



MiWay Infrastructure Growth Plan

SEPTEMBER 2020





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Executive Summary

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Mississauga is becoming a more transit-oriented city. Transit ridership over the past decade has grown by 29%. Transit service is changing to meet the demands. Transit infrastructure needs to match this growth.

Transit ridership has outpaced population and employment growth in the past decade. Major investments in transit have supported and influenced this growth. These include the Mississauga Transitway, the introduction of MiExpress service, and a grid network of high-frequency routes, the latter two a direct result of the MiWay Five Service Plan, approved in 2015.

More major transit investments are underway. The Hurontario LRT is planned for completion in 2024. Three Bus Rapid Transit Projects are in development: Downtown Mississauga Terminal and Transitway Connection, Dundas Bus Rapid Transit, and Lakeshore Higher Order Transit.

To support these major projects, and in response to increasing ridership, MiWay is continuously planning for further increases to transit service on its MiExpress and MiLocal networks. Without investing in transit infrastructure, transit service will experience increasing congestion and delays. The addition of more bus service to already congested roads and terminals that are operating at capacity will result in unreliable travel times and inefficient operations and is a possible deterrent to adding service to respond to ridership growth. The customer experience, whether on the bus or at stops and terminals, will be affected by insufficient transit infrastructure.

The MiWay Five Service Plan (2016-2020) identified the need for a capital program to support increased MiWay service.

In response, the MiWay Infrastructure Growth Plan was initiated with the intent to identify a 10-year capital investment strategy for transit infrastructure that would maximize the benefits of added MiExpress service, facilitate route connections, make transit more reliable, and enhance the customer experience. This investment strategy would capitalize on upcoming projects to minimize throw-away costs while achieving the City's direction towards a transit-oriented city.

The Infrastructure Growth Plan investment strategy is designed to accommodate the City's planned growth and change, to maximize benefits to transit passengers and operational efficiencies and to meet three main objectives:

- Develop a stop and terminal classification system with supporting standard designs to support a consistent “look and feel” for MiWay stops and terminals;
- Identify and prioritize transit priority applications at MiExpress stops where such treatments will have the greatest benefit; and
- Identify and prioritize terminal needs in response to changing local, express, and rapid transit networks.



Etobicoke Creek Transitway Station

Photograph by Ben Rahn/A-Frame

The MiExpress network covers over 220 km, with 163 on-street stops serviced by 9 routes, serving over 40,000 passengers every weekday.

The MiExpress network operates with an average peak period service of approximately 5 buses an hour. 163 MiExpress stops support this service, with 147 located on-street within the City of Mississauga, ten (10) within the City of Toronto, and six (6) within the City of Brampton. The remaining stops are located within MiWay terminals and stations. The available infrastructure and amenities at these on-street stops vary significantly across the network.

The MiWay network connects 44 terminals and stations.

There are 22 terminals in Mississauga, Brampton and Toronto, plus 11 Transitway stations and 11 GO stations. These terminals and stations range in size and function, from large multi-modal facilities, to smaller lay-bys and route turnaround locations. Six (6) of the terminals and stations served by MiWay routes are located in the City of Toronto and four (4) are located within the City of Brampton. The 11 GO stations and three (3) of the Transitway stations are owned by Metrolinx.



City Centre Transit Terminal

MiWay's terminals and MiExpress stops need a stronger visual identity, effective connections to adjacent land uses, consistency in supporting infrastructure and amenities to increase operational efficiencies.

Opportunities exist to address inconsistencies. A consistent "look and feel" would make it easier to identify MiExpress stops and MiWay terminals. The same amenities would be available for customers. Clear access and improved connections would continue to be a priority. Operator amenities would be improved. Transit priority infrastructure and on-road infrastructure would be planned for operational efficiencies. A well-defined infrastructure direction and supporting guiding principles would aid in the strategic planning of improvements.

Strategic investments will provide comprehensive barrier-free transit infrastructure to enhance the customer experience, attract new passengers, and strengthen the connection between land use and transit.

Four guiding principles directed the development and prioritization of on-street and off-street transit infrastructure:

Guiding Principle #1: Accessibility and Pedestrian-friendliness

Barrier-free access that improves the safety and attractiveness of the system, and can reduce dwell-times.

Guiding Principle #2: Consistency

A look and feel for terminals, stops and amenities that creates a stronger identity for MiWay and makes the use of transit easier and more intuitive.

Guiding Principle #3: Transit Competitiveness




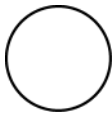
Better infrastructure and amenities to improve the overall customer experience and perception of transit.

Guiding Principle #4: Placemaking

Terminals and stops that are sensitive to existing surrounding land uses and can connect future land uses with the transit system.





A classification system provides the framework for a more consistent “look and feel” at stops and terminals, with the intent to attract more riders.

The classification system also enables a process to address amenity deficiencies, attract new passengers and accommodate people of all ages and abilities at MiWay stops and terminals. The classification system for stops promotes consistency while recognizing the important placemaking role that transit stops play as part of the streetscape:

-  **Higher-order Transit Stops** for the LRT and planned BRT
-  **Major Transfer Stops**, which provide transfers between two or more MiExpress routes
-  **Enhanced Stops**, which include all remaining MiExpress stops as well as MiLocal stops that provide transfers to MiExpress
-  **Standard Stops**, which are all remaining MiLocal stops. Most amenities at these stops are optional, based on the local context and stop usage patterns.



The classification system for terminals promotes efficient transit operations while recognizing the important relationship between transit and land use:

-  **Connect and Turnaround Terminals** which provide connections to other routes and services, and function as route-ends and turnarounds
-  **Connect Terminals** which primarily provide connections to other MiExpress and MiLocal routes, but are not likely to be route ends
-  **Turnaround Terminals** which are primarily route-ends and turnaround locations
-  **Through Terminals** which primarily provide through service



Photograph by Ben Rahn/A-Frame

Recommended MiExpress stop infrastructure improvements incorporate best practices to improve accessibility and transit reliability.

Design standards for on-street stops were developed specific to the City of Mississauga to address existing infrastructure deficiencies. The standards are based on current best practices in transit, plus City of Mississauga and Region of Peel standards, including:

- Compliance with AODA Integrated Accessibility Standards, because all public services in Ontario are required to be fully accessible by 2025;
- Transit priority measures; and
- Active transportation, to improve multimodal access to MiWay services.

The proposed design standards can be applied to all stops to promote consistency. A site-specific design approach is required to develop context sensitive transit improvements.

Opportunities to improve corridor-segment operations are recommended through the strategic implementation of transit priority measures. Transit priority measures (TPM) can address delay issues and improve overall transit competitiveness in Mississauga.

Preliminary design concepts were developed to address the identified issues and needs at a schematic design level with a focus on the Dixie, Derry and Erin Mills Parkway MiExpress corridors. The design concepts coordinate in-boulevard and on-street improvements to limit disruptions to service and improve constructability. Opportunities for improvement were explored at each location, including:

- Transit priority measures, such as queue jump lanes;
- Stop relocation;
- Pedestrian connectivity and multimodal integration;
- Accessibility including compliance with AODA Integrated Accessibility Standards; and
- Passenger amenities.

Recommended on-street transit infrastructure improvements will benefit transit passengers, reduce delays, and improve operations.



Source: City of Brampton



Source: MiWay

Recommended MiWay terminal improvements incorporate best practices to improve connections and transit operations.

Opportunities to improve terminal operations are recommended through the strategic implementation of terminal infrastructure improvements. Preliminary design concepts for infrastructure improvements were prepared at a schematic design level with a focus on Central Parkway Transitway Station, Laird/Vega on-street terminal, Cawthra Transitway Station and Meadowvale Town Centre Transit Terminal. In general, the improvements are within lands owned by the City of Mississauga. Property ownership provides greater certainty to implementation timelines.

- Opportunities for improvement were explored at each location, including:
- Transit operations, including the number of existing and potential future routes;
- Surrounding land uses (existing and planned);
- Pedestrian connectivity and multimodal integration;
- Passenger and operator amenities; and
- Site constraints.

Recommended infrastructure at MiWay terminals will address identified operational challenges, maximize the benefits of transit investments, facilitate route connections and create a more reliable transit network.



Central Parkway Transitway Station

Photograph by Ben Rahn/A-Frame

A clear implementation strategy provides the blueprint for MiWay's 10-year capital requirements to carry out the design and construction of infrastructure needed to support MiWay's service plans and make transit the mode of choice for Mississauga residents.

On-street and terminal infrastructure improvements are being recommended through the MIGP to provide comprehensive barrier-free transit infrastructure to enhance the customer experience, attract new passengers, and strengthen the connection between land use and transit. Key steps for successful implementation will include:

- A funding strategy: High level cost estimates will be used to request funding through the annual City of Mississauga's capital budget or other funding opportunities (e.g., Investing in Canada Infrastructure Program).
- Furthering of designs: Conceptual designs and feasibility plans will be carried forward to detailed design to advance projects to construction-readiness once funding is approved.
- Coordination and timing: Opportunities will be leveraged in delivering planned capital improvements whether with the City, the Region of Peel, private landowners or with other transit service providers. These opportunities will drive the timing of improvements.



Five monitoring activities are recommended to measure the benefits of investing in transit infrastructure.

Collecting and measuring baseline data, combined with a regular monitoring and maintenance program, is an important step in tracking the benefits of investing in transit infrastructure. To determine how implementation achieves the guiding principles, five monitoring activities are recommended at specific intervals:

1. **Update stop infrastructure and amenity deficiency list** with regular maintenance activities, field observations, and implementation of capital improvements (e.g. new sidewalks or multi-use trails, new shelters).
2. **Collect corridor-segment operations data** and compare findings to the existing conditions and measure the impact implementation has on corridor operational challenges. Once completed, the corridor prioritization list should be updated.
3. **Update terminal operational challenges** with the implementation of any service changes resulting from the MiWay Five Service plan, the Metrolinx 2041 RTP, or the completion of the ongoing terminal changes identified in the MIGP. Once complete, the terminal prioritization lists should be updated.
4. **Update the MIGP in tandem with MiWay's five-year service planning process** to determine where service expansion may be constrained by infrastructure.
5. **Monitor and track the cost of construction** of infrastructure implementation. By comparing actual costs to the cost estimates provided here, MiWay will be in a better position to budget and request for funding for future on-street and within the terminal footprint improvements.

The MiWay Infrastructure Growth Plan identifies investments in transit infrastructure that will best serve transit riders, improve transit operations, and support the City of Mississauga's goal to become a more transit-oriented city.

This first MiWay Infrastructure Growth Plan provides a traceable, data-driven, and repeatable process to invest in transit infrastructure. These investments will accommodate the transit service improvements approved in the MiWay Five (2015) service plan. The MIGP also identifies where investment in on-street and off-street locations will most benefit transit operations and the passenger experience.

The stop and terminal classification systems support a consistent "look and feel" for MiWay stops and terminals. This classification system is applicable to MiLocal stops as well and can be applied to new stops when service is expanded.

The prioritization processes developed for the application of transit priority measures are repeatable and can apply to new MiExpress corridors. The same process can also be considered for high performing MiLocal routes, as Mississauga shifts towards becoming more transit-oriented.

The prioritization process developed for improving transit terminals is iterative and can be repeated in response to changing local, express, and rapid transit networks. Terminal improvements will better accommodate service expansion and make operations more efficient and flexible.

Updating the MIGP in tandem with MiWay's five-year service planning process is recommended. The next MIGP should be developed with the output of MiWay's five-year service planning process, which will identify service expansion that may be constrained by a lack of infrastructure, with a focus on the issues and needs of high-performance MiLocal routes.