BLOOR WEST BIKEWAY EXTENSION Public Drop-In Events – January 27 and 30, 2020





PURPOSE OF TODAY'S DROP-IN EVENT

- Learn about the project scope, background, goals, and timeline
- 2. Understand the proposed design and the rationale
- Share feedback, priorities, and local insights
- 4. Discuss general or sitespecific opportunities and challenges along the corridor based on the design
- Suggest solutions to help address challenges



Artist rendering of Bloor West Bikeway Extension in Bloorcourt Village

WHY SUPPORT WALKING AND CYCLING IN TORONTO?



Official Plan Goals

Make Toronto a "walking city" and bring all Toronto residents within 1km of a designated cycling route



Increased physical activity is associated with reduced risk of obesity, type 2 diabetes, cardiovascular disease, and some cancers



Fewer people are driving, more are cycling city-wide

Between 2006-2016, 5% fewer people are driving to work, and people cycling has doubled to 2.7%

Complete Streets

Complete streets consider all modes, prioritize safety, and balance the need to move people and goods, while recognizing streets as places

Road to Health: Healthy Toronto by Design

VISINN7FRD

Vision Zero Road Safety Plan

Fatalities and serious injuries on our roads are preventable, and we must strive to reduce trafficrelated deaths and injuries to zero by prioritizing the safety of our most vulnerable road users





Reduce reliance on motor vehicles

Providing alternatives to driving allows for roadways to be used more efficiently, and for users who have no choice (e.g. emergency, deliveries)



TransformTO: **Climate Action Strategy**

Target: 75% of trips under 5 km are by foot or bicycle by 2050

Encouraging people of all ages and abilities to ride

The majority of people rate themselves as "interested but concerned" about cycling, and will only do so if bikeways feel safe

WHY EXTEND THE BLOOR WEST BIKEWAY?

- The existing bikeway (between Avenue Road to Shaw Street) has the 2nd most people cycling of any corridor in Toronto – 5,220 per weekday in 2017
- On average, 13% of people living in the project area cycle to work/school; some areas are as high as 29%
- With many destinations along the corridor, the bikeway 3. extension would connect vibrant neighborhoods, serving businesses and residents
- Bloor Street is an east-west arterial free of streetcar 4. tracks, and supported by the Line 2 Subway
- Extending the bikeway to Runnymede Road would 5. provide a connection to the existing bike lanes on Runnymede and the new bikeway on Scarlett Road



Existing Bloor West Bikeway in the Annex

BLOOR STREET WEST: CONNECTING THE CYCLING NETWORK

The Cycling Network Plan outlines steps to grow, connect and renew bikeways in the city.

The 2019 Cycling Network Plan Update names Bloor and Danforth from city limit to city limit as a Major City-Wide Cycling Route, in part because of its score on the cycling impact analysis.

The cycling impact analysis is a data-driven approach. It is a reliable, evidence-based route decision making analysis that has informed Toronto's network priorities. The analysis takes into account:

- Current and potential cycling demand
- Trip generators and transit access
- Network connectivity and network coverage
- Barrier crossings, safety and equity



The Bloor West Bikeway Extension would connect the cycling network with Runnymede Road, High Park, the West Toronto Railpath and Shaw Street routes

BLOOR STREET PILOT PROJECT AND PERMANENT CONSTRUCTION

The Bloor Street Pilot Project (2016)

The goal of the Bloor Street Pilot Project was to install and evaluate a bikeway on Bloor Street West between Avenue Road and Shaw Street.

The desired outcome of the project was a bikeway that improved safety and reduced risk for all users, while mitigating traffic and curbside impacts.

The Bloor Street Permanent Construction (2019-2021)

Following extensive evaluation, City Council approved making the pilot permanent with safety and design improvements.

Reconstruction of the roadway to install raised cycle tracks is underway, including a protected intersection at Bloor Street West and St. George Street.

Find out more at toronto.ca/bloorbikelanes





Parking protected cycle track using paint and flexible bollards before becoming permanent

Recently constructed permanent cycle track on Bloor Street West at Brunswick Avenue

LESSONS LEARNED FROM THE BLOOR STREET PILOT PROJECT



More people are cycling 56% increase after install

Flexible bollards need improvements as well as maintenance attention



Collect and report on data

and share lessons learned



7 Bloor West Bikeway Extension



Safety improved for all users 44% decrease in all conflicts



Wider cycle track design would make it easier to pass



Traffic delay can be mitigated with changes to signal timing







Customer spending has increased although opinion from businesses is mixed



Add parking and loading areas Determine locations through consultation



Install accessible curb ramps to connect sidewalks to parking and loading

ECONOMIC IMPACTS OF THE BLOOR STREET PILOT

More customers, higher spending

Following the implementation of the Bloor Street Pilot Project in 2016, two separate studies of the corridor found positive economic impacts associated with the bikeway.

Key findings:

- Increase in average number of customers
- Increase in customer spending
- People who biked or walked spent more per month than those who drove or took transit

Source: Journal of the American Planning Association (August 2019): Measuring the Local Economic Impacts of Replacing On-Street Parking with Bike Lanes



Customer visits and spending by travel choice

PROJECT GOALS AND AREA

- Create a safe, multi-modal, and vibrant Bloor Street West 1.
- Extend the existing bikeway from Shaw Street to Runnymede Road 2.
- Improve safety and reduce risk for everyone 3.
- Mitigate curbside and traffic impacts 4.



9 Bloor West Bikeway Extension

PROJECT TIMELINES



JULY 2019

City Council Directs Staff to Begin Design and Consultation



OCTOBER – NOVEMBER 2019 Stakeholder Engagement

10 Bloor West Bikeway Extension

WE ARE HERE



JANUARY – FEBRUARY 2020 Public Engagement



MAY 2020

Consideration by the Infrastructure and Environment Committee and City Council

DESIGN DEVELOPMENT



AUGUST 2020

Installation

EXISTING CONDITIONS

PANELS 12 – 24 summarize the existing conditions within the project area, Bloor Street West from Shaw Street to Runnymede Road. The following are examples of analyzed data being used in the design process:

- Collisions, with a focus on vulnerable road users
- Mode share, including traffic, transit, cycling and walking volumes Cycling routes and transit connections
- Pick-up and drop-off of both Uber/Lyft and Wheels-Trans
- On-street and off-street parking capacity and utilization
- Future land development proposals
- Bicycle parking supply and bike share utilization

Bloor West Bikeway Extension



Person cycling on Bloor Street West near Dorval Road

SAFETY: COLLISIONS

- injuries and one fatality.



Source: All Killed or Seriously Injured Collisions (2007-2017) dataset from Toronto Police Service

12 Bloor West Bikeway Extension

What this map shows: Between 2007 and 2017, there have been 47 reported collisions that have resulted in seriously

How this data is used: Identify locations where additional design or operational measures are required to improve safety.

SAFETY: COLLISION TYPES

Types of serious injury / fatal collisions (2007-2017)



More than 75% of all serious injury / fatal collisions involved vulnerable road users (people walking and cycling)

Source: Killed or Seriously Injured Collision dataset from Toronto Police Service

13 Bloor West Bikeway Extension

Collision locations

Reducing safety risks at intersections is a major focus of the proposed design

SAFETY: UNDERSTANDING BICYCLE COLLISIONS

Introducing dedicated turn lanes could help reduce left hook collisions



Physically separated cycle tracks are expected to significantly reduce risk exposure from sideswipe collisions



Source: People cycling Killed or Seriously Injured Collision (2008-2018) dataset from Toronto Police Service

Bloor West Bikeway Extension 14

Cycling Serious Injury / Fatal Collisions (2008-2018)

Vehicle turns left into path of person cycling (left hook) 27% Collisions Driver or cyclist sideswipe 28%

Person cycling without right of way rides into vehicle path 18%

> Person cycling rear ends vehicle 9%

Person cycling struck by open vehicle door 9%

Person cycling turns right into vehicle path 9%

SAFETY: UNDERSTANDING PEDESTRIAN COLLISIONS



Vehicle turns left when person walking has right of way 24%

Mid-block collision 24%

Vehicle turns right when person walking does not have right of way 4%

Source: Pedestrian Killed or Seriously Injured Collision (2008-2018) dataset from Toronto Police Service

15 Bloor West Bikeway Extension Pedestrian collisions (2008-2018)



Through vehicle when person walking has right of way 12%



Most major pedestrian collisions occur when pedestrians have the right-of-way

Through vehicle when person walking does not have right of way 8%

> **Reversing vehicle hits** person walking 8%

TRAVEL MODE SHARE

24-hour Corridor Volume (All Modes)



Source: Traffic counts collected at six locations (see map for survey locations) on October 23, 2019. Partly sunny, windy, 7°C – 14°C, TTC & TTS

16 Bloor West Bikeway Extension

People cycling represent 2% to 13% of the non-transit modal split at six on-street data collection locations



Locations where multi-modal data was collected

TRAFFIC VOLUMES ON BLOOR STREET WEST

What this map shows: The total weekday motor vehicle volumes in all directions at key intersections. How this data is used: Intersection design, conflict mitigation, traffic signal timing, and estimating traffic impacts.



Bloor West Bikeway Extension

Source: 8 hour Traffic Movement Count from Toronto Transportation Services

ITORONTO January 27 and 30, 2020

CYCLING CONNECTIONS

What this map shows: Existing cycling routes that would connect to the Bloor West Bikeway Extension. How this map is used: Design where the bikeway would intersect with another cycling route.



Source: Current Bikeway Network from Toronto Open Data

18 Bloor West Bikeway Extension

Bloor St. W. Existing Cycling Routes Date: 11/7/2019 NAD 1983 UTM Zone 17N

TRANSIT CONNECTIONS

What this map shows: Existing TTC and GO Train surface routes that use or cross Bloor Street West. How this map is used: Roadway and intersection design at bus stops, and to accommodate bus and streetcar movements.



19 Bloor West Bikeway Extension

Bloor St. W. Transit Date: 11/6/2019 NAD 1983 UTM Zone 17N

RIDESHARE PICK-UP AND DROP-OFF ACTIVITY

What this map shows: Pick-up and drop-off (PUDO) activity from Uber and Lyft over a week in September 2018. How this data is used: On-street parking and loading design, and where passenger loading requires accommodation.



Source: PUDO visualization based on a total per block usage from available AM/PM/evening counts from Uber/Lyft via Toronto Transportation Services

20 Bloor West Bikeway Extension

WHEEL-TRANS PICK-UP AND DROP-OFF ACTIVITY



Source: Wheel-Trans

21 Bloor West Bikeway Extension

What this map shows: Pick-up and drop-off activity from TTC Wheel-Trans in 2019. How this data is used: On-street parking and loading design, and where accessible loading requires accommodation.

Date: 1/9/2020 NAD 1983 UTM Zone 17N

ON-STREET AND OFF-STREET PARKING

What this map shows: On-street parking capacity and utilization. How this data is used: To inform design on where parking will be located.



Source: WSP Field Investigation (supply) and TPA (utilization)

22 Bloor West Bikeway Extension

Colour represents existing utilization or TPA off-street lot



Numbers represent existing parking capacity

BIKE PARKING AND BIKE SHARE

What this map shows: The location and supply of bike parking, and Bike Share stations with trip volume. How this data is used: To identify locations for new bike parking corrals and Bike Share stations.





Source: Bike Parking dataset from Toronto Transportation Services Total bike rentals and returns at Bike Share Toronto stations from January – September 2019

23 Bloor West Bikeway Extension

46 - 80

NAD 1983 UTM Zone 17N Transverse MercatorNorth American 1983

FUTURE DEVELOPMENT PROJECTS



Source: City of Toronto Development Applications on Bloor Street

24 Bloor West Bikeway Extension

What this map shows: Land parcels that currently hold active development applications on Bloor Street West. Land-use in these locations may change.

How this data is used: To indicate future potential locations for additional off-street parking supply.

DESIGN: CURBSIDE CYCLE TRACKS

Curbside cycle tracks are proposed on Bloor Street West because: • Physical separation is appropriate given motor vehicle speed and volume

- Reduced conflict with parking motorists
- Lower risk of dooring from parked cars
- More compact design (fewer buffers required)
- More comfortable riding experience
- Consistency with the existing Bloor bikeway

Challenges with curbside cycle tracks can be mitigated by:

- Adequate parking setbacks and clear pavement markings can improve the visibility of people cycling
- Maintenance cost can be included in City service levels
- Separation techniques can be modified to meet required clear widths for emergency vehicles
- Sidewalk access for people with disabilities can be accommodated with curb cuts and cycle track crossings at accessible loading zones



Curbside Parking with Bike Lane No protection for people cycling (not proposed)



versus

DESIGN: SEPARATION TECHNIQUES

Types of Separation

There are many options for creating separated bikeways:

Flexible Bollards Mounted on Pre-Cast **Concrete Curbs**



Flexible Bollards





The preferred type of separation can vary along the corridor depending on the characteristics of each block. The use of planter boxes would require a maintenance agreement with the local BIA. — Flexible bollards mounted to pre-cast concrete curbs are the preferred type of separation for most of the Bloor West Bikeway Extension since they perform well on many of the evaluation criteria on Panel 27.

26 Bloor West Bikeway Extension



Concrete Low Walls



DESIGN: SEPARATION TECHNIQUES

Evaluation Criteria for Selecting Type of Separation Separation effectiveness between people driving and cycling

- implementation cost
- maintenance cost
- aesthetics
- durability
- visibility of people cycling
- visibility of device in snow conditions
- compatibility with parking
- emergency vehicle operations
- space requirement (e.g. 1.0 m lateral spacing for planters)

27 Bloor West Bikeway Extension



Precast concrete barriers and mounted flexible bollards in London, Ontario

DESIGN: SIDEWALK ACCESS FOR WHEEL-TRANS HOT SPOTS

Locations with the greatest demand for accessible pick-up and drop-off are being identified through Wheel-Trans data (see panel 21) and with input from local stakeholders. The following options are being considered at prioritized locations.



Corner access

- Dedicated pick-up and drop-off areas provided in the parking lane at side streets, and some signalized intersections
- Makes use of existing curb cuts
- Integrated in the design

Centre Image Credit: DTAH, Right Image: Artist rendering of raised crossing

Bloor West Bikeway Extension 28

Mid-block curb cut

- Includes a curb cut, pavement markings, and signage instructing people cycling to yield to pedestrians
- Feasibility to install in 2020 under review



Raised cycle track crossing

 Includes a ramp, pavement markings, bollards, and signage instructing people cycling to yield to pedestrians

• Feasibility to install in 2020 under review

DESIGN: WHERE WILL PARKING REMAIN?

In **Bloordale** and **Bloorcourt**, on-street parking and loading can only be accommodated on one side of the street.

The criteria listed below were used to recommend the proposed side for parking.

- Number of spaces retained
- Utilization of existing spaces
- Off-street parking opportunities
- Pick-up and drop-off demand
- Wheel-Trans demand
- Loading demand and alternatives
- Driveways

29 Bloor West Bikeway Extension



Bloor Street West near Christie Street with parking on one side of the street

BLOOR WEST BIKEWAY EXTENSION: FIVE SEGMENTS

ward boundaries, and neighbourhood character.



Source: Current BIA and Ward Boundaries from Toronto Open Data

30 Bloor West Bikeway Extension

The study area has five segments. They are divided by roadway width, BIA boundaries,

Date: 10/22/2019 NAD 1983 UTM Zone 17N **Transverse MercatorNorth American 1983**

PROPOSED DESIGN: BLOORCOURT SHAW STREET TO DUFFERIN STREET

Typical mid-block cross section



12.8 m curb-to-curb

31 Bloor West Bikeway Extension

On-street parking and loading impacts:





Parking is retained on one side of the street All parking is converted from off-peak period to permanent Of the existing 150-160 spaces, 50-60 are retained (~35%) Additional spaces are designated for loading; pick-up/drop-off Adding on-street parking on nearby streets is under review

PROPOSED DESIGN: BLOORDALE DUFFERIN STREET TO ST HELENS AVENUE

Typical mid-block cross section



12.6 m curb-to-curb

32 Bloor West Bikeway Extension

On-street parking and loading impacts:

Key map

• Parking is retained on one side of the street • All parking is converted from off-peak period to permanent Of the existing 90-100 spaces, 40-45 are retained (~45%) Additional spaces are designated for loading; pick-up/drop-off Adding on-street parking on nearby streets is under review

PROPOSED DESIGN: SYMINGTON/RAIL CORRIDORS ST HELENS AVENUE TO DUNDAS STREET WEST



13.6 m curb-to-curb

33 Bloor West Bikeway Extension

Adding on-street parking on nearby streets is under review

PROPOSED DESIGN: HIGH PARK & BLOOR BY THE PARK DUNDAS STREET WEST TO CLENDENAN AVENUE

Typical mid-block cross section



16.4 m curb-to-curb

34 Bloor West Bikeway Extension



On-street parking and loading impacts:

Key map

All parking is converted from off-peak period to permanent • Of the existing 260-275 spaces, 195-210 are retained (~75%) Additional spaces are designated for loading; pick-up/drop-off • Adding on-street parking on nearby streets is under review

PROPOSED DESIGN: BLOOR WEST VILLAGE CLENDENAN AVENUE TO RUNNYMEDE ROAD

Typical mid-block cross section



16.4 m curb-to-curb

Bloor West Bikeway Extension 35

On-street parking and loading impacts:

Key map

• All parking is converted from off-peak period to permanent • Of the existing 85-95 spaces, 55-70 are retained (~70%) Additional spaces are designated for loading; pick-up/drop-off • Adding on-street parking on nearby streets is under review

PROJECT DETAILS: INTERSECTION DESIGN PRINCIPLES

Maintain TTC service standards

Minimize travel time impacts

Determine lane configurations through safety and traffic analysis

Provide a mix of right and left turn lanes throughout the corridor



36 Bloor West Bikeway Extension

Artist rendering of Bloor West Bikeway Extension at Dufferin Street

Maintain cyclist separation to greatest extent possible

Explore future options for signal modifications

Analyze collision history

Anticipate turning cyclists where bikeways intersect

PROJECT DETAILS: THROUGH AND TURN LANES AT SIGNALIZED INTERSECTIONS



Legend



New turn restriction proposed



Existing turn restriction that would remain in place Existing turn restriction that would be removed

37 Bloor West Bikeway Extension

The above turn restrictions are proposed during the morning and afternoon rush hours. The restrictions may extend through the midday, evening, overnight and weekend periods as required to maintain safety and mobility.

PROJECT DETAILS: MONITORING & EVALUATION

After installation, the City will:

- Observe the new behaviour
- Evaluate before and after conditions

After monitoring and evaluating, the City will consider modifications such as: 1. Changing signal timing and traffic lights 2. Adding or adjusting turn restrictions or through restriction 3. Enhancing TTC stops and Wheel-Trans access 4. Increasing parking set backs to improve sight lines

- 5. Improving intersection safety

Once installation is finished, the project is not yet complete.

• Conduct new traffic counts, on Bloor and nearby streets



Bloor Street West and Shaw Street

NEXT STEPS

February 2020

We Want Your Input!

Please provide your insights by speaking with staff and completing a feedback form by February 14, 2020.

Your feedback will be considered as the design is refined.



39 Bloor West Bikeway Extension

May 2020

Council Consideration

Your input will be summarized in a consultation report provided to the Infrastructure and Environment Committee, and Toronto City Council.

Installation

Pending Council approval, the project is **planned to be installed** in August 2020.

Contact us

bloorwestbikeway@toronto.ca 416-338-3033 toronto.ca/bloorwestbikeway



August 2020