



Mississauga Bus Rapid Transit Preliminary Design Project



PUBLIC INFORMATION CENTRE
OCTOBER 2008



WELCOME

The Mississauga Bus Rapid Transit (BRT) Project

Thank you for attending this Public Information Centre. We welcome your input on preliminary design issues for this project.

Please sign in at our registration table and pick up a comment booklet.

The purpose of today's session is to:

- Provide Mississauga Bus Rapid Transit (BRT) project background and context
- Describe the current project and explain where we are in the preliminary design process
- Follow-up on comments received from the PIC held in April 2008
- Present the preliminary design of the busway and stations
- Outline the next steps and how you can be involved



WHAT IS BUS RAPID TRANSIT?

Bus Rapid Transit (BRT) is an integrated system for moving people by bus using dedicated road rights-of-way, called busways, for the operation of bus services.



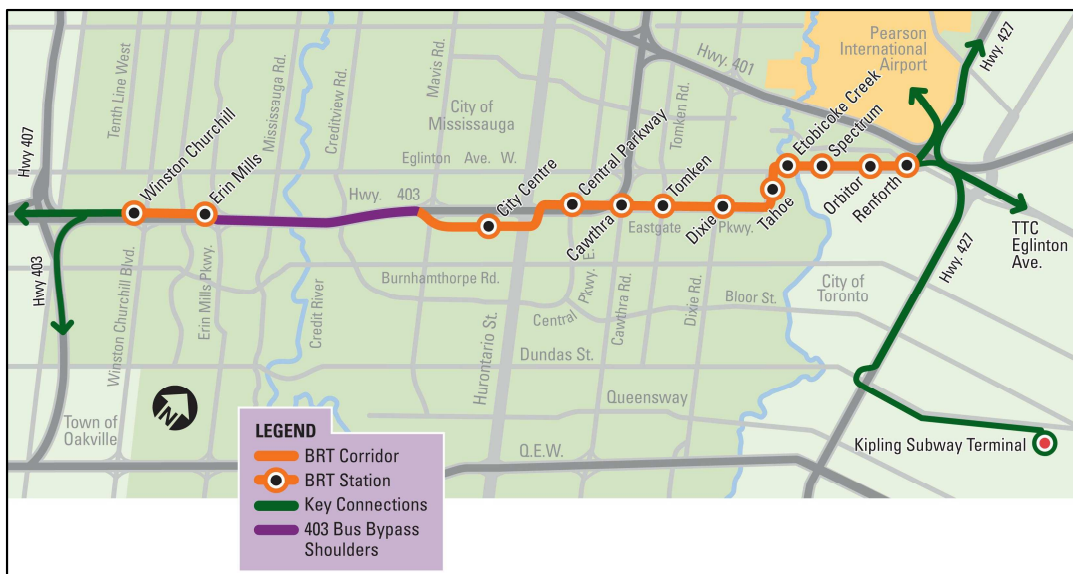
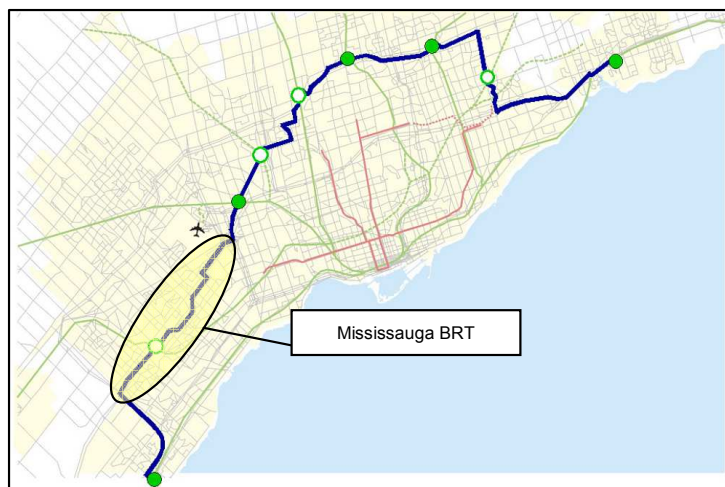
To maximize flexibility and reduce the need for transfers, stations are placed at key points along the busway where passengers can connect to other modes of travel (e.g. cycling, local bus, etc).





MISSISSAUGA'S BRT

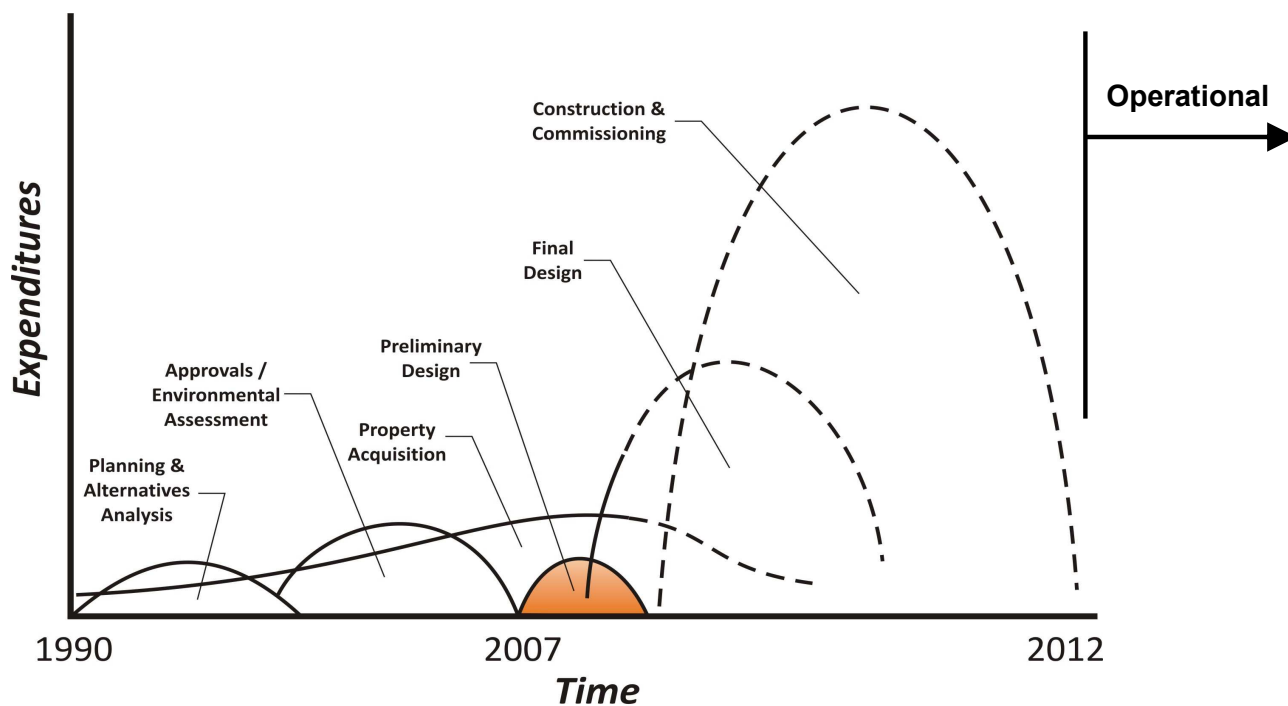
- The BRT system will improve the quality of life for those living and working in Mississauga.
- The Mississauga BRT system was originally planned in the early 1990's to respond to forecast travel demand within and through the City of Mississauga.
- The Mississauga BRT system is part of a Greater Toronto Area-wide GO Transit initiative to create a high-efficiency east-west busway which will span from Oakville to Pickering.
- Mississauga's portion of this BRT system will cover approximately 18 kilometres
- The City Centre Transit Terminal and the Highway 403 Bus Bypass Shoulders were built in the 1990's as part of the BRT program.
- The BRT plan was updated in 2003 through the EA process to respond to changes in land use and demand forecasts.





PROJECT TIMING

- Inter-Urban Transit Corridor Identified (1978)
- Mississauga Transitway Planning Study / Provincial EA Approval (1993)
- Highway 403 HOV Bus By-Pass Shoulders (2003)
- Provincial EA Addendum (2005)
- Commitment of Provincial Funding (2006)
- Commitment of Federal Funding (2007)
- Preliminary Design (2007-2008)
- Federal Environmental Assessment (2007-2008)
- Provincial Environmental Assessment Addendum (2008)
- Final Design (2008-2011)
- Construction (2009-2012)
- Opening Day (2012)





APRIL MEETING FOLLOW-UP

- Two public meetings for the Mississauga BRT were held in April, 2008. More than 100 people attended the meetings. Many ideas were put forward around four questions:
- ***“What can be done to maximize Mississauga Transit ridership?”***

■ Station amenities	■ Transit service
■ Bus amenities	■ Fare system
■ Cycling / Pedestrian features	■ Additional stations
- ***“What are the strengths and weaknesses of the station design concepts?”***
 - Strengths
 - Weaknesses
 - Suggested improvements
- ***“What issues / concerns do you have about the Mississauga BRT system?”***

■ Station amenities	■ Service / Fares / Connectivity
■ Bus amenities	■ Additional stations
■ Cycling / pedestrian features	■ Technology
■ Environmental	■ Visual appeal
■ Safety / Security	
- ***“Any other suggestions?”***
 - Various
- Where possible, the comments and suggestions were incorporated or addressed. Some comments relate to issues beyond the scope of the preliminary design study, and will be addressed by others as appropriate.
- The detailed comments and the responses by the Project Team are in the printed material below.
- Additional public information centres were held in June, 2008, as part of the EA Addendum process for five specific sites in the corridor. Approximately 45 residents attended the June drop-in centres. Residents' concerns focused on the site-specific changes to the plans, and their comments have been taken into account in finalizing the plan in the affected areas.



TRANSIT SERVICE PLAN

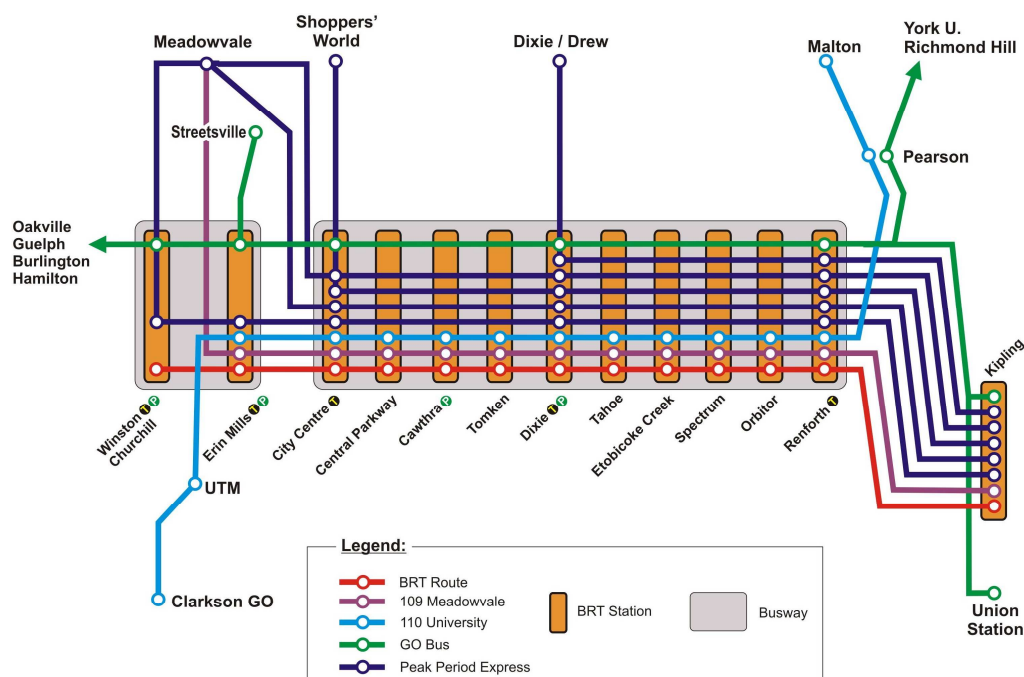
- A service concept was developed in consultation with Mississauga and GO-Bus Transit Planning staff.
- The service plan increases the percentage of the population within a 20 minute transit trip of the **City Centre** from 17% to 32% and the number within 30 minutes of **Kipling Station** from 5% to 15%
- The average travel time for all transit trips in Mississauga for AM peak, weekday service is anticipated to decrease by 8.5 minutes with the new infrastructure and service plan.
- Overall, the result of the investment in infrastructure and additional service will be an increase of Mississauga Transit overall annual ridership from 29 million in 2006 to in the order of 45 million by 2014.

CURRENT vs OPENING DAY RIDERSHIP (AM Peak Period)

	2006	Opening Day
Buses	308	445
Bus km	17,210	29,870
Bus hours	762	1,148
Mean Speed (km/h)	22.6	26.0
Passengers	21,020	37,289
Passenger km	221,165	433,313
Passenger boardings	39,240	67,845
Passenger km/bus km	12.9	14.5
Boardings/bus hr	51	59

BRT ESTIMATED TRAVEL TIMES

Link	Distance (km)	Travel Time(min)	Speed (km/h)
BRT⁵			
Winston Churchill to City Centre	8.9	9.2	58
City Centre to Renforth	9.25	14.35 [12.11*]	39 [46*]
Renforth to Kipling	8.3	10.0	50





NOISE - GENERAL

Noise is a form of energy. Noise is measured in terms of sound pressure, using "Decibels".

Noise may be measured on an "A" weighted scale (dBA) to best represent the way in which the human ear perceives noise.

The decibel scale is not linear; it is logarithmic:

1 dBA increase	=	not normally perceivable
2-3 dBA increase	=	just perceivable
10 dBA increase	=	twice as loud
20 dBA increase	=	four times as loud

A doubling of traffic volume typically produces an increase in sound level of about 3 dBA.

Roadway noise levels generally depend on:

- Vehicle type (truck, car)
- Road profile
- Distance from receiver
- Type of ground between the road and the receiver

Roadway noise, like most noise, varies throughout the day. Therefore, the noise descriptor used in Ontario to assess noise is the equivalent sound level, Leq. Leq is identified as the continuous sound level which has the same energy as a time varying noise level over a specified time period. The Ministry of the Environment (MOE) uses the 16-hour period between 7 AM and 11 PM for the assessment of municipal roadway noise. The noise at any one instant may be higher or lower than the 16 hour average.

MOE requires that the predicted future noise level without the proposed road improvement be compared to the future noise level with the proposed road improvement adjacent to a Noise Sensitive Area (NSA). If a future increase in noise of greater than 5 dBA is predicted, the MOE/Ministry of Transportation (MTO) Noise Protocol requires that noise mitigation be investigated within the right-of-way.

For purposes of assessing noise as part of road expansion project, MTO defines a NSA as a noise sensitive land use with an outdoor living area, which includes:

- single family houses
- townhouses
- multiple unit buildings such as apartments with outdoor living areas for use by all occupants
- hospitals, nursing homes, with outdoor living areas for the patients.

In addition, the Region of Peel, City of Mississauga, City of Brampton "Harmonization of Noise Wall Standards and Specifications" specifies that an equivalent of 60 dBA shall be the criteria for retrofit or local improvement noise walls. Further to this, where road widening occurs and the resulting noise level exceeds 60 dBA, the Region will consider the installation of noise barriers (berm/wall/combo) on Regional property where there is residential development with continuous reversed frontage abutting a Regional road (reversed frontage is the rear or side yard length).

Noise mitigation measures, if implemented, should be designed to achieve a minimum attenuation of 5 dBA or return noise levels to former ambient levels as is technically, economically, and administratively feasible.



CITY'S COMMITMENT

- In the approved EA, the City committed to monitoring noise levels prior to and following implementation of the busway.
- As part of the preliminary design study, the City undertook an analysis to:
 - Measure and predict existing ambient sound levels;
 - Determine the potential changes in ambient sound levels imposed by the implementation of the busway; and
 - Identify measures to mitigate and monitor noise effects as warranted (based on the guidelines of the Ministry of the Environment, Region of Peel, and City of Mississauga).
- Forty three receptor locations were selected to represent the residences within the study area to measure existing sound levels.

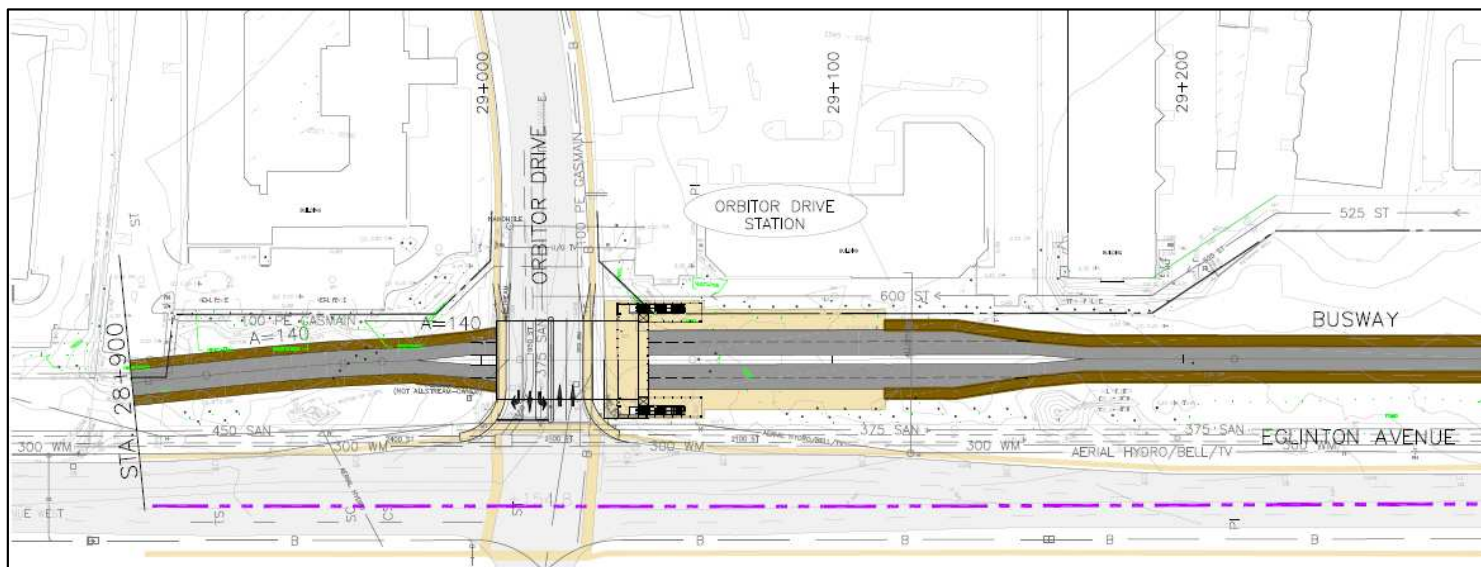


RESULTS

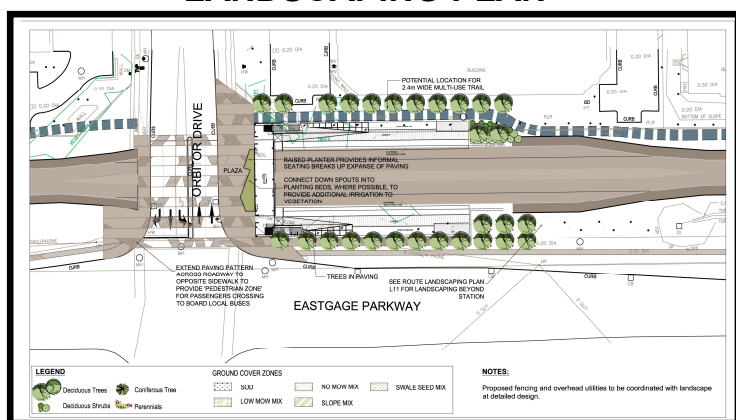
- The estimated noise levels (Leq(16)) for those NSAs with fronting, reversed or side frontage on the busway corridor were calculated as follows:
 - Existing noise levels – 50 dBA to 65 dBA
 - Future noise levels without Busway – 51 dBA to 67 dBA
 - Future noise levels with Busway widening – 52 dBA to 67 dBA
- Based on the MOE sound level criteria, all the noise sensitive areas are predicted to have slight or insignificant noise impacts (in the range of 1 to 2 dBA) and accordingly, there is no need to consider the application of noise control measures under the Provincial Environment Assessment process for the proposed BRT undertaking.
- The City, however, will be introducing landscaping and improving berms in selected areas of the busway corridor, which will have a positive influence in mitigating the overall noise experienced by residents in the busway corridor



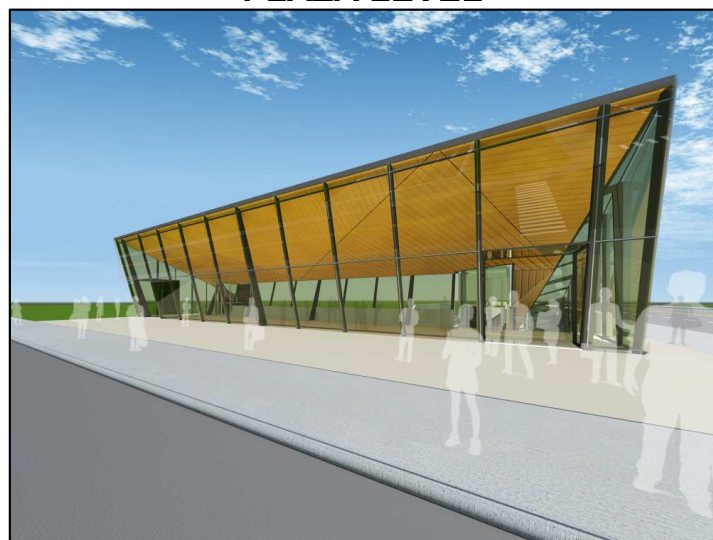
TYPICAL BELOW-GRADE STATION



LANDSCAPING PLAN



PLAZA LEVEL



ENTERING STATION

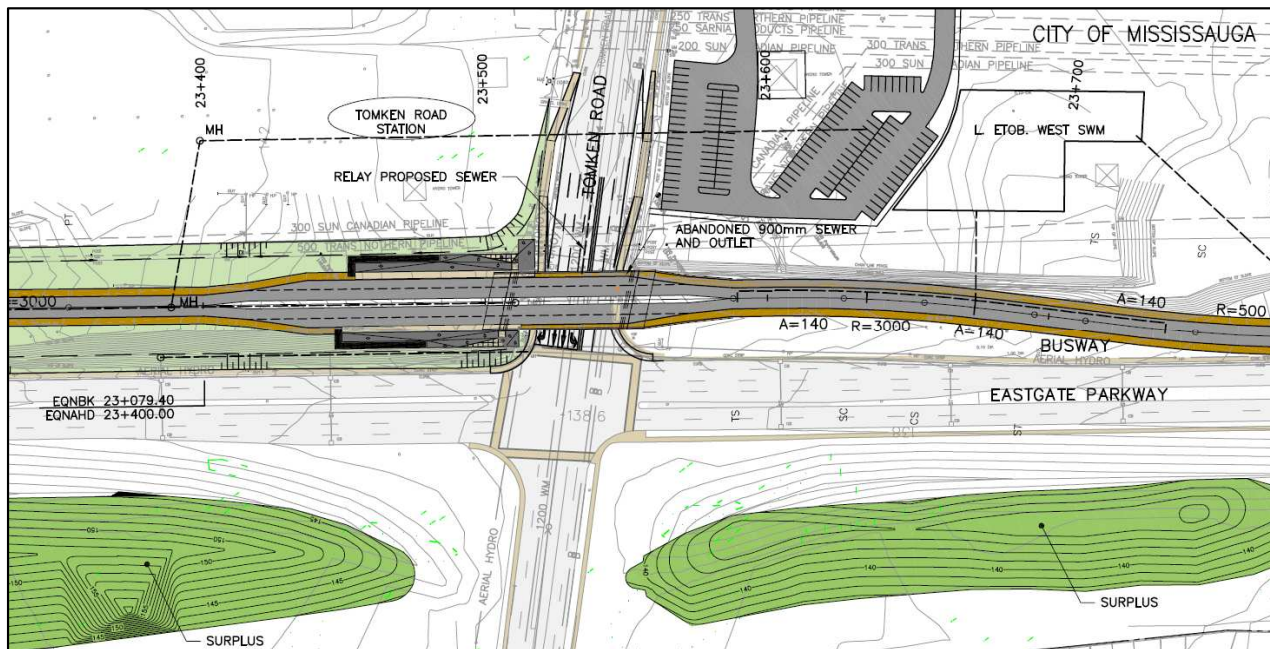


AERIAL VIEW OF STATION





TYPICAL ABOVE-GRADE STATION



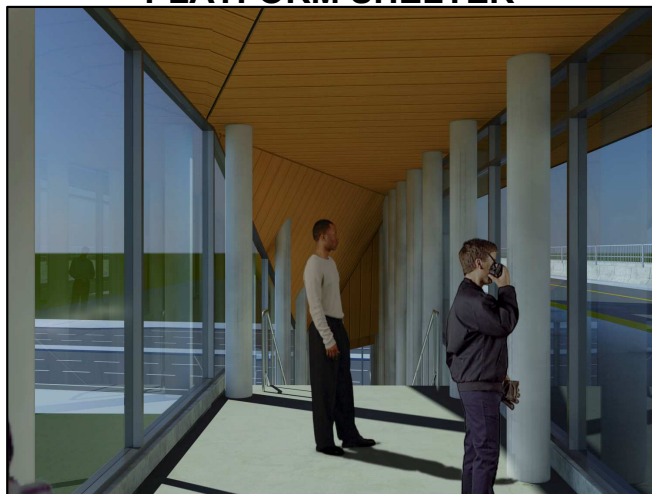
AERIAL VIEW OF STATION

STATION VIEW FROM STREET



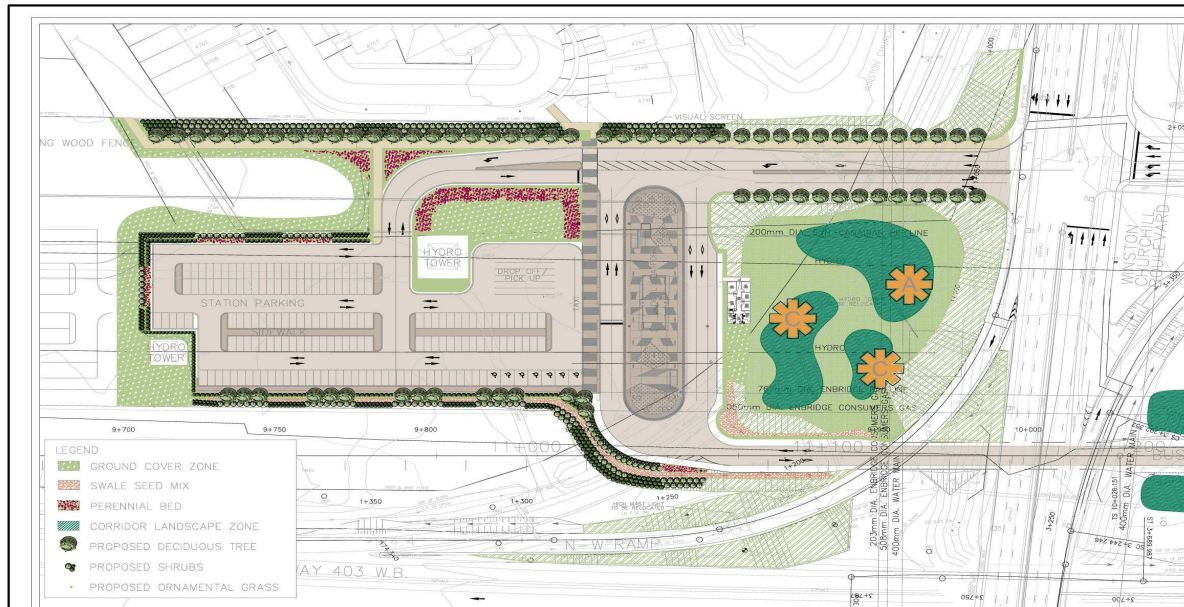
STATION VIEW FROM STREET

PLATFORM SHELTER



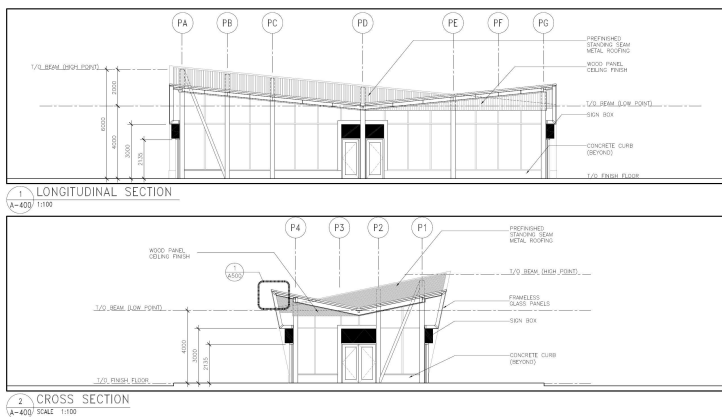


BRT WEST STATION

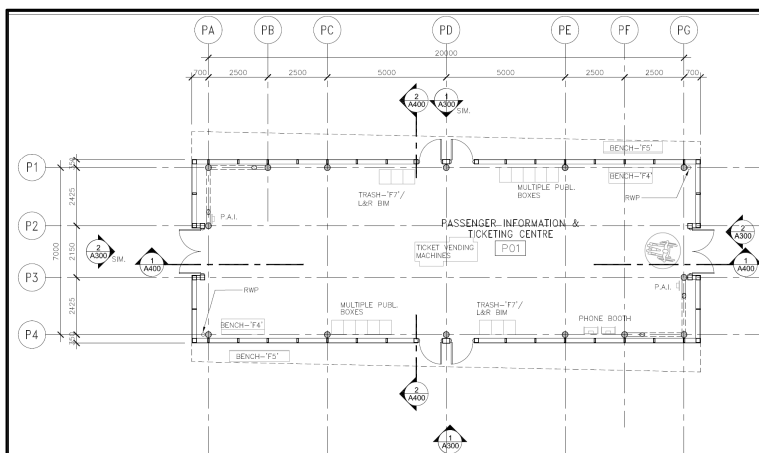


PASSENGER BUILDING

PASSENGER PLATFORM



BUILDING DETAILS





The Project Team will:

- Consider input from today's session
- Review the preliminary design concepts in light of comments received
- Finalize the preliminary design and proceed to the detailed design phase of the study



PUBLIC PARTICIPATION

- Your comments are important
- Please complete a comment sheet
- Sign in at the registration table to ensure that you are added to the Project mailing list.
- If you require further information or wish to provide additional comments, contact the BRT Project Office at:

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Fax: 905-615-3218

E-mail: transit.info@mississauga.ca

Website: www.mississauga.ca/brt