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Public Information Centre Etobicoke-Finch West Light Rail Transit (LRT) Planning Study for a Transit Project Assessment

1 Dec, 2009

3 Dec, 2009

7 Dec, 2009

9 Dec, 2009



Welcome to Our Public Open House

Etobicoke-Finch West Light Rail Transit (LRT) Planning Study for a Transit Project Assessment

1 Dec, 2009
3 Dec, 2009
7 Dec, 2009
9 Dec, 2009

PLEASE SIGN IN

Visit us at: www.toronto.ca/involved

Purpose of this public open house

Tonight we want to:

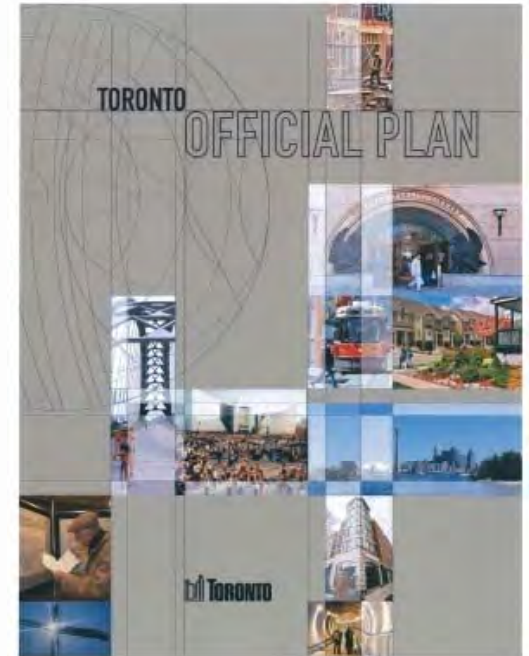
- Present the study background and a project update
- Present our responses to your comments from the last public open houses
- Present the preferred design that we have developed for the Etobicoke-Finch West LRT line
- Identify the potential impacts and proposed mitigation measures
- Obtain your further comments on the preferred design in order to finalize the design and take it forward for approvals
- Answer any questions and concerns about this project

Toronto Official Plan

The Toronto Official Plan supports continued growth in order to ensure the City's vitality and economic growth.

It also places greater emphasis on using available road space, focusing on movement of people, rather than vehicles, in order to address the future growth in travel.

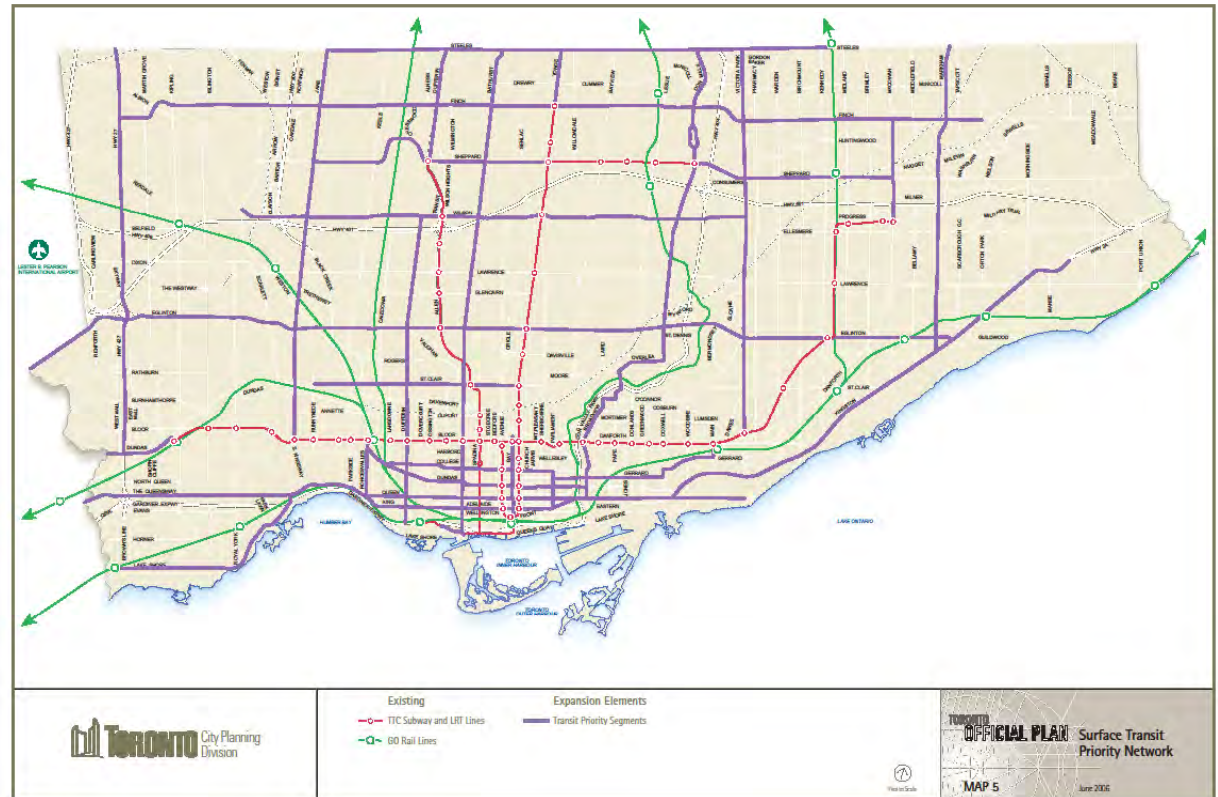
Transit, walking, and cycling in conjunction with providing a better variety and density of transit-oriented development are major cornerstones of the Official Plan.



The Toronto Transit City Light Rail Plan, including the Etobicoke-Finch West Light Rail Transit project, supports the Toronto Official Plan by moving more people and encouraging new development and intensification along identified transit corridors, allowing a more productive and efficient use of the City's infrastructure and rights-of-way.

Official Plan Amendment

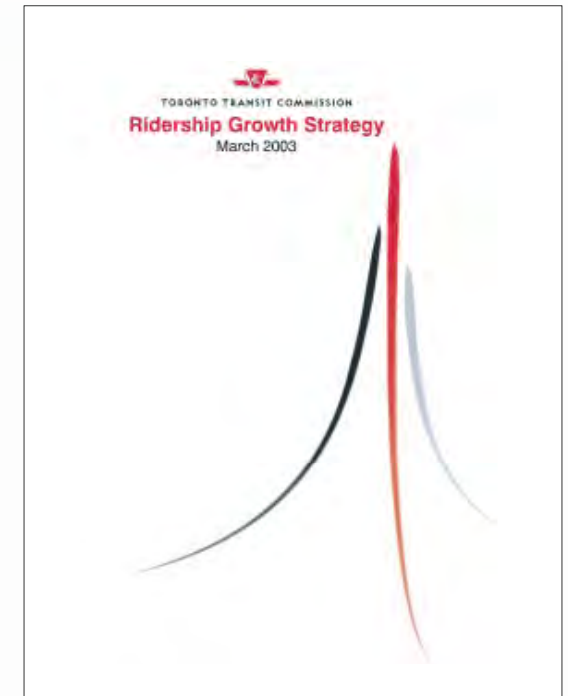
The Etobicoke-Finch West LRT line is proposed to terminate at Humber College North Campus. Currently Humber College Boulevard is not identified as part of the “Surface Transit Priority Network” in Toronto’s Official Plan. In order to include the segment of Humber College Boulevard from Highway 27 to the terminus on the Humber College Campus an amendment to Maps of the City’s Official Plan is required. The rest of the proposed Etobicoke-Finch West LRT alignment is currently identified as such in the Official Plan.



TTC Ridership Growth Strategy/Transit City

In support of the Toronto Official Plan, the TTC prepared a strategy that focuses on increasing service and improving the speed and reliability of the TTC, and identifies corridors for transit infrastructure investment.

The Ridership Growth Strategy set the stage for the Toronto Transit City Light Rail Plan that recommends a widely-spaced network of electric light rail lines, each on its own right-of-way throughout the City to meet future transit demand.



The Toronto Transit City Light Rail Plan, including the Etobicoke-Finch West Light Rail Transit project, builds on the TTC Ridership Growth Strategy and implements the transit policies of the Toronto Official Plan, providing fast, reliable, and accessible transit throughout the City.

Toronto Transit City Light Rail Plan

- Seven new LRT lines, including the Etobicoke-Finch LRT project
- Reserved rights-of-way
- Total of 120 km of new fast and reliable light rail transit service
- Projected 175 million passengers by 2021
- Connection to existing and planned local and regional transit lines

“The Toronto Transit City LRT Plan is a bold vision for public transit. It will allow us to tackle climate change and reduce congestion while improving service in all parts of the City”

Mayor David Miller



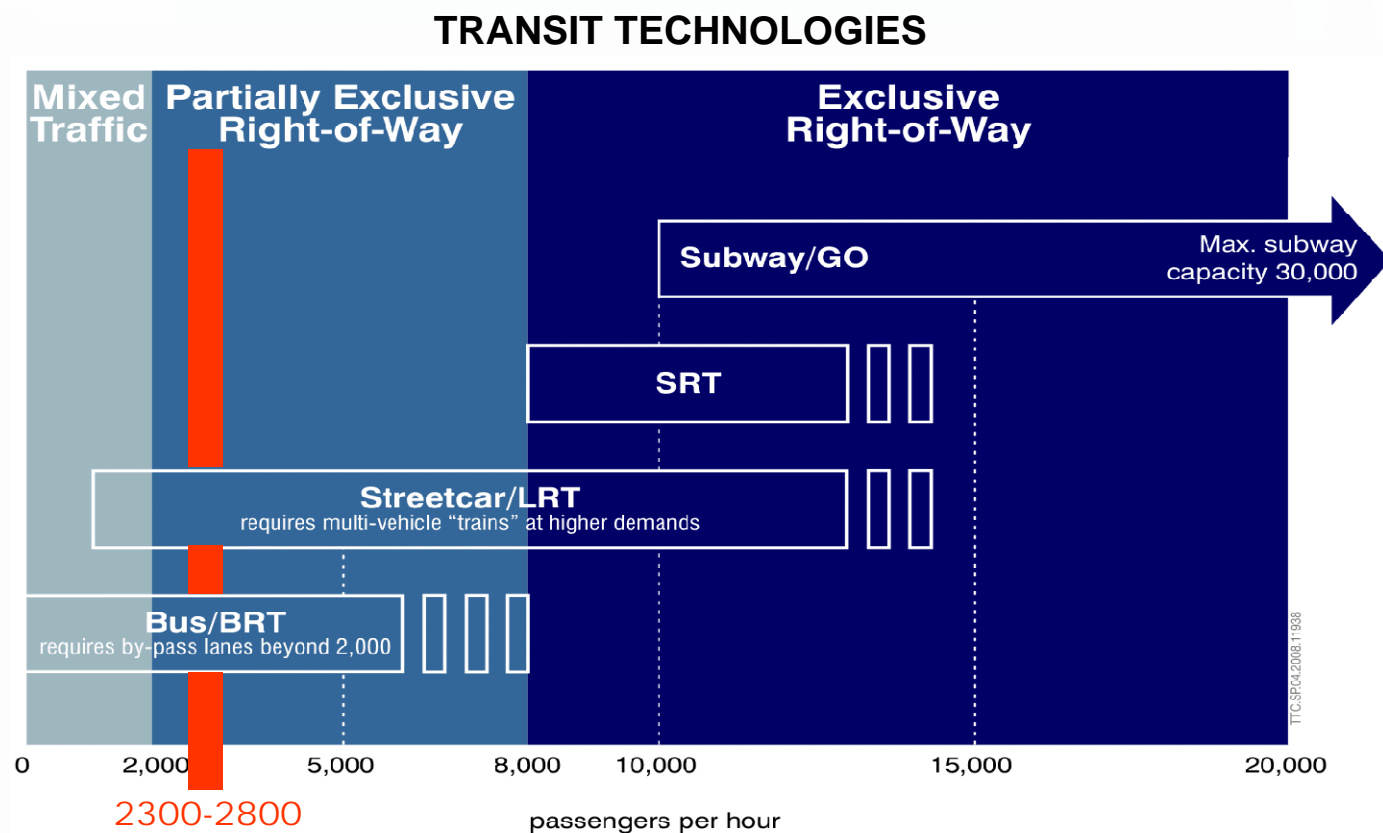
In June of 2007, the Province announced, “Move Ontario 2020”, a plan to fund 52 transit projects in Ontario, including funding for the TTC’s Transit City LRT Plan.

Premier Dalton McGuinty

Right Size for Transit

Future transit demands

The forecasted travel demand in the Finch West corridor is **2300-2800** people per hour.



Preferred Technology Option Recommendation LRT

Recommendation:

Modern LRT Vehicles:

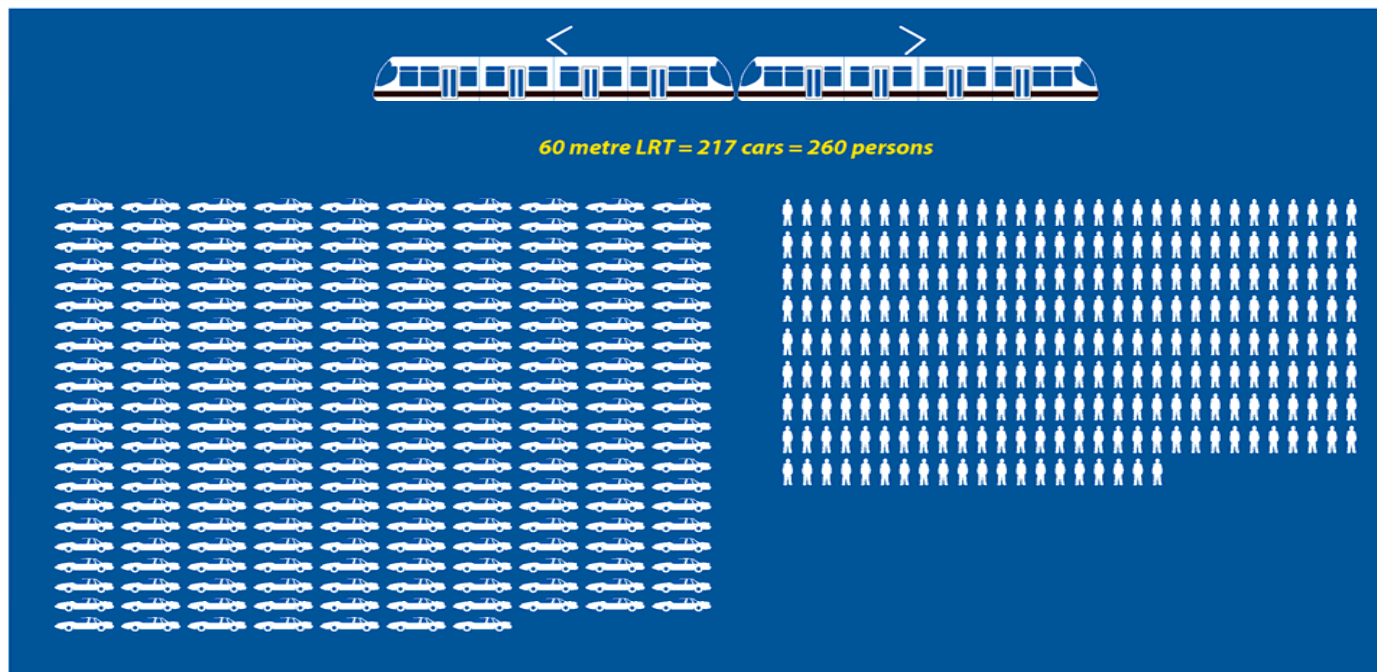
The rail vehicles used on Finch Avenue will have:

- Larger capacity – 60 m trains can carry up to 260 persons
- Full accessibility for all-low-floor vehicles with level boarding from on-street platforms
- Boarding at all doors significantly reducing the time spent serving stops
- Operator cabs at both ends allow the vehicle to operate in either direction and not require a loop to turn around



Transit City – Moving People

People Movement Capacity



Toronto Transit City Light Rail Plan will increase capacity for people movement in an economically and environmentally responsible manner.

Transit City – Moving People

- Traffic patterns will change due to:
 - Transfer from private auto to transit mode
 - Change in driving habits:
 - Different routes
 - Different travel times
 - Conditioning from the construction period
 - Longer term changes:
 - Live and work closer
 - Change to a sustainable travel mode (cycling, walking, etc.)
- Changes in traffic signal timing, left turn and U-turn patterns will alter traffic patterns on Finch Ave. As a result, average car travel times may be slower.

Study Schedule / Process

	2008						2009				2010				
	Apr	May	Jun	Jul	Aug	Sep-Dec	Jan-Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
	PRELIMINARY PLANNING					TRANSIT PROJECT ASSESSMENT									
PRELIMINARY TRANSIT PLANNING ACTIVITIES															
EVALUATION TO DETERMINE RECOMMENDED DESIGN															
NOTICE OF COMMENCEMENT															
ENVIRONMENTAL PROJECT REPORT DOCUMENTATION															
REPORT TO TTC AND CITY															
NOTICE OF COMPLETION															
PUBLIC REVIEW															
MINISTRY OF THE ENVIRONMENT REVIEW															

OPEN HOUSE 1

OPEN HOUSE 2

WE ARE HERE

Project Objectives and Background

The objectives of this transit project assessment study are to provide high quality transit service in the Finch Avenue West corridor that:

- Makes transit a more attractive travel option by improving travel times, comfort, and reliability of service
- Is affordable and user friendly for all
- Supports other City objectives such as good urban design, and creates a more attractive walking and cycling environment
- Respects other road users, adjacent properties, and the natural environment
- Supports the City's Official Plan objectives of improving transit in areas of growth



Recommendation

Replace existing bus service along Finch Avenue West, with electric light rail transit (LRT) that operates in reserved lanes in the centre of the roadway.

Summary of Results of Earlier Public Information Centre (PIC)

- Over 246 people attended the three PICs.
- We received 124 comment sheets or e-mails from you.
- We've provided responses to some of the key issues raised on the following boards and on the available FAQ sheets.

If your issue/question is not presented here, and hasn't been responded to via e-mail response, staff will be happy to speak to you tonight.

PIC 1 Question: Why Not Subway on Finch West?

This was one of the most frequent questions for all Transit City lines. In all cases, the forecasted future transit demand for the Finch West corridor is well below what would be required to justify the cost of a subway.

Please see the earlier chart on transit technology capacities.

- **Demand** – In looking at the population and employment increases in the Finch West corridor, the planners at the City and the TTC have projected that we need a transit facility on Finch Avenue West that will carry 2,800 people in the busiest direction in the peak hour. This is more than the existing bus service can provide but well below the expected growth and demand to justify the cost associated with subways. Subway technology is normally not justified if the peak hour demands are not approaching 10,000 people per hour in the busiest direction.

- **Cost** – Recent estimates of LRT technology are in the order of \$40 million per kilometre, while subways cost approximately \$220 million per kilometre (capital costs and vehicles included, but not property, yards or streetscaping).

PIC 1 Question: Why not put LRT in the Hydro corridor?

Reasons why the LRT is not being proposed to run in the Hydro corridor that parallels Finch Avenue West to the north:

- **Demand** – The LRT needs to serve the transit demand, transfer points and trip generators, which are on Finch Avenue. A bus service would still be needed on Finch Avenue if a transit service were running in the Hydro corridor.
- **Technical Challenges** – Despite its appearance as an open field, the Hydro corridor would present several technical challenges, some of which would be costly to overcome, such as crossing the G. Ross Lord Reservoir on the east side of Dufferin Street.

Hydro One Networks have stringent requirements for clearances, electrical isolation, and other considerations that would be difficult for an electrically powered transit line to meet.

- **Priority Uses** – Hydro One Networks has priority use of this public land for electrical power distribution. Other compatible uses of the land (parking, allotments) can be allowed.

Stops Added by Public Consultation

In response to feedback from Public Information Centre 1, other public meetings, and comments submitted via phone and e-mail, 6 additional stops have been provided, as follows:

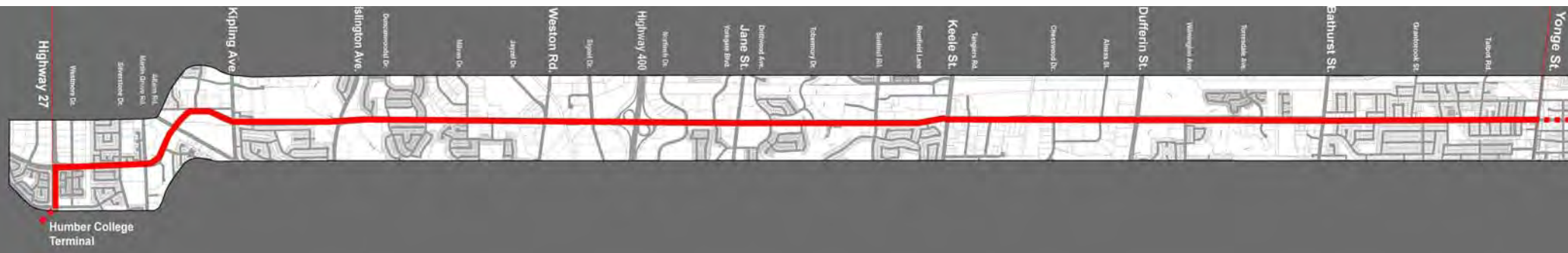
- Talbot Road
- Grantbrook Street / Senlac Road
(the preceding two stops replace a single stop at Edithvale Avenue)
- Torresdale Ave / Virgilwood Drive
- Tobermory Drive
- Pearldale Avenue / Ardwick Blvd W.
- Stevenson Road

The line now has 30 stops in each direction.

PIC 1 Question: Will bike lanes be provided?

- As indicated on the typical Transit City cross section, bike lanes will be provided as a standard element.
- In addition, a parallel multi-use bicycle path along the adjacent Hydro corridor is designated in the City of Toronto's bicycle plan.
- Bike lockers at stations (subway connections) will be considered on a case-by-case basis in consultation with the City of Toronto. The TTC will work with the City of Toronto to ensure that short and long term cycling amenities are incorporated into the Etobicoke-Finch West LRT design, in accordance with prevailing City policies and design standards.

Recommended Project



The Etobicoke-Finch West LRT project includes:

- 17 km at-grade alignment within a reserved right-of-way in the centre of the street
- 30 stops, including 2 underground subway connections
- Eastern terminal at Finch Station at Yonge Street
- Western terminal at Humber College
- Projected ridership of 2300 to 2800 persons per hour at the peak point

Etobicoke-Finch West LRT

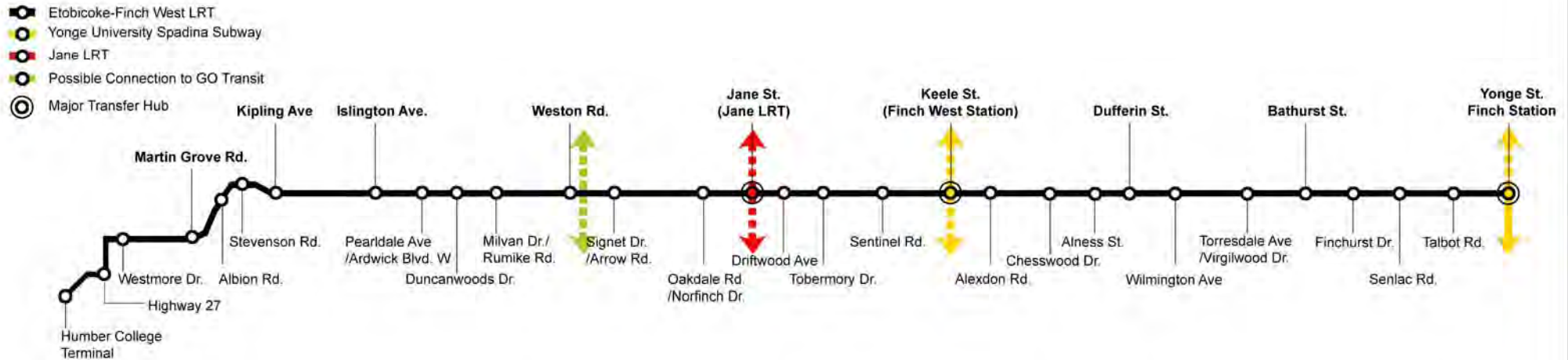
Inter-Regional Connections



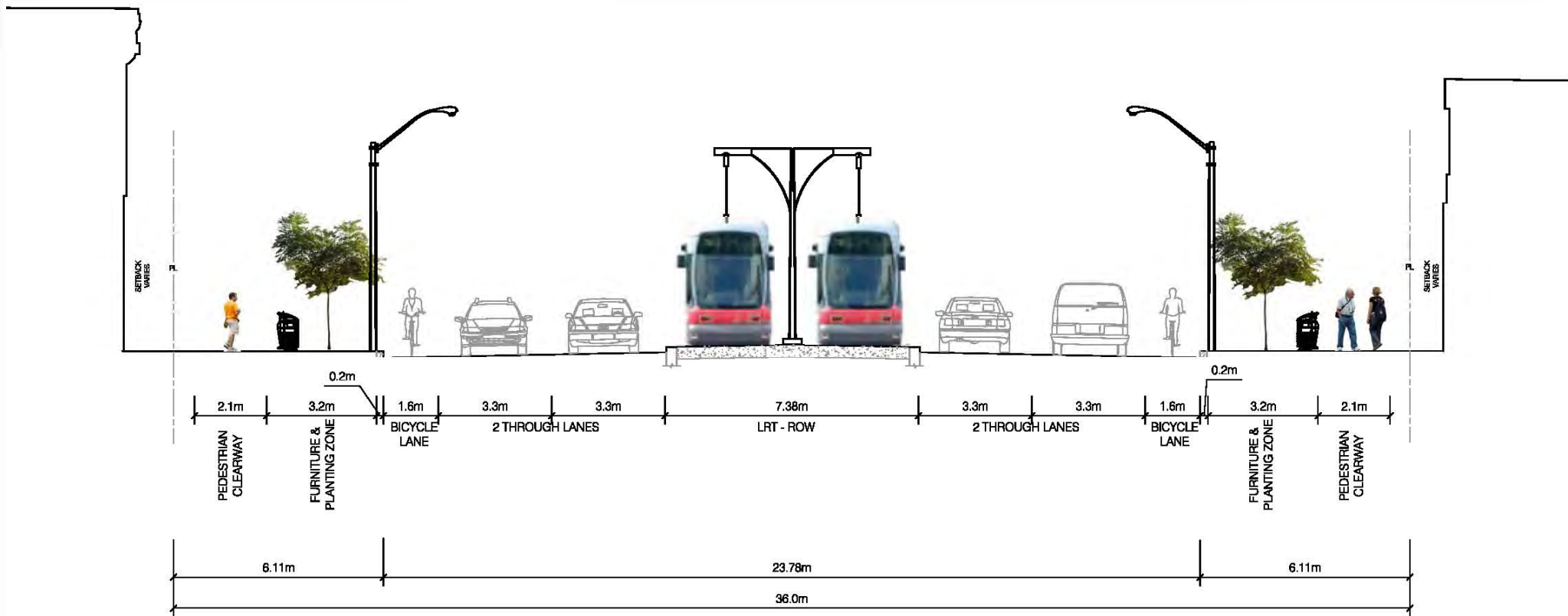
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Proposed Stops on Etobicoke-Finch West LRT

ETOBICOKE-FINCH WEST LRT

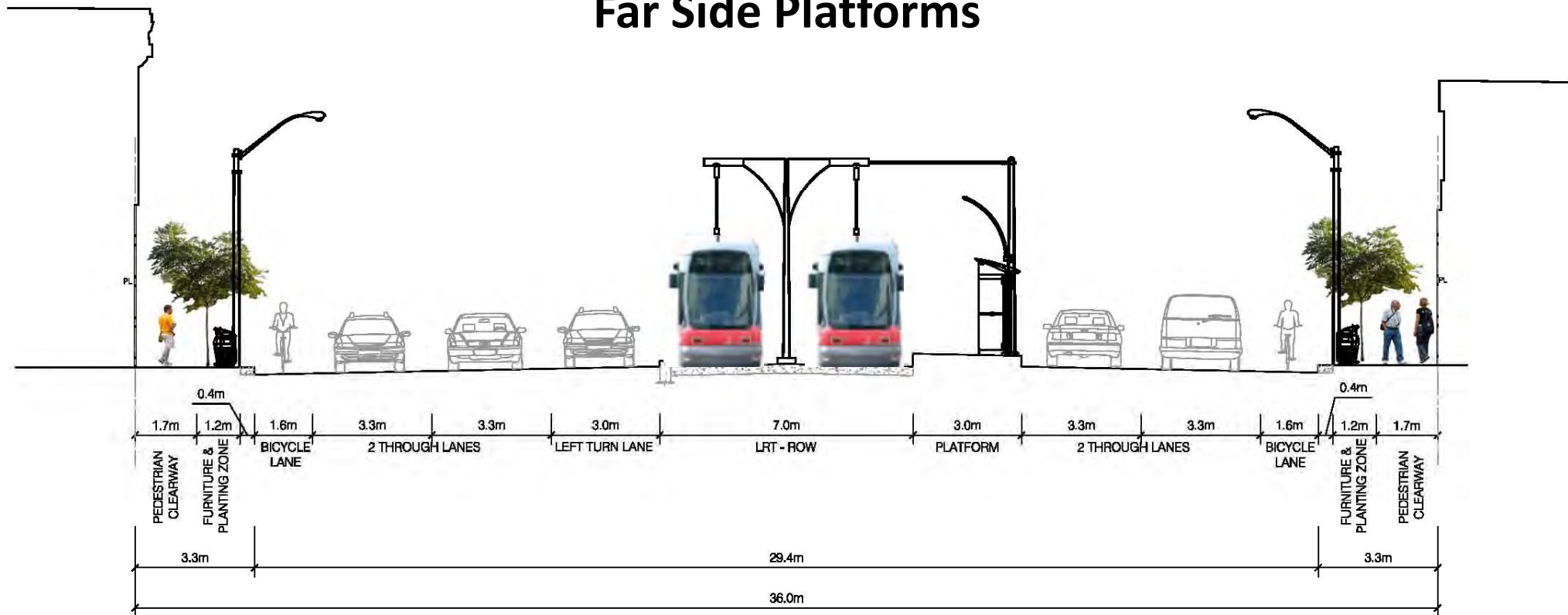


Typical Mid Block Cross-Section



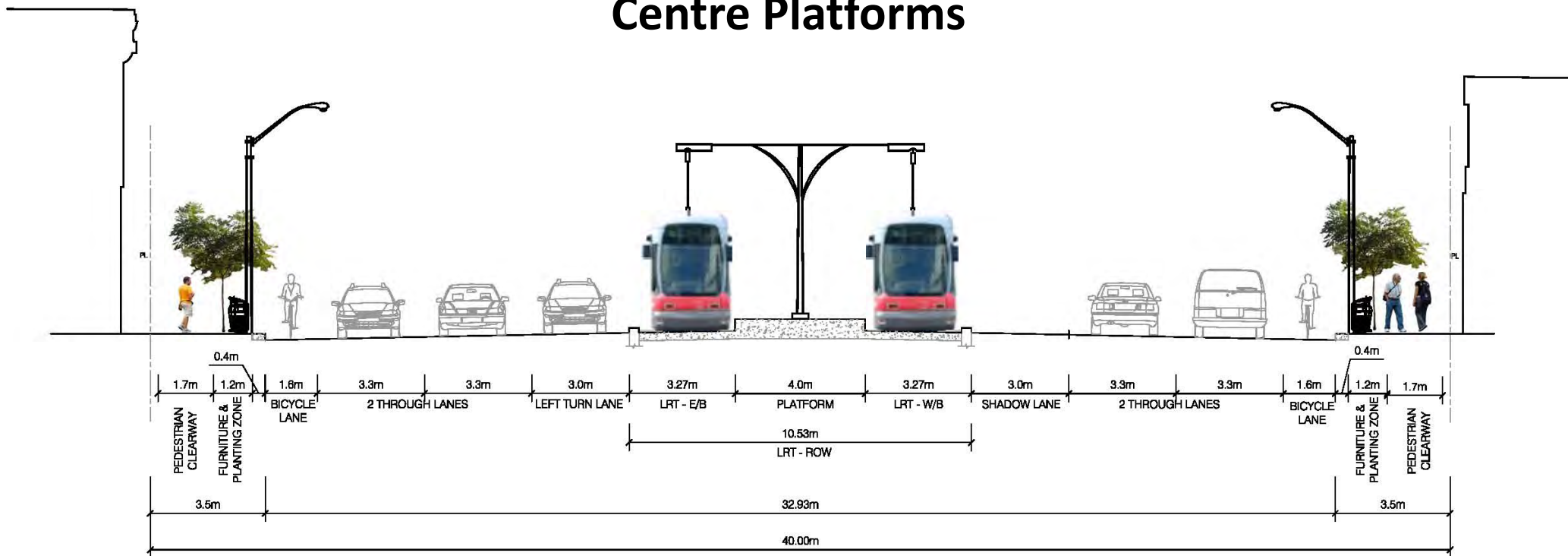
36m Standard Cross-Section (Between Stops)

Typical Intersection Cross-Section Far Side Platforms



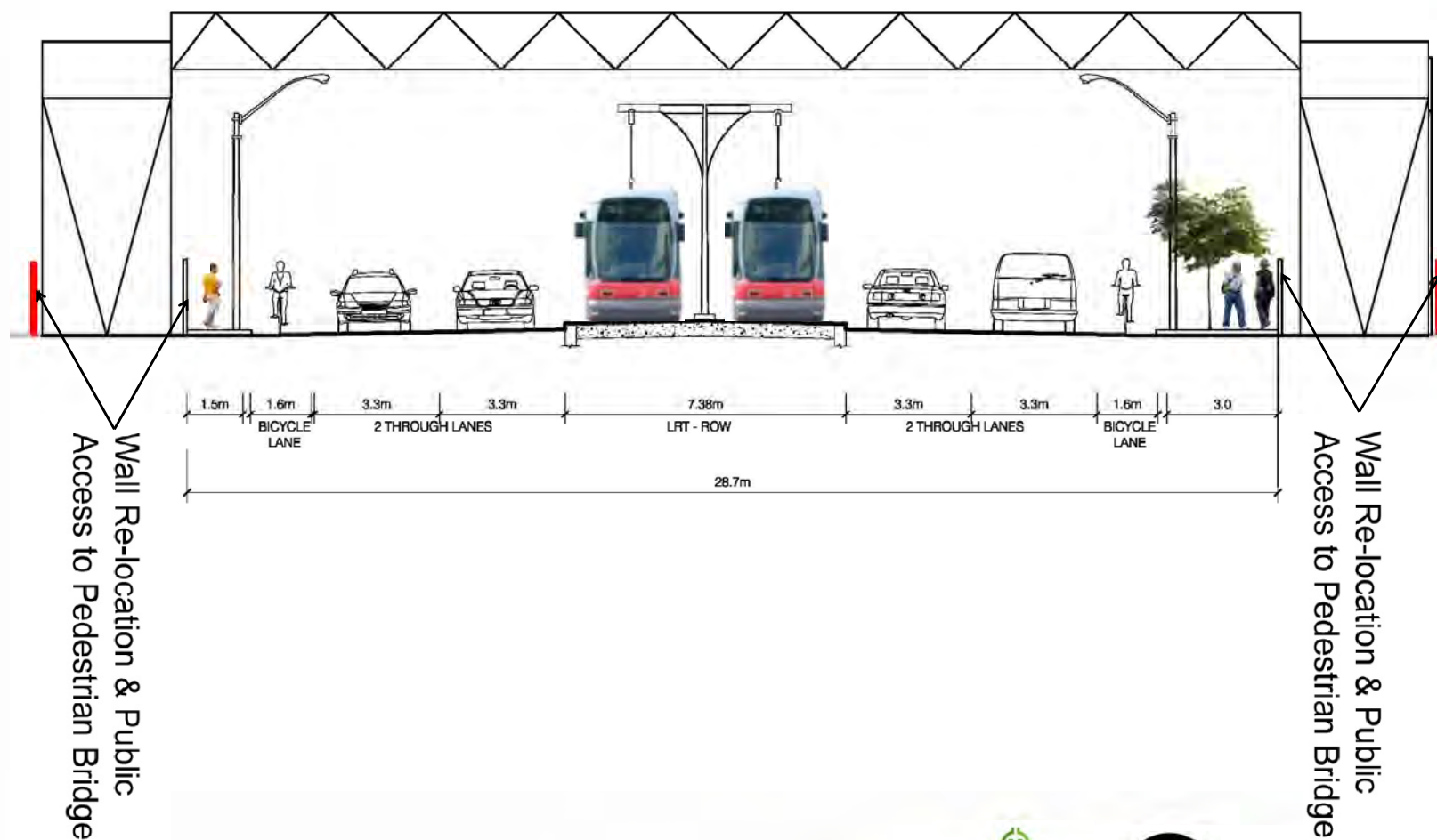
36m Standard Cross-Section (Side Platforms)

Typical Intersection Cross-Section Centre Platforms



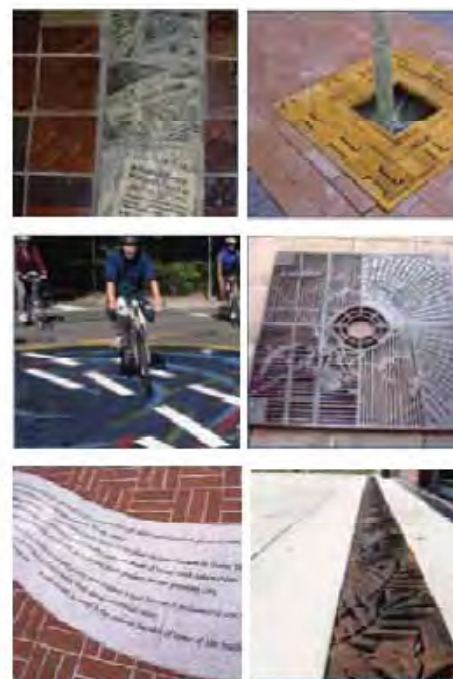
40m Cross-Section (Centre Platform)

Pedestrian Bridge at Finch & Kipling



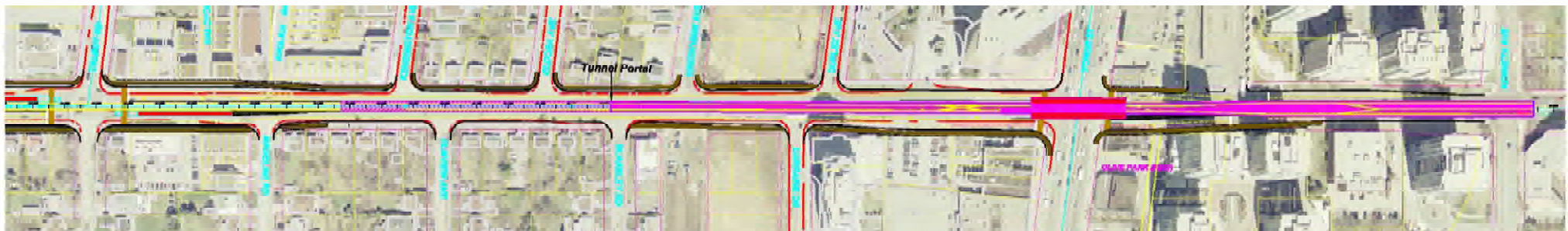
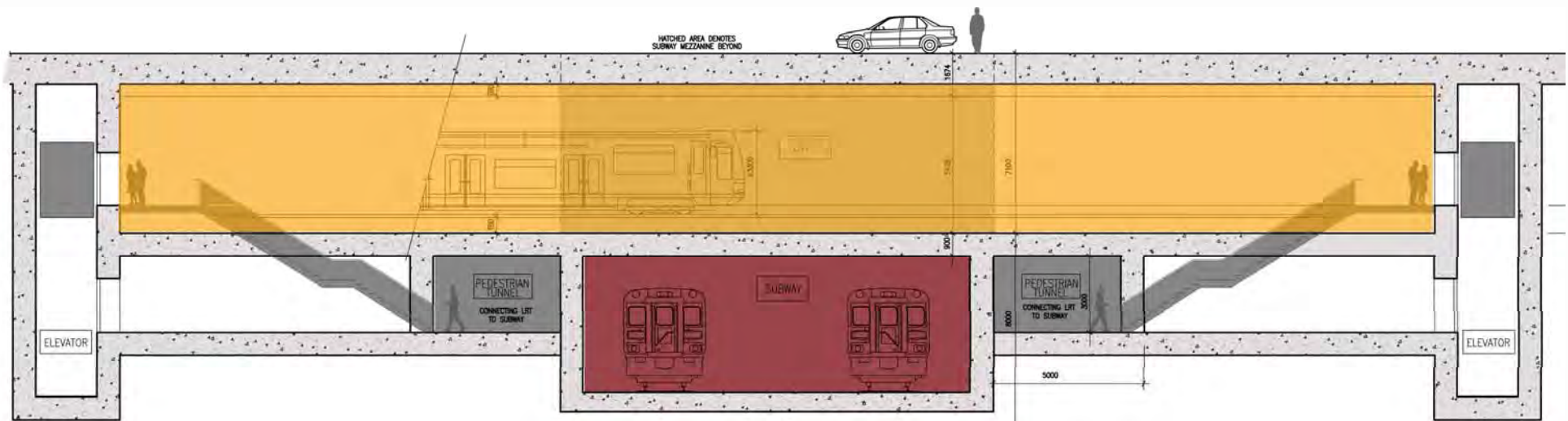
Streetscape design

The City and the TTC will enhance the urban design environment on all the Transit City project rights-of-way. Streetscape elements with co-ordinated street furniture and landscaping will be incorporated into the projects during the design phases of each project. During this transit project assessment stage, opportunities are being identified and protected, for the implementation of urban design elements along the alignment.



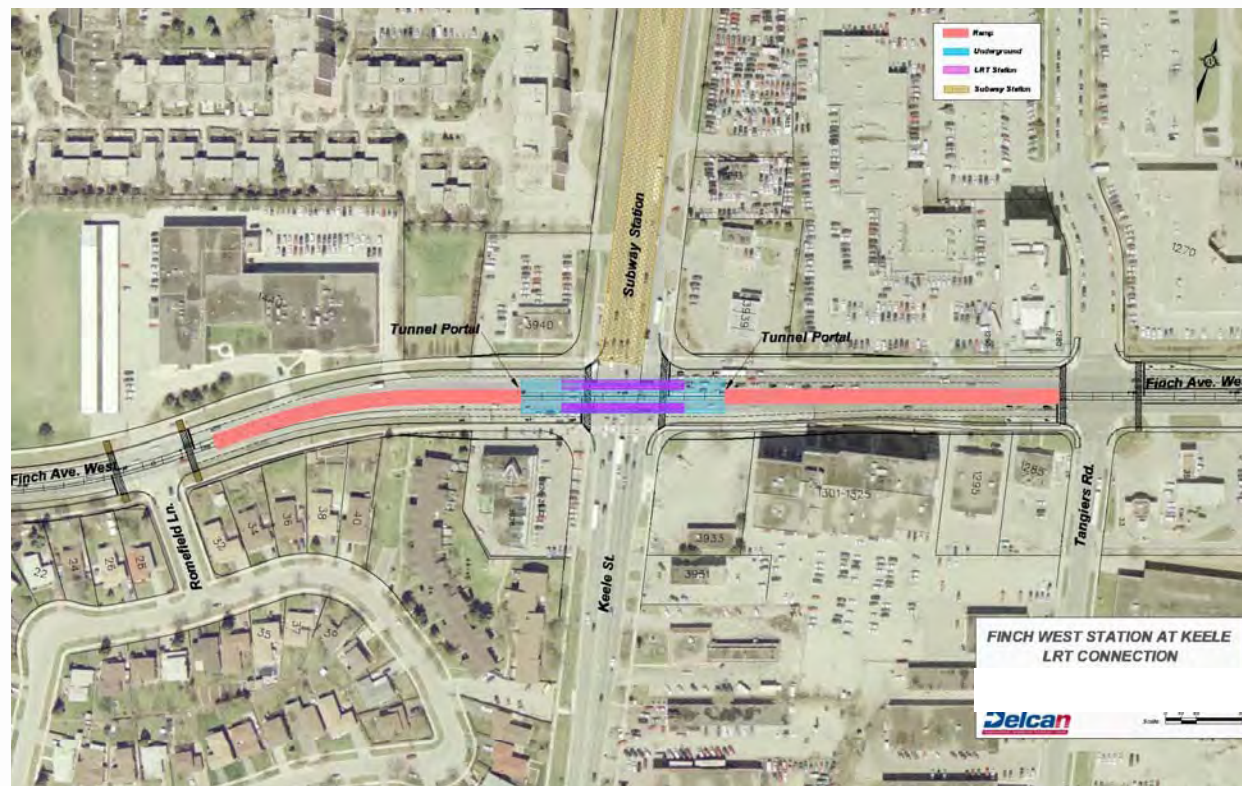
Finch Station at Yonge

Recommended design: Underground LRT transfer station to existing subway at Yonge Street

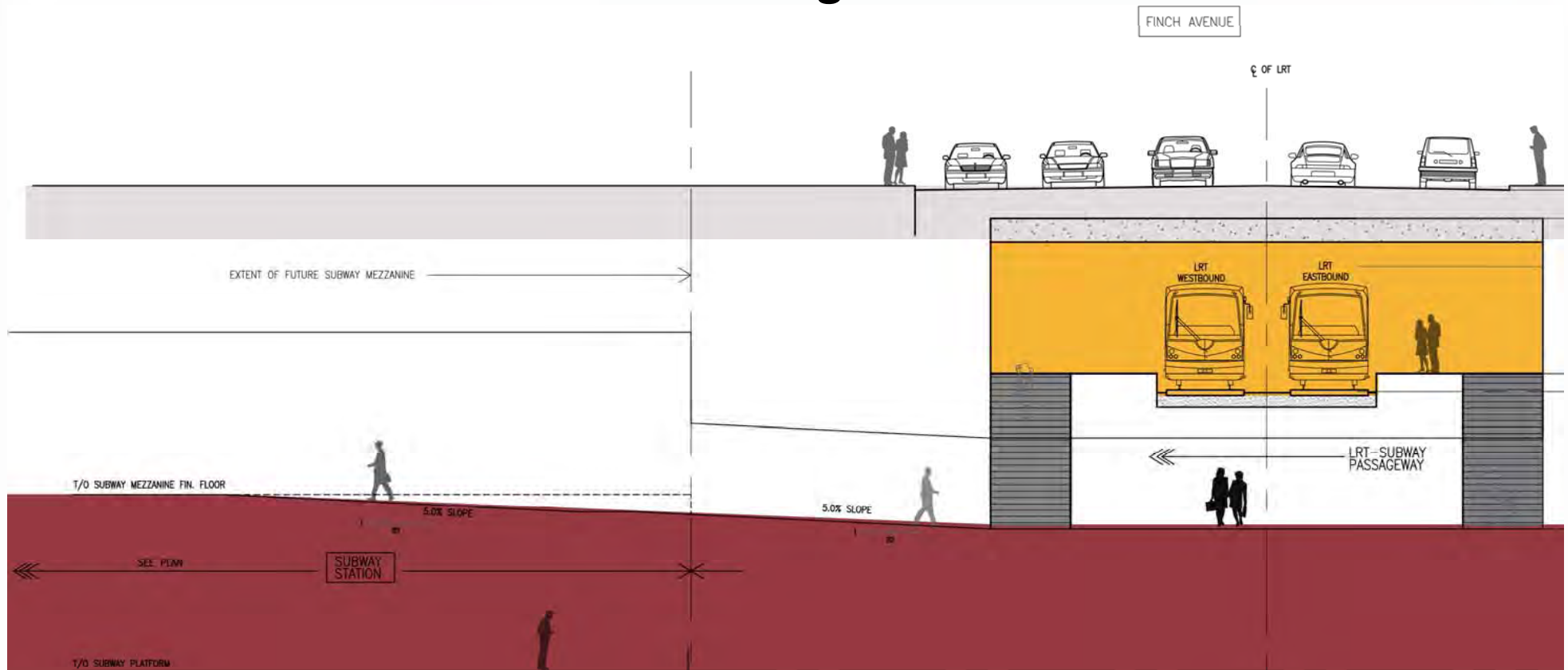


Finch West Station at Keele Street (Spadina Subway Extension)

- Recommended design: Underground LRT transfer station to extended Spadina Subway



Finch West Station at Keele (Spadina Subway) Recommended Underground Connection



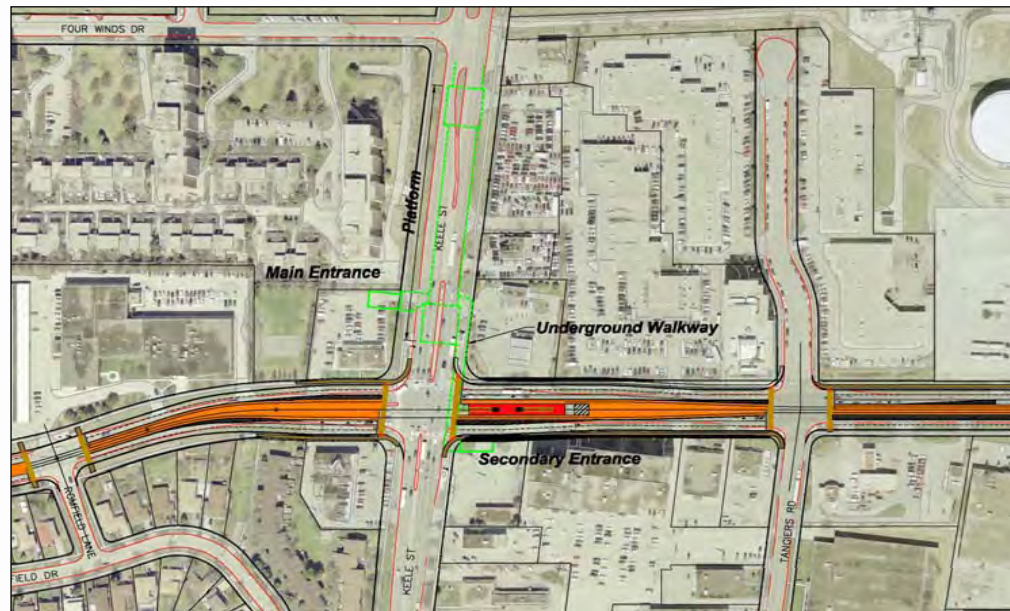
Conceptual path between Subway and LRT

Alternate option at Finch West Station at Keele

The underground connection to Finch West Station, presented on the preceding boards, is recommended, however there are some technical challenges associated with that design.

This surface alternative is provided as a possible LRT connection to the new subway.

The alternate surface option consists of LRT station with stairs/escalators to underground pedestrian passageway connection from LRT platform to new subway mezzanine and station.



Highway 400 Crossing

- The proposed design adds the LRT in the centre of Finch Avenue West, while preserving the ability to move a high number of vehicles at this important interchange
- Lane changes proposed at highway on and off-ramps (shown on next board)
- Analysis indicates acceptable capacity and safe off-ramp operations
- Ministry of Transportation of Ontario (MTO) has approved the design in principle, pending further detailed study.

Highway 400 Crossing Proposed Modifications



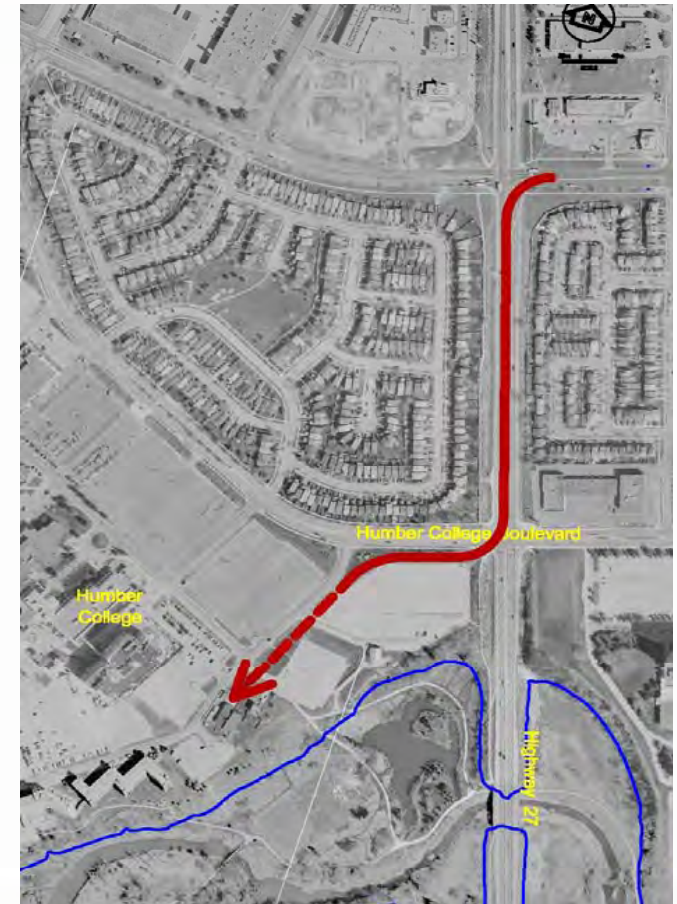
1. Retain three through lanes in each direction from Jane Street to the CPR overpass
 - a) Convert Highway 400 on ramp transition lanes to general traffic lanes
 - b) Eliminate dedicated right turn lanes
2. Dual left turn lanes for the westbound left turn from Finch Ave. to Arrow Road
3. Replace free flow right turn off ramps with dual right turn lanes which are signalized

Plus changes to green times at traffic signals.

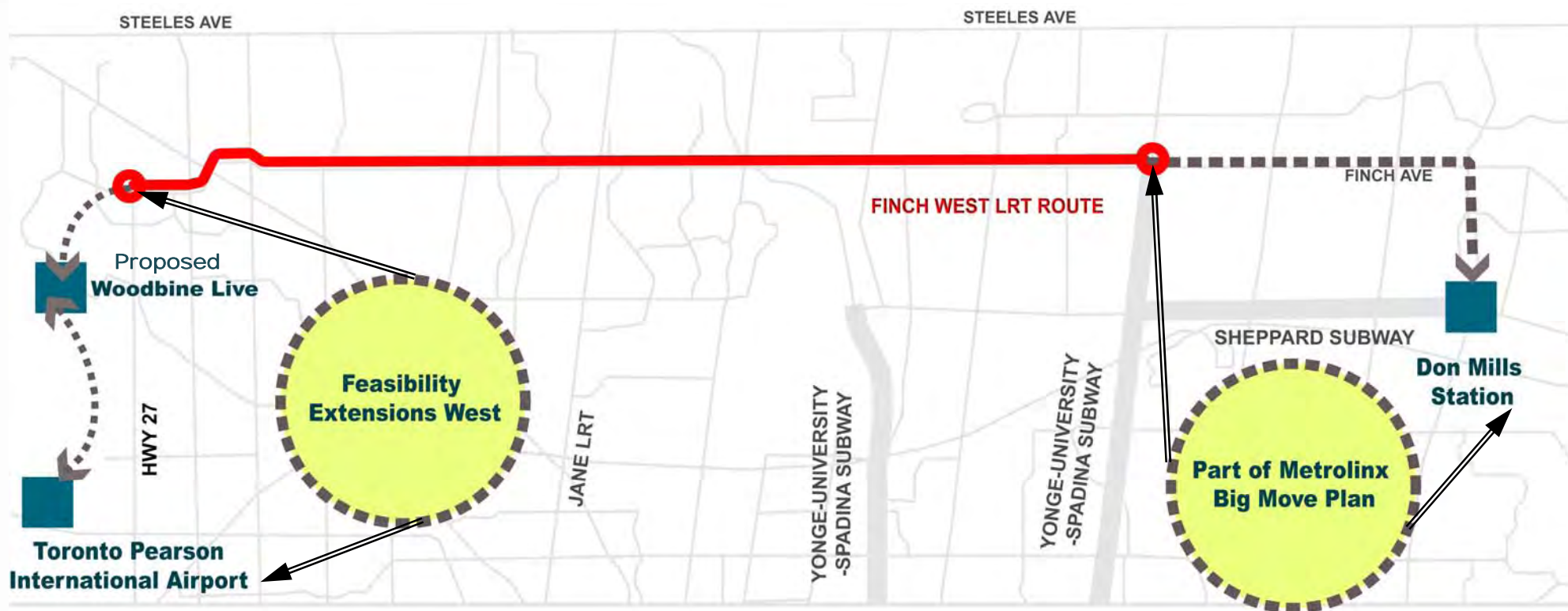
Humber College Terminal

The Etobicoke-Finch West LRT line is expected to have its western terminal on the campus of Humber College, a major destination and ridership hub.

- Humber College is currently conducting a Master Planning Study for its future growth.
- TTC and the College are coordinating their needs. The terminal locations indicated here are conceptual. The final location will maintain the possibility of further extension to Woodbine Live and the Airport.
- An Official Plan Amendment (OPA) is required to extend the LRT west of Highway 27 on Humber College Boulevard.



Potential Future Extensions East & West



Traction Power Substations & Maintenance Facility

Traction Power Substations

- Electric power substations are required about 1.5 km apart
- Range of locations and spacing are part of the electrical design
- Industrial or commercial locations are preferred, wherever possible
- Architecture will blend into neighborhood locations



Maintenance Facility Location

- Storage and maintenance facility needed for LRT fleet
- Yard will serve Finch West LRT and Jane LRT lines
- Proposed site is at York Gate/Norfinch
- Separate study is underway



Assessment of the Preferred Design

An assessment was undertaken for the preferred design, addressing:

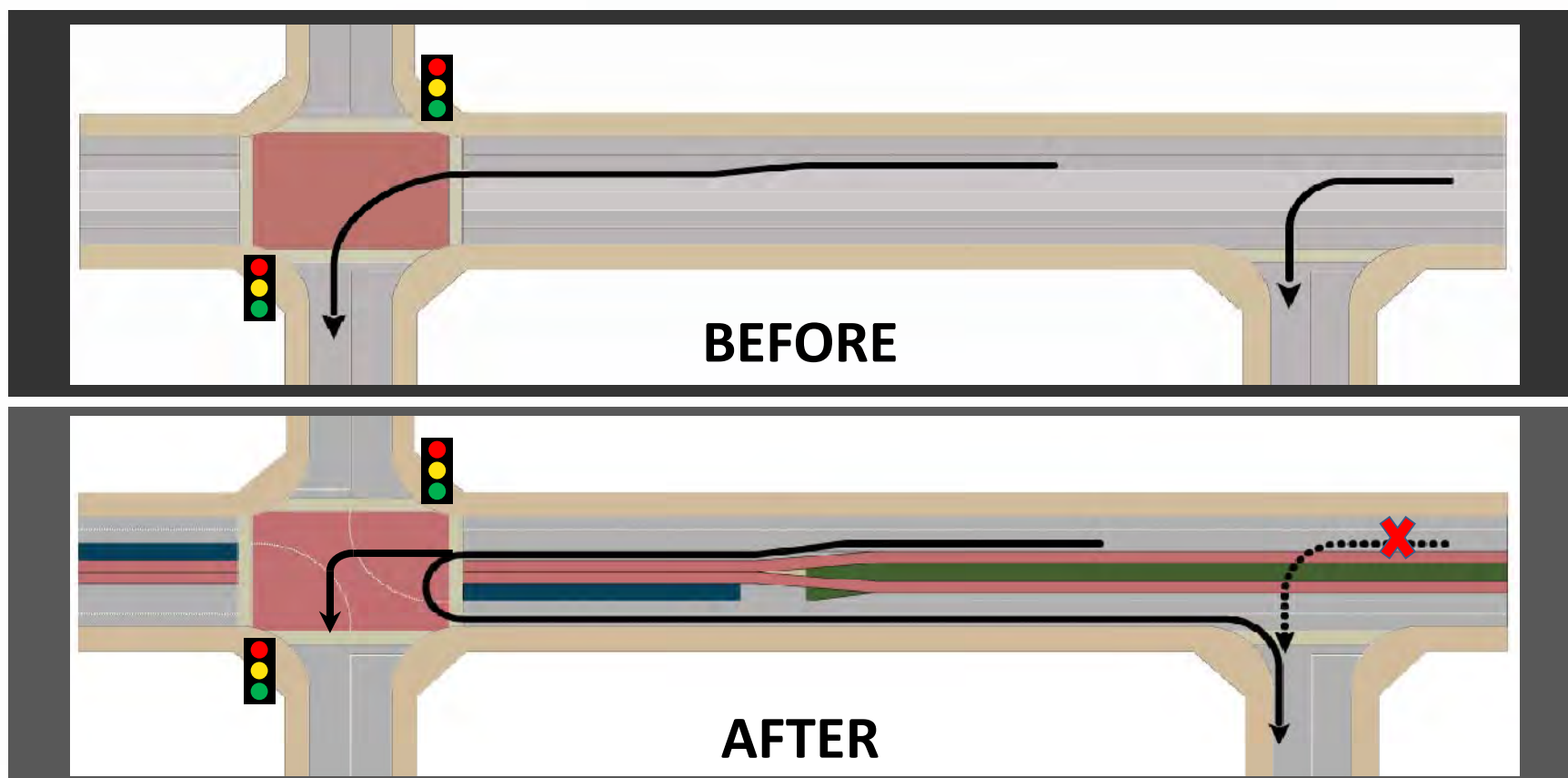
- Traffic
- Property
- Environment
 - Natural Heritage (vegetation, wildlife, fisheries and aquatic ecosystem)
 - Noise and Vibration
 - Archaeological Resources
 - Cultural and Built Heritage
 - Socio-economic / Community

Traffic

The implementation of the preferred design for the Etobicoke-Finch West LRT project will result in the following:

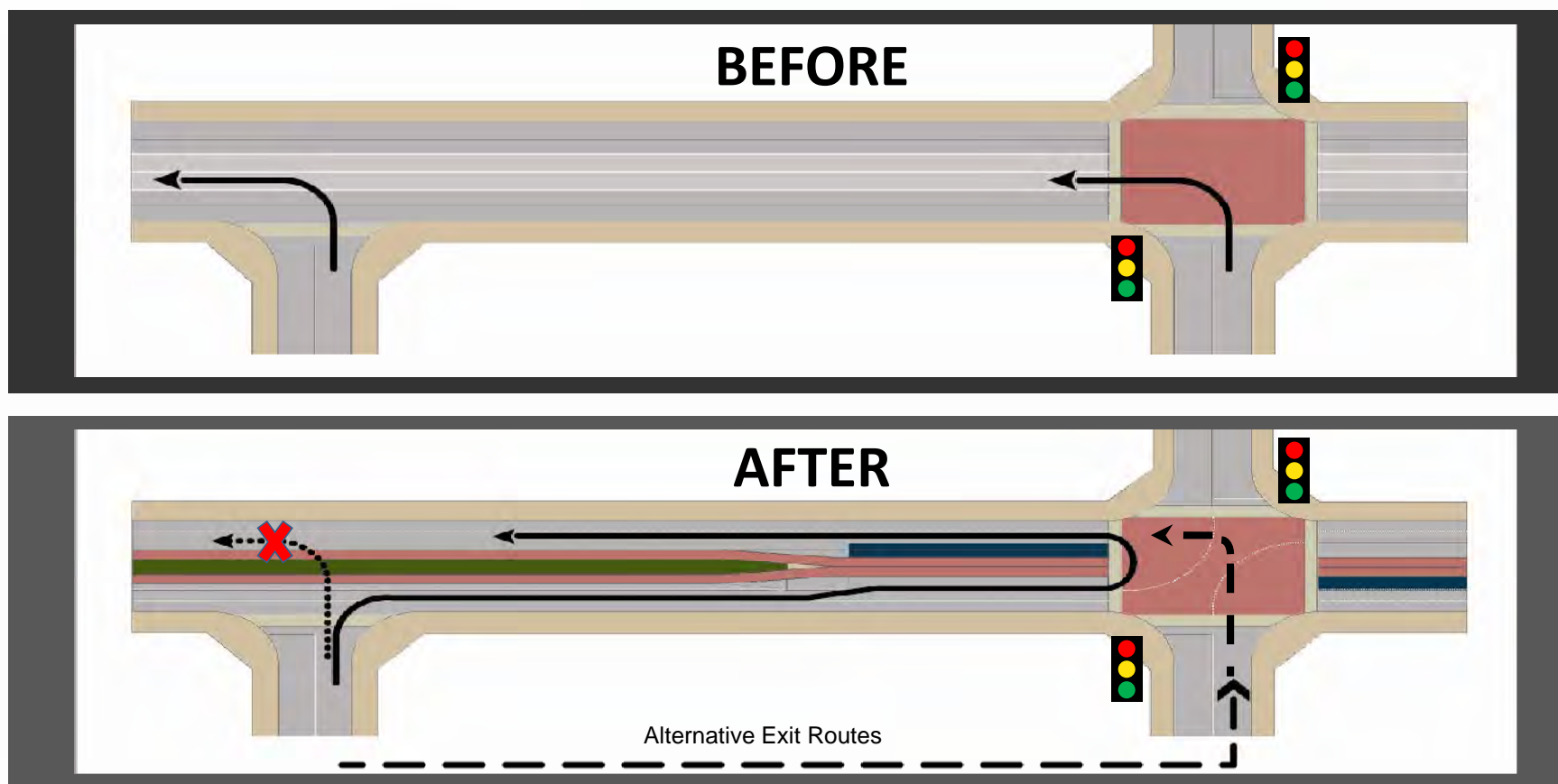
- At least two through traffic lanes in each direction along entire corridor.
- Transit will be moved to designated transit right-of-way lanes in the centre of the street and no longer share the same lanes as private vehicles.
- For safety reasons, left turns from streets and driveways without a traffic signal across the transit right-of-way cannot be permitted. Motorists will instead turn right and then u-turn or left turn at the signal.
- Transit reliability will be improved resulting in less “bunching” of vehicles and faster speeds. Passengers in private cars may experience longer travel times.

General Left Turn Provisions



INBOUND ACCESS : ACCESS TO SIDE STREETS

General Left Turn Provisions



OUTBOUND ACCESS : ACCESS FROM SIDE STREETS

Property Impacts

The proposed LRT design fits within the 36 m Right-of-Way/Street Allowance on Finch Avenue West and Highway 27 except between Yonge and Bathurst

- The Etobicoke-Finch West LRT project will establish a uniform 36-metre street allowance between Yonge and Bathurst Streets as designated in the City's Official Plan.
- Additional property impacts occur at centre platform stations, listed below, and along curves:
 - Wilmington Ave
 - Dufferin St.
 - Kipling Ave.
 - Stevenson Rd.
 - Martin Grove Rd.
 - Highway 27
- Property owners will be contacted individually during detailed design stage

See maps on table or along wall for detailed information

Natural Environment

Fish and Aquatic Habitat:

- Humber and Don River watersheds with 8 watercourses crossings of Finch Ave. W.
- 5 of them support fish and fish habitat
- Mitigation potentially needed for in-water work at West Don Bridge

Vegetation:

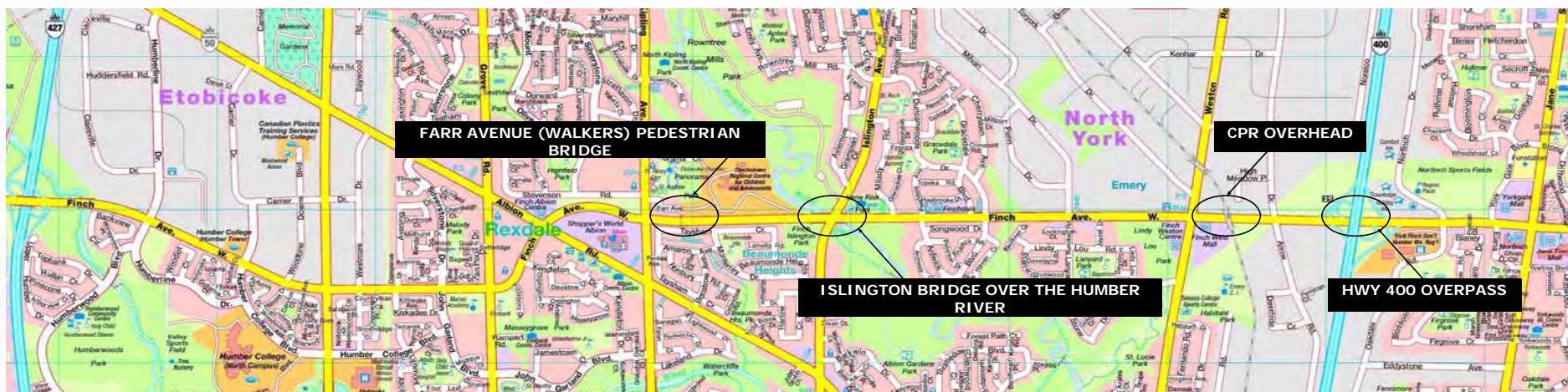
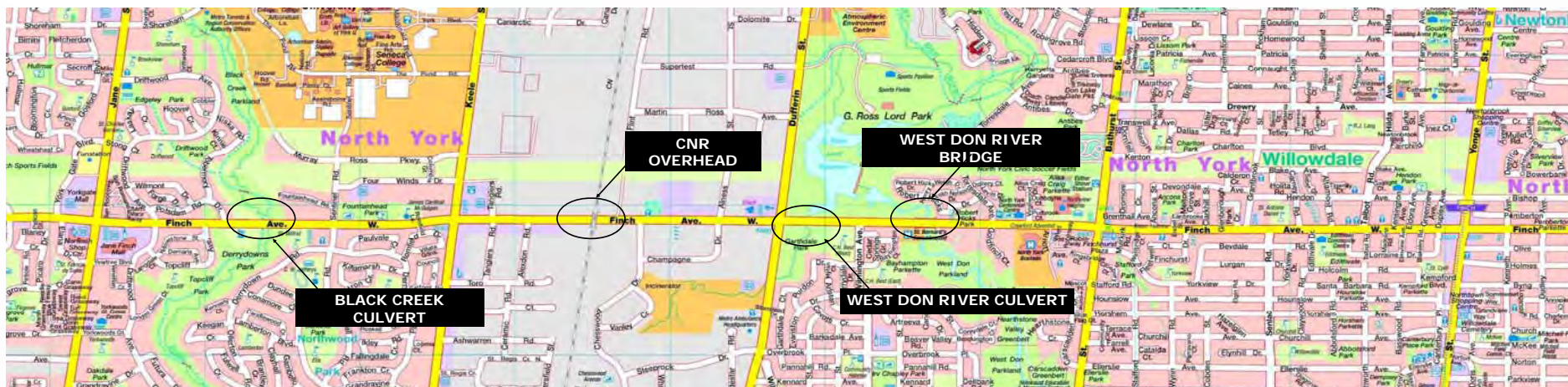
- 11 Ecological Land Classifications mapped, all but one in river valleys, all but one cultural
- Endangered species (butternut tree) not affected by LRT
- Mitigation: develop a landscape plan that will replace or compensate any removal

Wildlife Habitat:

- Restricted to river valleys, away from Finch Ave. W.
- Bird species common and widespread, tolerant of urban noise
- Mitigation: timing restraints, possible bird nest searches before construction , no tree removal during nesting seasons



Watersheds and Bridges



Noise Assessment - Overview

Existing Conditions

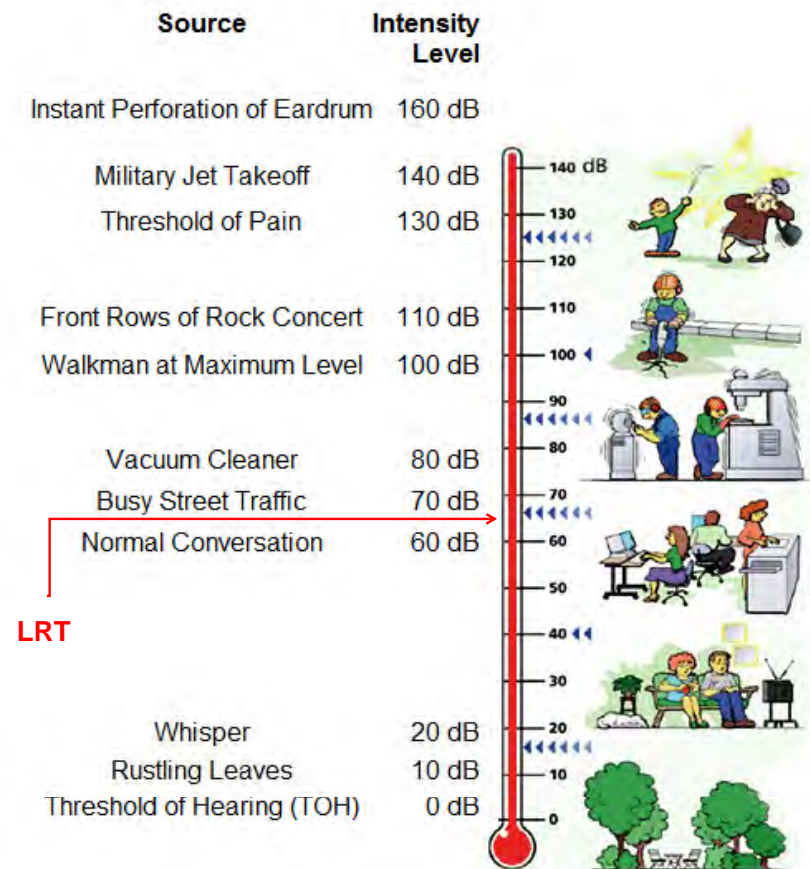
The Finch Avenue West corridor currently has significant traffic volumes and high ambient noise levels

New LRT Technology for Transit City

Minimal noise impacts are expected due to :

- Advances in vehicle and track technology over existing TTC streetcar infrastructure
- Track construction that includes continuous welded rail to minimize the number of rail joints and the use of rubber sleeves that isolates the rail from the concrete roadbed.

INTENSITY AND THE DECIBEL SCALE



Noise Assessment – LRT Vehicles

A noise analysis was carried out in accordance with the established Ministry of the Environment (MOE) / TTC Protocol. Future noise levels were predicted for varied areas along the corridor. The results are shown in the table below:

Surface LRT Section	Sound Level Change Along Corridor (Decibels) (dBA)		Increment Requiring Mitigation (Decibels) (dBA)	Mitigation Required According to MOE/ TTC Protocol (Yes/ No)
	Day	Night		
Humber College	1.7	4.8	5	No
Hun Crescent	1.2	1.9	5	No
Romfield Drive	1.2	1.7	5	No
Wilmington Avenue	0.6	1.2	5	No
Edithvale Drive	0.9	1.6	5	No

Traction Power Substations

Detailed design work is required to determine the noise impacts of the traction power substations and any necessary mitigation measures.

Vibration Assessment – LRT Operations

- The LRT vehicles and trackwork to be specified for the Transit City program will use state of the art technology which is expected to produce reduced levels of vibration compared to the existing streetcar system.
- A vibration study has been completed for the Etobicoke-Finch West LRT. The results indicate that vibration resulting from the proposed LRT vehicles is expected to be less than the Ministry of the Environment (MOE)/ TTC Protocol criteria value limit of 0.01 mm/second at distances greater than 9 metres from the general running track areas.
- In some areas, where special track is required for turn back or storage of vehicles, vibration levels are expected to be higher. In these areas, mitigation measures will be further considered during the design of the Project including potential use of isolated track slabs.

Heritage and Culture

- **Archaeology**

Stage 1 Archaeological Assessment findings:

- No site potential due to previous road, commercial and residential disturbances
- Additional assessment not required

- **Cultural Heritage Landscapes**

- Waterscapes (Black Creek, Dufferin Creek, West Branch Don River, Humber River)
- CNR and CPR Railscapes
- Circa 1950's Finch Ave Streetscape



- **Built Heritage Resources**

1. Elia Episcopal Church and Cemetery
2. Shadowbrook, St. Bernard's Convent
3. Arthur Edward Wade House
4. Open Window Bakery
5. 5600 Yonge Street (Former bank, now Restaurant)

Socio-Economic / Community Assessment

Potential Project Benefits

- provide safe, fast, and reliable transit service, that is a viable alternative to vehicular travel
- attract new business in the area based on the provision of increased people movement capacity
- provide employment opportunities during the 4 year construction period
- increase employment opportunities over operating life of the Etobicoke-Finch West LRT

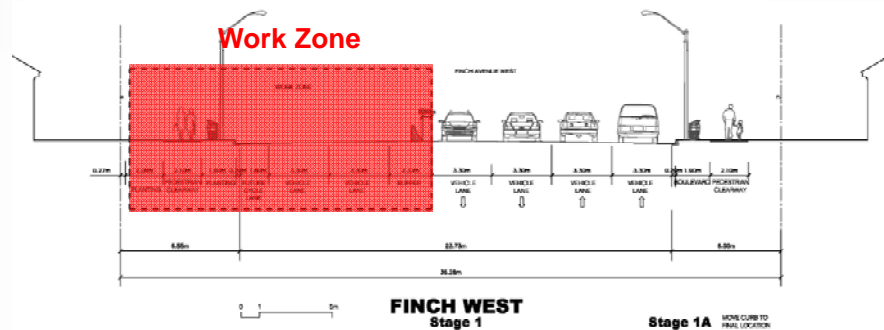
Potential Project Impacts

- short-term, localized road diversions and / or closures during construction
- travelling by car may be more difficult, during and post-construction
- limited noise impacts during construction
- localized impacts associated with dust and exhaust emissions during construction

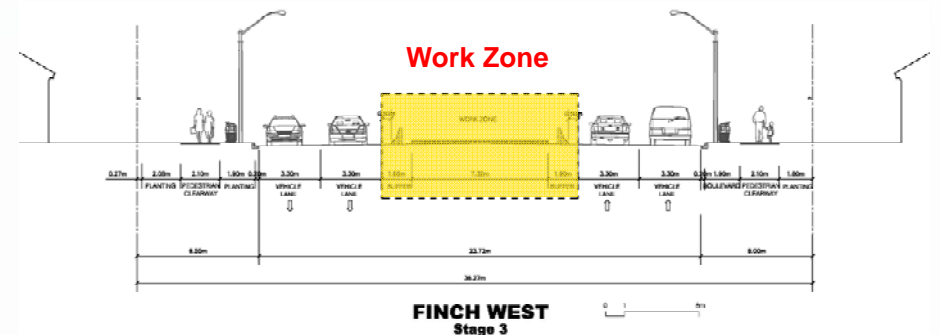
Recommended Mitigation

- implement and monitor during construction, effective traffic, noise, dust, etc. management plans

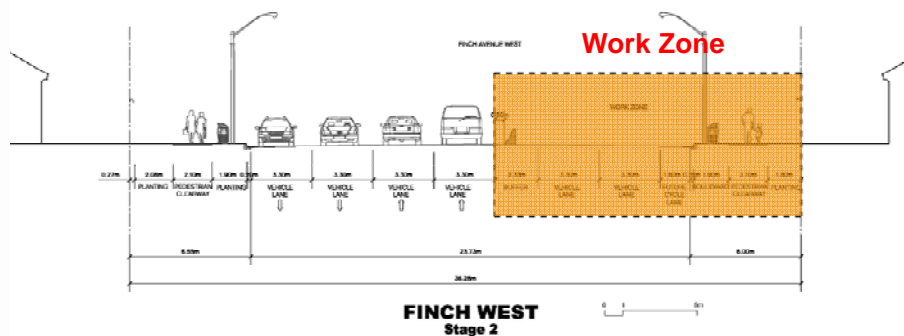
Typical Construction Staging



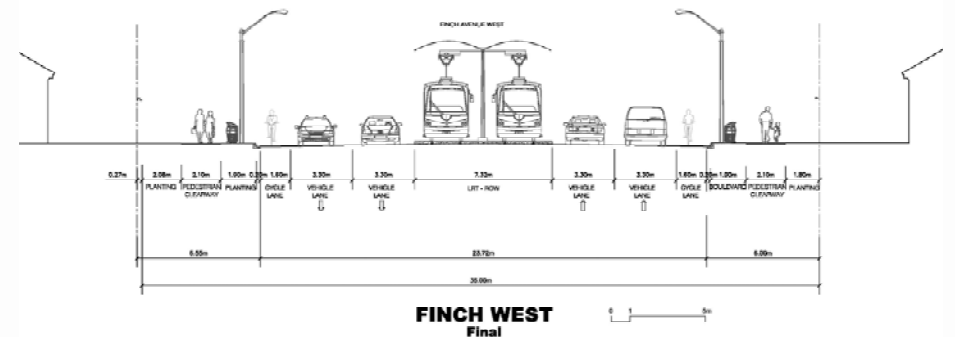
Traffic to one side
Build new curb
Relocate utilities in work zone



Move all traffic to new lanes
Install LRT in centre
Complete boulevards



- Reverse the process
- Traffic to new side
- Build new curb
- Relocate utilities in new work zone



All Tracks, Lanes, Bikeways, Sidewalks in place

Project Benefits

The benefits by implementing the Etobicoke-Finch West LRT project include:

- supports the City's growth, including its economic vitality
- ensures that transit is a more attractive travel option by improving travel times, comfort, and reliability of service
- increases the people movement capacity in the corridor in an environmentally sound manner
- provides enhanced accessibility features for all customers
- provides alternative travel choices for non-drivers, including transit and enhanced environments for cycling and walking
- encourages and contributes to improved neighbourhood livability
- provides employment opportunities during construction and LRT operations
- provides opportunities to include urban design and streetscaping features
- contributes to the overall reduction in energy consumption and pollution levels

Next Steps

- Review and respond to your questions and input received from today's open house. Please leave your comments with us or mail sheets by Jan 15th 2010.
- Ongoing consultations with affected property owners
- Continue with process to amend Toronto's Official Plan for Humber College Boulevard
- Report to TTC Commission: Dec 16th 2009
- Report to City Council: Jan 26th 2010
- Finalize the Environmental Study Report
- Publish Notice of Completion of EA Study
- Submit EA Study report for 30-day public review period

Freedom of Information and Protection of Privacy Act

Comments and information regarding this study are being collected to meet the requirements of the *Environmental Assessment (EA) Act*. This material will be maintained on file for use during the study and may be included in project documentation.

Information collected will be used in accordance with the *Freedom of Information and Protection of Privacy Act*. With the exception of personal information, all comments will become part of the public record.

You are encouraged to contact members of the Project Team if you have any questions or concerns regarding the above information.

How to Contact Project Team

1. Hand in a comment sheet before leaving the open house
2. E-mail: finchtransit@toronto.ca
3. Phone: 416-392-6900
4. Fax: 416-338-0251
5. TTY: 416-397-0831
6. Mail: Etobicoke-Finch West LRT
Transit City Department
Toronto Transit Commission
5160 Yonge Street, 13th Floor
Toronto, ON
M2N 6L9

All comments are to be submitted by December 23, 2009