK UNIVERSITY

Accessibility-Focused Site Visits

June 2022



**STREETS ARE VITAL
PLACES IN TORONTO.**

**HOW OUR STREETS ARE
DESIGNED SHOULD
IMPROVE SAFETY AND
ACCESSIBILITY FOR ALL.**



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Acknowledgments

The York University Accessibility-Focused Site Visits represent a collaborative effort from City staff and members of the accessibility community. Transportation Services is thankful for the insights and time of all participants.

The tours were led by the Transportation Services Cycling and Pedestrian Projects Manager, Becky Katz; Senior Project Manager, Adam Popper; Senior Engineer, Kanchan Maharaj; Bicycle Safety and Education Coordinator, Sonya De Vellis; Toronto Urban Fellow, Seemi Qaiser, and Alta Planning + Design staff.

INTRODUCTION, VISION AND GOALS

The City of Toronto's Transportation Services Division organized two site visits in the York University area in June 2022. The purpose of the visits were to receive accessibility focused feedback on the new infrastructure implemented through the York University Cycling Connections project. Transportation Services met with people with low-to-no vision including guide dog and cane users and those using mobility aids, including power wheelchairs.

The goals of the site visits were to learn about the effectiveness of certain accessibility features, determine how safe and comfortable the participants felt in navigating the area and to utilize the feedback to inform future designs.

SITE VISIT PLANNING

Starting in April 2022, Transportation Services collaborated with a local accessibility consultant to aid in the recruitment of study participants and to guide the site visit planning and day of activities. At this time, a project plan was created, which can be found in Appendix A, which provides more details on the planning.

After recruiting participants and planning the events, staff led site visits to two different locations. The staff were each assigned to one participant and aided in navigating the sites and features, along with detailed note taking and photography. At the end of the each site visit, all participants gathered and discussed feedback, key takeaways and issues needing additional research.

After the site visits, the feedback was then summarized by City staff and reviewed by participants.

SITE VISITS

Eight individuals attended the first site visit at York University at the Evelyn Wiggins & Murray Ross intersection. The group started at the Finch West subway station and travelled north on the Keele Street sidewalk to the Finch Corridor Multi-use Trail. Next, the group explored the Evelyn Wiggins Drive and Murray Ross Parkway intersection which included directional tactiles, unit pavers, bikeways, protected intersection features, and a floating bus platform. The group then used a widened sidewalk to travel west on Murray Ross Parkway to the Keele Street and Murray Ross Parkway intersection where they also briefly explored a protected intersection. Finally, the group travelled south on Keele Street via the sidewalk to arrive back at the Finch West subway station.

Six individuals attended the second site visit at York University at the northern section of the Murray Ross Parkway multi-use trail. The group started at the Pioneer Village subway station then travelled west on the Steeles Avenue West sidewalk to the Steeles Avenue West and Murray Ross Parkway intersection. They turned south on to Murray Ross Parkway to explore the multi-use trail adjacent to the sidewalk. The final stop was at the Canlan Sports driveway on Murray Ross Parkway to explore the raised sidewalk intersection, before retracing the route back to Pioneer Village subway station. Additional information including maps of the walking routes can be found in Appendix A.

OVERARCHING FEEDBACK

Site Visit Feedback

Participants shared a wide range of detailed feedback, including how to best lead a site visit to review accessibility.

- Having pre-information about the sites is essential. The pre-information should include cardinal directions, detailed walking directions with estimated distances between turns.
- City websites with maps should describe all trails to and from parks, if they are accessible, and describe the streets that connect to them.
- Some participants shared that they use “Nearby Explorer” app to call up an address and determine number of intersecting streets prior to arriving at the area. Staff planning the event should be familiar with the app or similar apps.

Design Feedback

- Participants with low-to-no vision shared that generally less is more. In some cases, participants felt that the design was trying to communicate too much and included unnecessary information. The focus of the design should be to communicate only what is essential.
- All participants highlighted that consistency of design is important for navigation. People with disabilities travel across the city and having consistency enables them to understand and access the public realm.
- Poor lighting at nighttime may affect safety, especially along multi-use trails in their own corridors.
- In the wintertime, snow clearance on accessibility features must be prioritized to ensure detectability remains.



Accessible Pedestrian Signals

ACCESSIBLE PEDESTRIAN SIGNALS (APS) at signalized intersection

- There were no major concerns with the Accessible Pedestrian Signal (APS) button locations. Participants were able to locate the buttons and felt they were at an optimal height and currently have an audible volume above the sound of traffic.
- However, participants highlighted that it is only comfortable to use as long as the curb ramps receive snow clearance.

ACCESSIBLE PEDESTRIAN SIGNAL



2.1.2

Directional Tactiles

DIRECTIONAL TACTILES AT THE NORTH AND SOUTH END OF THE FINCH CORRIDOR MULTI-USE TRAIL

- Participants did not find the directional tactiles at the end points of the trail to be useful. Most people with low-to-no vision using a cane would 'shoreline' the edge of the trail and never come across the centre running directional tactiles.
- Participants shared it was not clear what was trying to be communicated at these points.
- Some participants felt there was too much unnecessary information being communicated.
- Some participations also felt that the directional tactiles may be redundant as pedestrians with low-to-no vision would travel with a sighted guide when encountering a new area for the first time or learn about the area beforehand.
- Participants felt the domes in the middle of the 'T' were not useful in making a decision and are traditionally used at curbs to indicate the separation of sidewalk from the road; as a result, this design may send mixed messages and is not consistent.

DIRECTIONAL TACTILES



2.1.3

Unit Pavers

UNIT PAVERS AT THE INTERFACE BETWEEN THE SIDEWALK AND THE BIDIRECTIONAL TRAIL INTERSECTION AT THE NORTH AND SOUTH END OF THE HYDRO TRAIL

- While some participants found the unit pavers to be detectable under foot and when tapped with a walking cane, others found the material to be indistinguishable from other surfaces. Almost all participants did not understand their purpose.
- Participants recommended use of a grade change instead of relying on unit pavers to distinguish between the sidewalk and multi-use pathway, such as a bevel curb.
- Participants noted that if these are used more universally, their intended purpose may become better understood.

UNIT PAVERS



2.1.4

Protected Intersection

PROTECTED INTERSECTION AT MURRAY ROSS PARKWAY & EVELYN WIGGINS DRIVE

- Some power wheelchair users found the curb ramp slope slightly too steep and bumpy, but usable. Participants with a cane felt the slope was important for detecting the curb ramps.
- The protected intersection had concrete islands between the street level bikeway and the road. Some participants wondered if they were too low and would not be visible in the snow and thus, may be an obstacle for wheelchair users.
- Some participants had not encountered bicycle traffic signals. The bicycle traffic signals were well-received and expected to help with compliance for people cycling.

PROTECTED INTERSECTION



2.1.5

Finch Corridor Multi-use Trail

FINCH CORRIDOR MULTI-USE TRAIL

- Participants recommended use of pavement markings or coloured asphalt to indicate trail start and endpoints, and communicate to pedestrians to expect bikes.
- Participants recommended that the trail meet the sidewalk as close to 90 degrees as possible. The angled trail and sidewalk intersection is not as understandable or navigable.

FINCH WEST HYDRO CORRIDOR



2.1.6

Floating Bus Platform

FLOATING BUS PLATFORM ON MURRAY ROSS PARKWAY

- At the time of the site visit, the floating bus platform was not complete. The main elements were installed with exception of the transit shelter and transit pole. Participants had concerns about the floating bus platform design and recommended follow-up discussions and another site visit.
- Participants felt it was unclear that there are two locations to cross the bikeway and wait for the bus, depending on which direction you are coming from.
- There was support for use of the cast iron tactile warning indicators at the bikeway crossings.

FLOATING BUS PLATFORM



2.1.7

Street-level Bikeway and Sidewalk

MURRAY ROSS PARKWAY STREET-LEVEL BIKEWAY AND SIDEWALK

- Participants felt the new sidewalk was a sufficient width to create a comfortable and safe walking environment.
- Participants also liked the height difference between the bikeway and sidewalk.

BIKEWAY AND WIDE SIDEWALK



2.2.1

Beveled Edge

MURRAY ROSS MULTI-USE TRAIL BEVELED EDGE

- Participants were able to detect the slight slope but were concerned about its detectability during the winter.
- A suggestion from multiple participants was to paint the edge to make it detectable for those with low vision.
- Cane users preferred the 3:1 curb ratio to the directional tactiles.
- Overall, the beveled edge was well-received for those who in power-wheel chairs and those with low to no vision.

BEVELED EDGE



2.2.2

Multi-use Trail

MURRAY ROSS MULTI-USE TRAIL

- Participants liked the green centre line, which indicates that the trail is bidirectional.
- Participants liked the solid low barrier separating the multi-use trail from the road as it could be felt by a cane and the traffic was audible from the trail.
- Participants felt the twinned sidewalk and trail was ideal. This allows people using the trail to choose which space to use based on their speed and the conditions.
- Some participants using wheelchairs preferred the sidewalk if they are concerned about the speed of people using bicycles, but others preferred the multi-use trail because the asphalt was smoother.
- Some participants with low-to-no vision preferred the sidewalk because they are more familiar with the feel of panels in the sidewalk, but they were comfortable on the multi-use trail as well.

MURRAY ROSS MULTI-USE TRAIL



2.2.3

Raised Crosswalk

RAISED CROSSWALK AT MURRAY ROSS PARKWAY AND CANLAN SPORTS DRIVEWAY

- Participants recommended that the entire crossing should be entirely made of asphalt including where it intersects with the driveway, rather than concrete.
- Participants suggested adding a beveled edge to make the connection between the driveway and the sidewalk more detectable.
- Participants pointed out that white paint did not contrast well against the concrete crosswalk, making it difficult to detect the zebra markings.
- Participants shared that the placement of unit pavers in the middle of the driveway was confusing and did not aid with navigation.
- Participants shared that the planting did not extend all the way up to the driveway on the northeast corner which may be confusing for individuals using the concrete-grass border to navigate.
- Participants recommended placing a yield sign earlier in the driveway for vehicles exiting the driveway. The current stop sign is placed after the pedestrian crossing. A yield sign could also be useful in the wintertime if the snow is obscuring the pavement markings.

RAISED CROSSWALK



3.0

Conclusion

Overall, the site visits were successful in gaining insights into new and regularly used accessibility features. The site visits were well-received by the participants who emphasized the importance of future consultations and creating an on-going relationship between the accessibility community and Transportation Services.

STAFF PLAN TO TAKE THE FOLLOWING NEXT STEPS:

- Continue consultation and on-site reviews with the accessibility community.
- Develop and make standard the beveled curb between interim height bikeways and sidewalk, as this was very well received. It was both detectible for people with low to no vision and traversable for people in power wheelchair.
- Develop a new standard for floating bus stops in 2023 in consultation with the accessibility community.
- Research and determine next steps for directional tactiles, as they were not positively received.

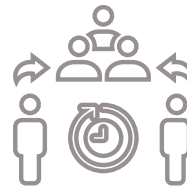
A Site Visit Planning Details

The following site features will be tested.

| SITE | COMMON ELEMENTS | UNIQUE ELEMENTS |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| York University at Evelyn Wiggins and Keele Street | <ul style="list-style-type: none"> • Directional Tactile and Tactile Walking Surface Indicators (TWSI) - Sidewalk to multi-use trail connection | <ul style="list-style-type: none"> • Floating island bus stop (with cycle track behind) • Protected cycling intersection |
| York University at Murray Ross Parkway | <ul style="list-style-type: none"> • Detectable unit pavers • Pedestrian crossings of bi-directional cycle tracks • Audible Pedestrian Signals push button locations | <ul style="list-style-type: none"> • Bevel curb between multi-use trail and sidewalk • Raised crosswalk at driveway |



People with disabilities



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A

Site Visit Planning Details

TIMELINE

Preparation

1. Week of April 18: Carry out a practice site visit to flesh out route and become familiar with area
2. End of April: Prepare briefing package, and finalize list of questions.
3. Last week of April: Email participants to confirm participation. Set up phone call with City Staff and Accessibility Consultant to confirm participation and introduce to main point of contact.
4. Second week of May: If fewer than 10 RSVPs, recruit additional participants from groups such as the Advisory Committee on Accessible Transit; Helen Keller Institute; Balance for Blind Adults
5. End of May: Recruit City staff to join with a maximum of 2-3 staff per participant
6. Week of June 6: Track RSVPs and re-send email if needed.
7. Week of June 13: Send a reminder e-mail 1 week before event

During event

1. City Staff at site 15 minutes before start of visit in safety vests.
2. City Staff use microphone to do an introduction, recap rules, duration, if anyone needs assistance, recording, notes, pictures, what to keep in mind, what we are looking for in terms of feedback, question prompts to consider, anything else to make the tour easier or more beneficial.
3. Break out into smaller groups with staff assigned to each group.
4. City Staff acts as tour guide while providing support
5. Take notes of speakers comments
6. Record comments using voice recorder.
7. Share photos and event highlights on social media

After event

- Follow-up email to group participants in a basic word document "what we heard"
- Dissemination of findings to the public and summary report for internal resources

Items list

- Wireless microphone
- Pens and notebooks (note-taking)
- Camera
- Measuring wheel
- Safety vests

NOTES

- Finalize logistics, dates, and list of groups to contact as early as possible.
- Prioritize site visit over self-driven written comments via email.
- Prep staff on anticipating both positive and negative feedback.
- Use avatars for data collection and coding different abilities.



Evelyn Wiggins Drive and Murray Ross Parkway



Murray Ross Parkway Multi-use Trail