

HIGHWAY 7 CORRIDOR AND VAUGHAN NORTH-SOUTH LINK Transit Improvements Environmental Assessment (EA) Subway Alignment Selection Report

Welcome !

The purpose today is to:

- Present the Study Background;
- Describe Alignment Alternatives Analyzed;
- Present the Evaluation of the Alternatives and Selection of the Preferred Alternative;
- Recommend Station Locations and Requirements;
- Present an Assessment of the Effects on the Environment;
- Describe Next Steps.

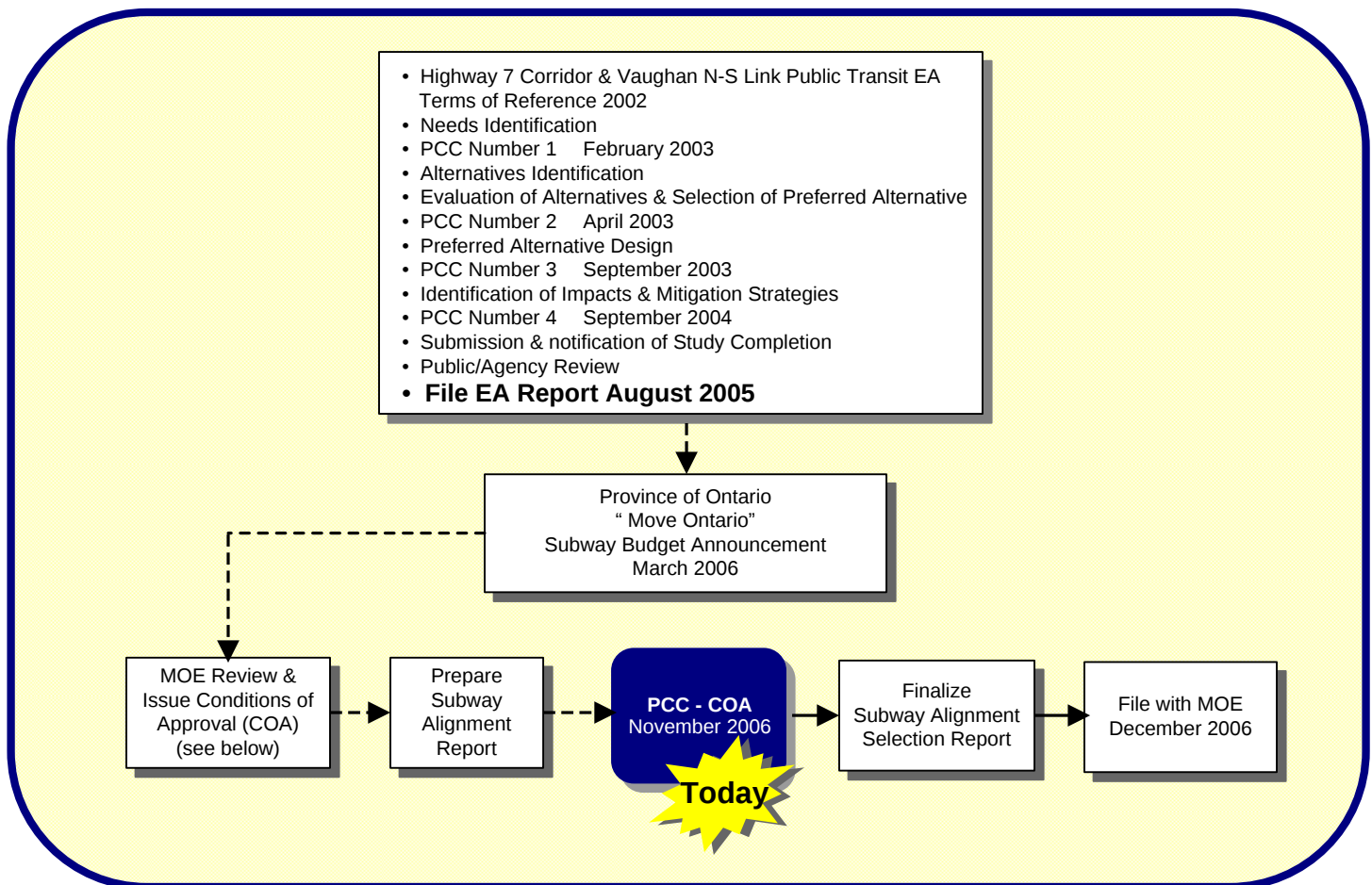
Please review the information displayed and discuss any aspects of the EA with the Study Team members in attendance. All information presented here is available at www.vivayork.ca.

You are encouraged to comment and provide input. Comment forms are provided for your convenience and may be completed here or sent to the Study Team (no later than December 5, 2006).



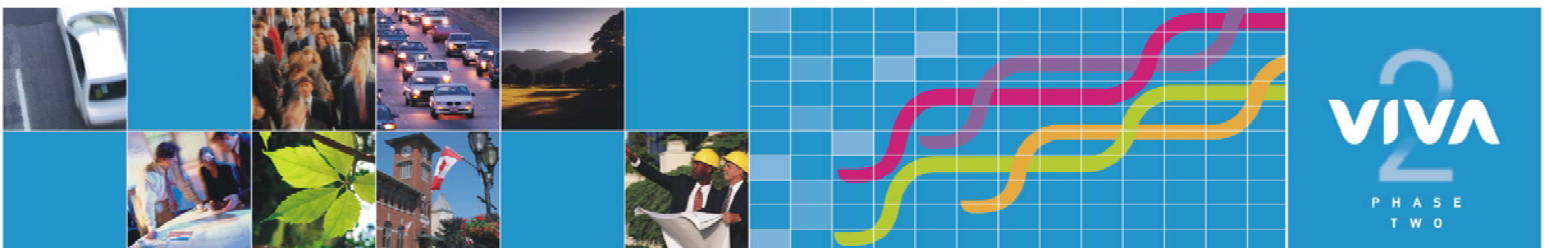
HIGHWAY 7 CORRIDOR AND VAUGHAN NORTH-SOUTH LINK Transit Improvements Environmental Assessment (EA) Subway Alignment Selection Report

Environmental Assessment Process: Where We Are



"A condition of approval has been proposed that will require the Proponent to follow a public process to determine the optimum location for the alignment of the subway undertaking. The process will be documented in a report and submitted for approval to the Minister. The Proponent shall not proceed with the construction of the subway undertaking unless the Minister, having considered the report, any public comments regarding the report and public interest, approves its construction"

- Ministry of the Environment (MOE)



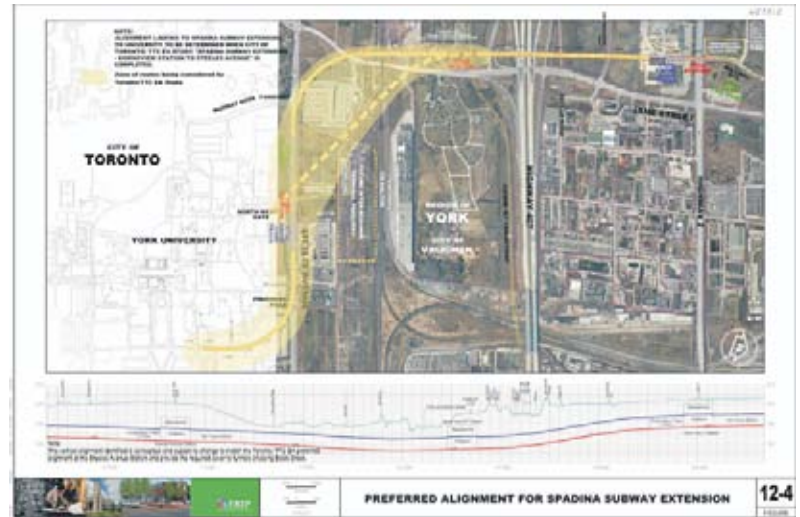
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Background Studies

Highway 7 Corridor and Vaughan N-S Link EA

At the time the York Region VNSL EA was filed with the MOE (August, 2005), TTC's EA study had identified three potential alignments for the Spadina Subway Extension to York University (shown below).

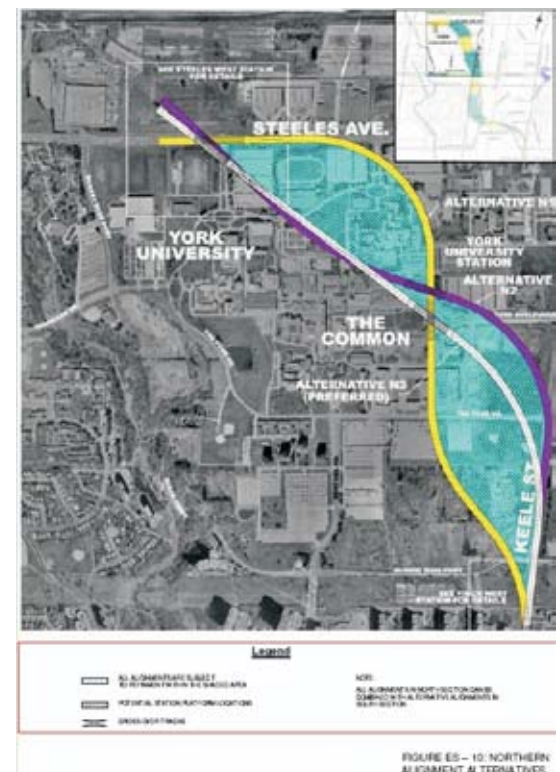
The York Region VNSL EA included a recommended Alignment north of the University (as shown in Figure 12-4, right) with the option of amending the portion south of Highway 407 to tie into the approved TTC Steeles station and tail track alignment (i.e. at York University).



TTC and City of Toronto Spadina Subway Extension EA

The location of Steeles West Station at Steeles Ave. (i.e. the VNSL starting point) is dependant on the Toronto Transit Commission (TTC)'s preferred alignment. At the time of the Region's report submittal TTC was evaluating options N1 through N-3 (shown in Figure ES-10 on the left).

Since the York Region VNSL EA was filed with the MOE (August 2005), the TTC completed the evaluation of the subway alignments south of Steeles Avenue. The final TTC Spadina Subway Extension EA Report (filed with the MOE in February 2006) identified the **preferred alignment as alternative N3**. This alignment crosses Steeles Avenue in a north westerly direction.

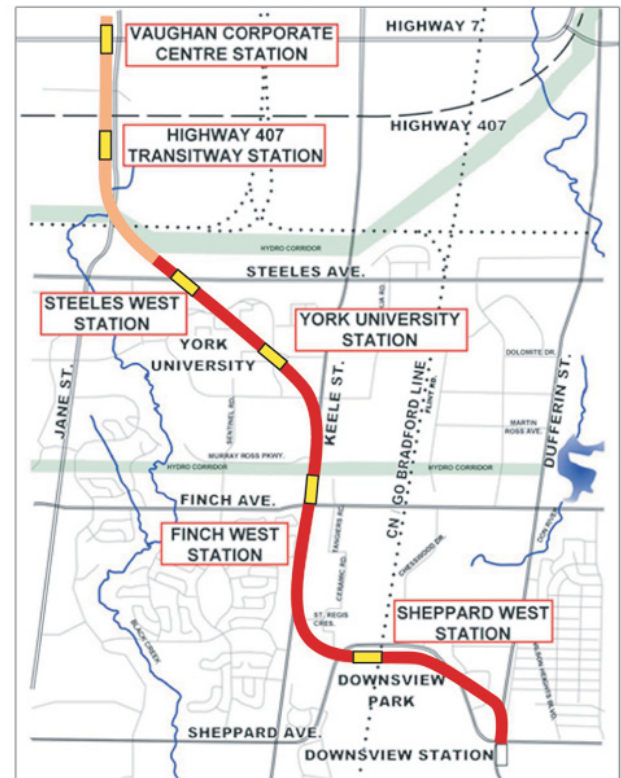


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Provincial Funding Announcement

As part of the 2006 Ontario Budget, introduced on March 23, the Minister of Finance announced that the Province will cost-share an extension of University-Spadina subway line to York University and from there into York Region, terminating at the Vaughan Corporate Centre.

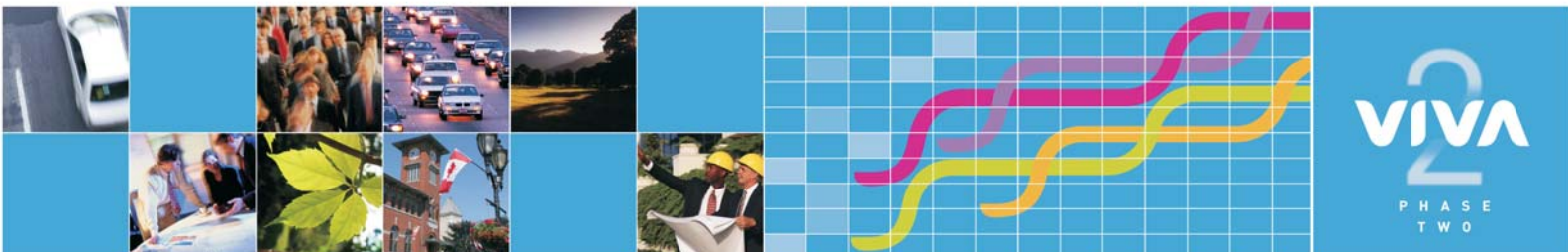
The total cost of the project was estimated to be approximately \$2 billion, of which \$670 million would be funded by the Province. The provincial contribution to the project will hinge on a tri-government funding agreement being reached between the municipal, provincial, and federal levels of government in which each would assume an equal share of the project's capital cost.



 Environmental Assessment by York Region
 Environmental Assessment by TTC / City of Toronto

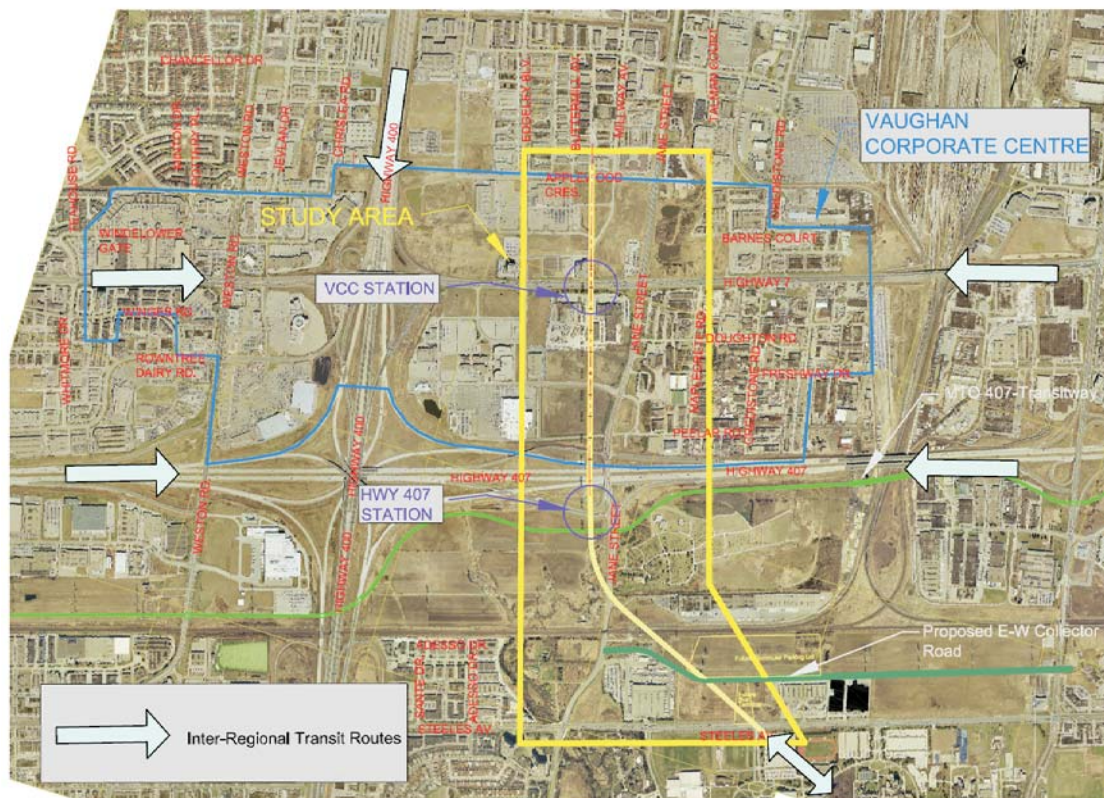
Conditions:

1. The City of Toronto and the Region of York must agree by **September 30, 2006** on the percentage of Project capital costs to be allocated to each party. (Note: On September 21 York Region Council approved the tentative deal the two municipalities reached Sept. 15. The agreement will see Toronto pay 59.96 percent of the cost while York Region pays 40.04 per cent. On September 27, 2006 the Toronto council approved this same agreement..).
2. The first construction contract for the project must be entered into by the earlier of, (i) **365 days from receipt of final provincial environmental assessment approval**, or (ii) **April 1, 2008**, or the trust assets will revert to the eligible municipalities.
3. The Trust has a life span of 10 years and will dissolve on **March 24, 2016**.



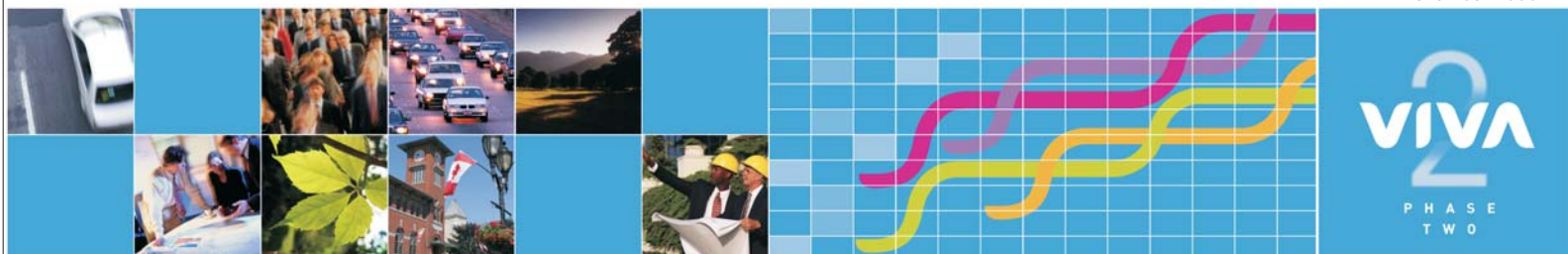
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Study Area



Transportation Opportunities

- Support York Region's objective of achieving a significant increase in transit's share of peak period travel.
- Support York Region's Official Plan and the Region's Approved 2002 Transportation Master Plan which have identified the Vaughan Corporate Centre as a Regional Node; and the Vaughan North-South Link as a major Corridor.
- Provide improved public transit infrastructure and service in the Region along major E-W and N-S corridors.
- Vaughan Corporate centre is identified in the provincial Places to Grow Act 2005 as an Urban Growth Centre.
- Provide Interconnection with other major corridors in the GTA.
- Connect to the Spadina subway.
- Subway Extension to Vaughan Corporate Centre provides access to the subway network for a projected population of 18,053 and employment of 42,965 in the western communities of the Region (2031 Projections)



HIGHWAY 7 CORRIDOR AND VAUGHAN NORTH-SOUTH LINK

Transit Improvements Environmental Assessment (EA)

Subway Alignment Selection Report

City Shaping and Urban Form

Vaughan Corporate Centre (VCC)



- The adoption of OPA 500 – Vaughan's Corporate Centre Secondary Plan - and the Vaughan Corporate Centre Streetscape and Open Space Master Plan Study describe and substantiate the need for the VCC.
- The VCC, strategically located on Highway 7 and Jane Street is one of four key pivotal emerging mixed use town centres in the Regional Municipality of York.
- The sustainability of GTA growth is founded on successful implementation of these major new centres and is a cornerstone of the provincial "Places to Grow Strategy".
- The VCC Secondary Plan supports the broader Regional goals for city-building via a "Centres and Corridors" urban structure.
- The Region's goal is to establish a transit supportive land use plan that includes a series of urban centres and provides broad direction to the public and private sectors with respect to street and block patterns, land use, building height and density, and urban design.

Steeles Avenue Corridor



- There is significant development activity occurring in the Steeles corridor area, reinforcing the vitality of the surrounding areas.
- The planned transit extensions to and through the Steeles Ave corridor, combined with the potential investment by York University along its Steeles Avenue frontage, will change the historic orientation of the Steeles corridor as an area for predominantly lower density employment uses.
- The City of Vaughan's Steeles Avenue Corridor – Land Use Review sets out the following objectives for this corridor:
 - Create a compact, mixed use precinct, centred on the future rapid transit station.
 - Concentrate worker and resident population within a 10 minute walking distance of the transit station.
 - Ensure future residential neighbourhoods are adequately served by community amenities such as schools, parkland, libraries, emergency services and recreational facilities.

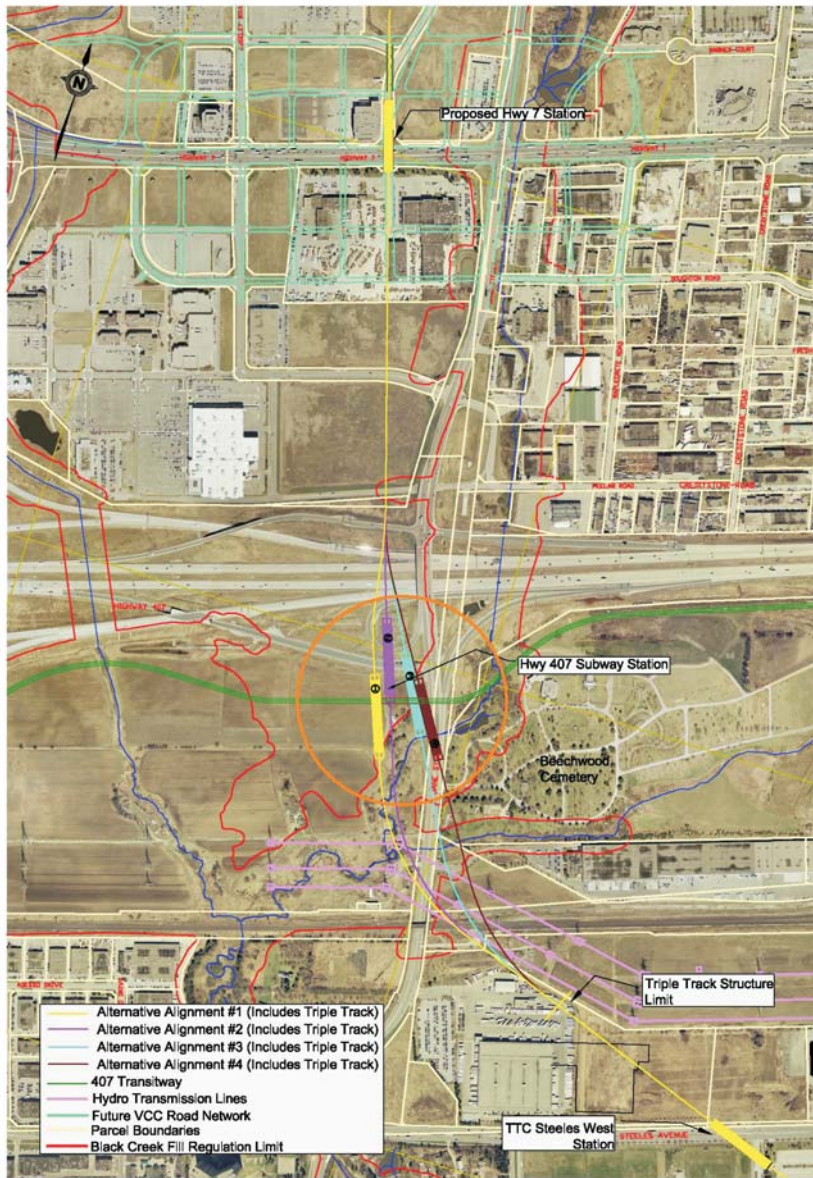


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Transit Improvements Environmental Assessment (EA)

Subway Alignment Selection Report

Alignment Alternatives Evaluation

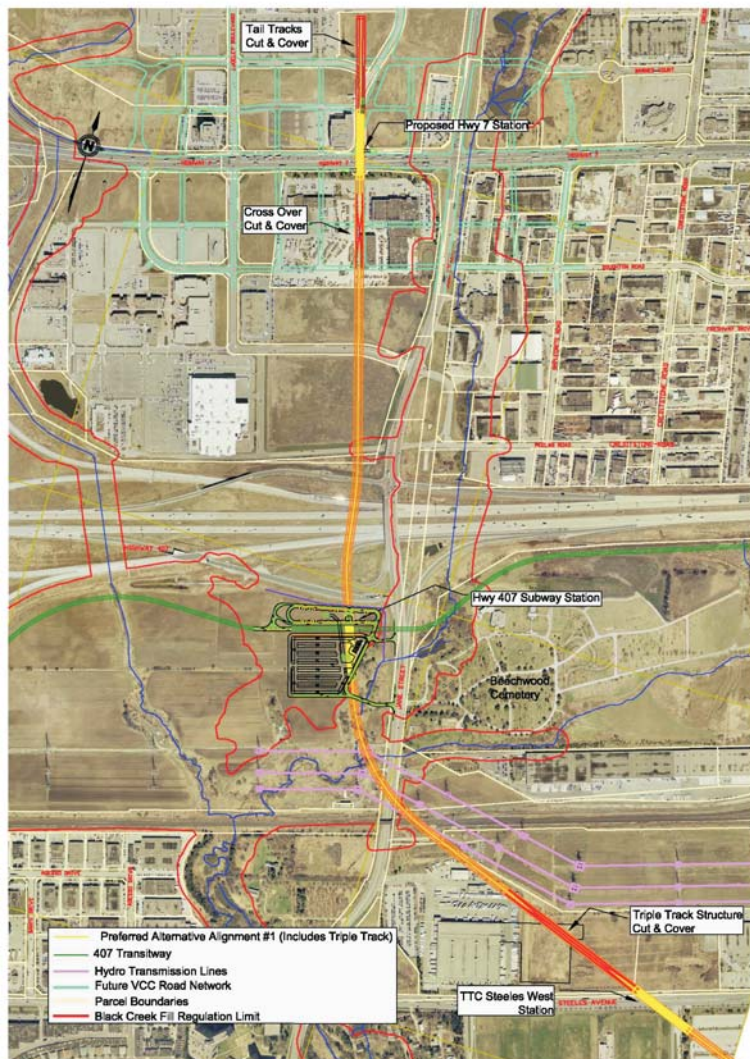


	1 PREFERRED ALIGNMENT	2	3	4	5 alignment without triple track
Transportation Design	Alignment complies with geometric and operational standards.	Alignment complies with geometric and operational standards.	Alignment complies with geometric and operational standards.	Alignment complies with geometric and operational standards.	Alignment complies with geometric and operational standards.
	Requires horizontal curves.	Requires 2 horizontal curves.	Requires 2 horizontal curves.	Requires 2 horizontal curves.	Requires 2 horizontal curves.
Social Environment	Allows physical and operational integration of 407 Subway Station with MTO Transitway Station.	Allows physical and operational integration of 407 Subway Station with MTO Transitway Station.	Allows physical and operational integration of 407 Subway Station with MTO Transitway Station.	Allows physical and operational integration of 407 Subway Station with MTO Transitway Station.	Allows physical and operational integration of 407 Subway Station with MTO Transitway Station.
	Allows convenient passenger access to 407 subway station.	Passenger access to 407 subway station confined to south end.	Passenger access to 407 subway station constrained by proximity to Black Creek.	Passenger access to 407 subway station constrained by proximity to Black Creek.	Allows convenient passenger access to 407 subway station.
Natural Environment	407 Station mostly on ORC property.	2/3 of the 407 Station on property under 407 ETR jurisdiction.	1/4 of the 407 Station on property under 407 ETR jurisdiction.	407 Station mostly on ORC property.	407 Station mostly on ORC property.
	Jane St. and Hwy 407 interchange ramp diversion avoided.	Two Hwy 407 interchange ramps affected during construction	One Hwy 407 interchange ramp affected during construction.	Hwy 407 interchange ramp diversion avoided Requires diversion of Jane St. traffic during construction.	Jane St. and Hwy 407 interchange ramp diversion avoided.
Cost	Potential for a limited temporary excavation and backfill within the Black Creek fill regulation limits. (i.e. the southeast corner of the station).	Only minor impact to Black Creek due to access road construction.	1/8th of the Station within Black Creek fill regulation limits	More than half the Station within Black Creek fill regulation limits	Potential for a limited temporary excavation and backfill within the Black Creek fill regulation limits. (i.e. the southeast corner of the station).
	Requires tunnelling under 1 Hydro Tower.	No impact to Hydro Towers Costly ventilation shaft and emergency corridor to avoid any openings within 407 ETR easement.	No impact to Hydro Towers	No impact to Hydro Towers	This results in additional capital costs



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Preferred Alignment Description



Planning and Design Criteria

- Alignment to be underground due to constraints at CN Rail, Hydro ROW, Jane Street, 407ETR, Interchange Way and VCC easement.
- Storage tracks required north of VCC Highway 7 Station
- Assume Jane Street is widened (to 6 lanes) prior to subway opening.
- Protect for track work permitting trains to reverse direction immediately north of Steeles West Station.
- Assume East-West Collector Road (north of Steeles) is completed prior to subway opening.
- Consider need for certain VCC Official Plan road grid elements to be in place before subway opening.
- Subway alignment design speed: 80 km/h.

Summary of Effects and Mitigation

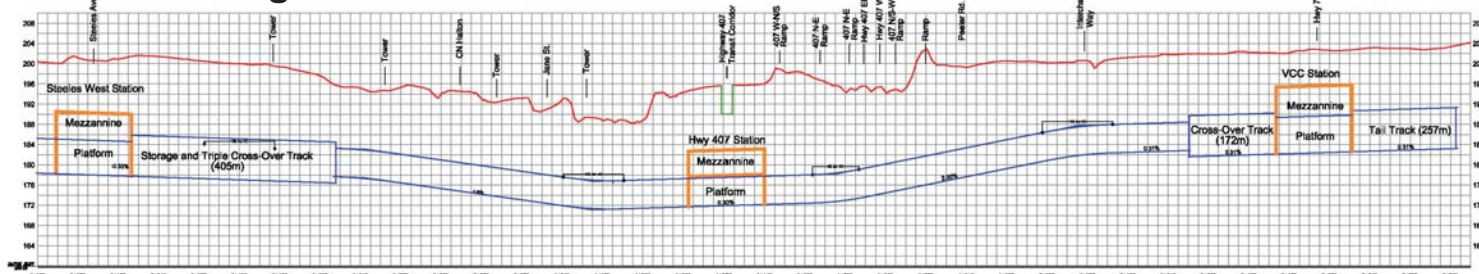
Socio-economic Environment

- Effect on Hydro tower foundations limited to bored tunneling alongside and below foundations with appropriate monitoring to prevent settlement.
- Works within CN Rail and 407 ETR right-of-way limited to deep bored tunneling with appropriate monitoring to prevent settlement.
- Construction of cut-and-cover works will include traffic management measures.
- Any utilities affected by the works will be protected or relocated.

Natural Environment

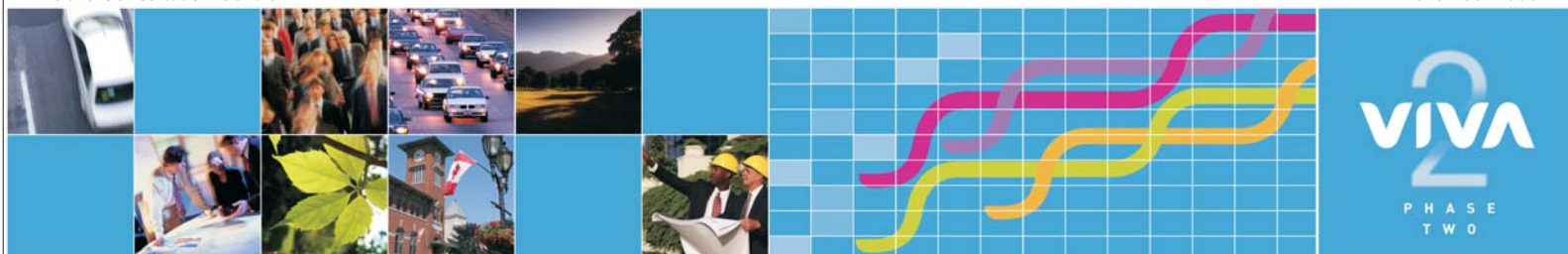
- Extent of dewatering and any aquifer depressurization to permit tunnel and station construction will be minimized by use of earth pressure balancing tunnel boring equipment in areas where groundwater resources could be affected
- Adverse effects on vegetation in the Black Creek valley lands will be minimized by bored tunneling across the valley.

Preferred Alignment Profile



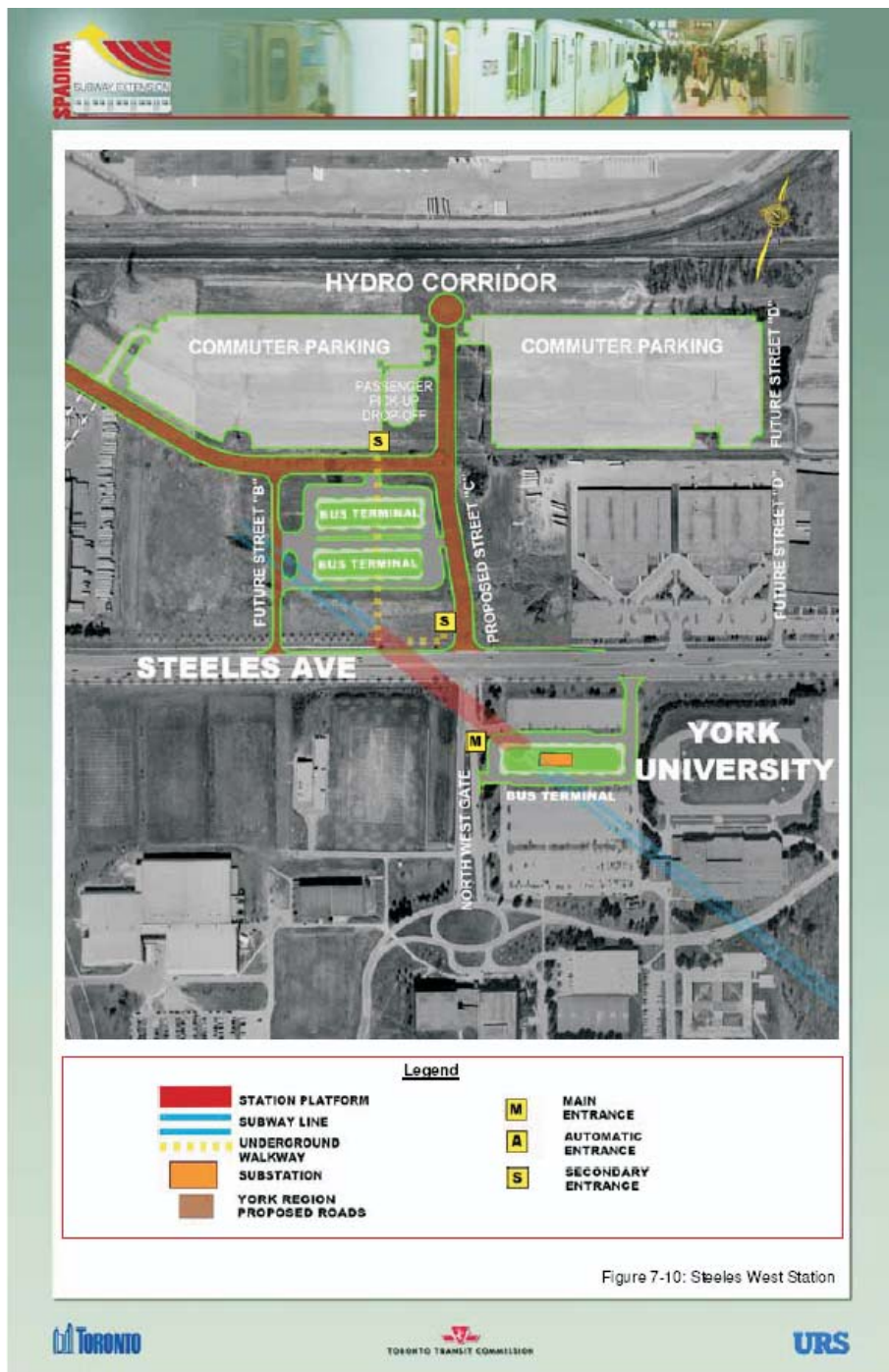
Public Consultation Centre

November 2006



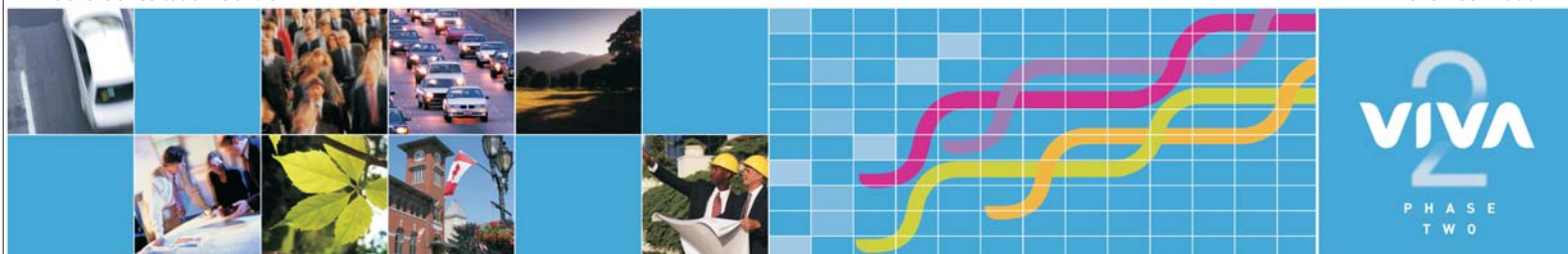
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Steeles West Station



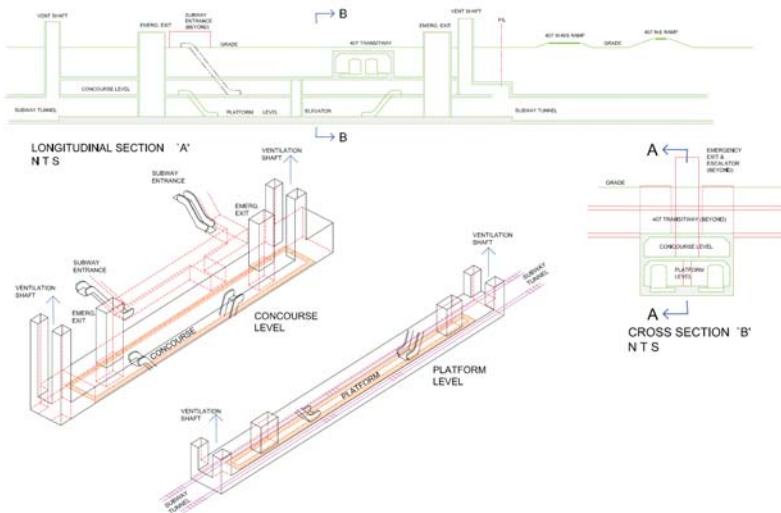
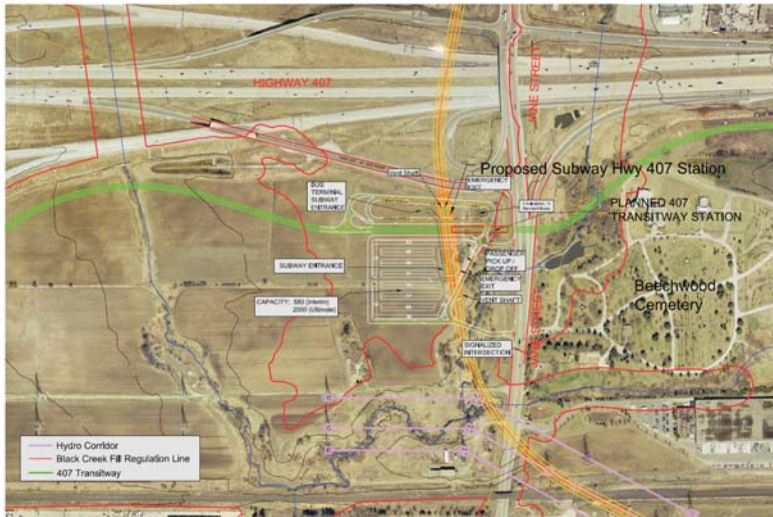
The station facilities shown opposite were developed in the TTC Spadina Subway Extension EA study assuming that Steeles West would be the terminal station on the extension.

The facility requirements are now being reviewed in the context of the provincial decision to fund a subway extension to VCC (i.e. Steeles West is no longer a terminal station.)



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Highway 407 Station Intermodal Facility



**407 Station Layout
Isometric**

Planning and Design Criteria

- Protect for the future MTO 407 Transitway and corresponding facilities based on currently available plans and conceptual layouts.
- Provide bus transfer facilities as required by all transit authorities anticipating connection with the subway and the MTO Transitway.
- Provide park-and-ride (approx. 600 spaces) and passenger pick-up/drop-off facilities
- Limit Black Creek crossing to a single bridged access road.
- Integrate access to station and Beechwood Cemetery into a single signalized intersection.

Summary of Effects and Mitigation Transportation

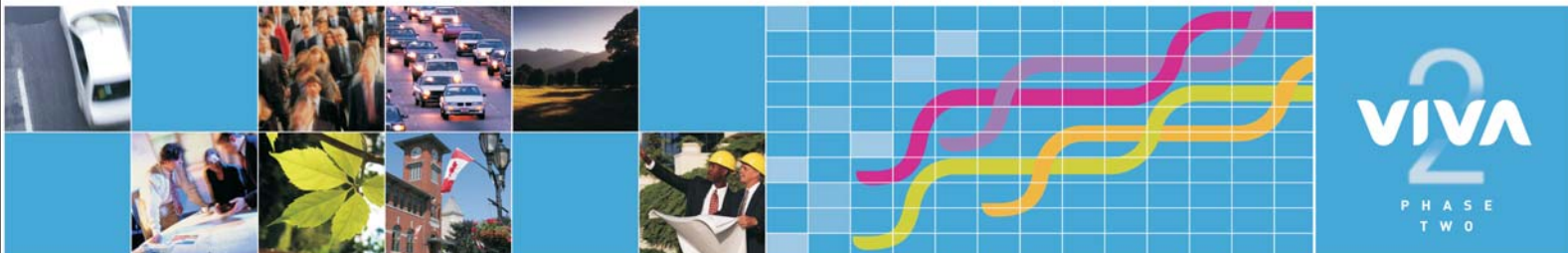
- Station provides the opportunity to connect to MTO's future Transitway as well as to local and regional bus routes.
- Analysis shows that the widened Jane Street will accommodate through traffic and commuters using the park-and-ride facility. The intersection providing station access will operate at an acceptable level of service.
- Future growth of through traffic on Jane Street will be reduced due to the availability of the subway as an alternative to auto use.
- Access to station and Beechwood Cemetery will be controlled by a new traffic signal on Jane Street at the main entrance to Hwy 407 Station.
- Secondary northern access to station will be right-in only.

Socio-economic Environment

- Station surface facilities will require property presently owned by the Provincial Government. Acquisition will recognize any existing tenant agreements.
- Minor station construction adjacent to Highway 407 right-of-way south of the Jane Street interchange ramp is required.
- Station construction will have no impact on Highway 407 ramp operations. Access to construction will be from Jane Street.

Natural Environment

- Temporary excavation and backfill within the Black Creek fill regulation limits will be minor and measures to mitigate effects on valley lands will be incorporated.
- Any effects of dewatering during cut-and-cover construction of the station on the adjacent Black Creek, will be minimized by use of diaphragm or slurry wall excavation techniques.
- Base flow alteration at Black Creek will be mitigated by use of stormwater management practices that encourage infiltration and recharge of groundwater (e.g. Pervious park-and-ride pavement surfacing)
- Bridge design for the access road across Black Creek will be based on the findings of a geomorphic requirements analysis and will incorporate measures to preserve the aquatic habitat.



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Highway 7 (VCC) Station

Planning and Design Criteria

- Accommodate bus/rail transfers in the area required by YRT/VIVA routes utilizing the VCC Official Plan road grid.
- Provide bus pick-up/drop-off and layover facilities as required by YRT respecting VCC Streetscape and Open Space Master Plan Study recommendations.
- Provide a passenger pick-up/drop-off facility
- Identify options for a limited parking facility recognizing the City of Vaughan vision set out in the VCC Official Plan.

Summary of Effects and Mitigation

Transportation

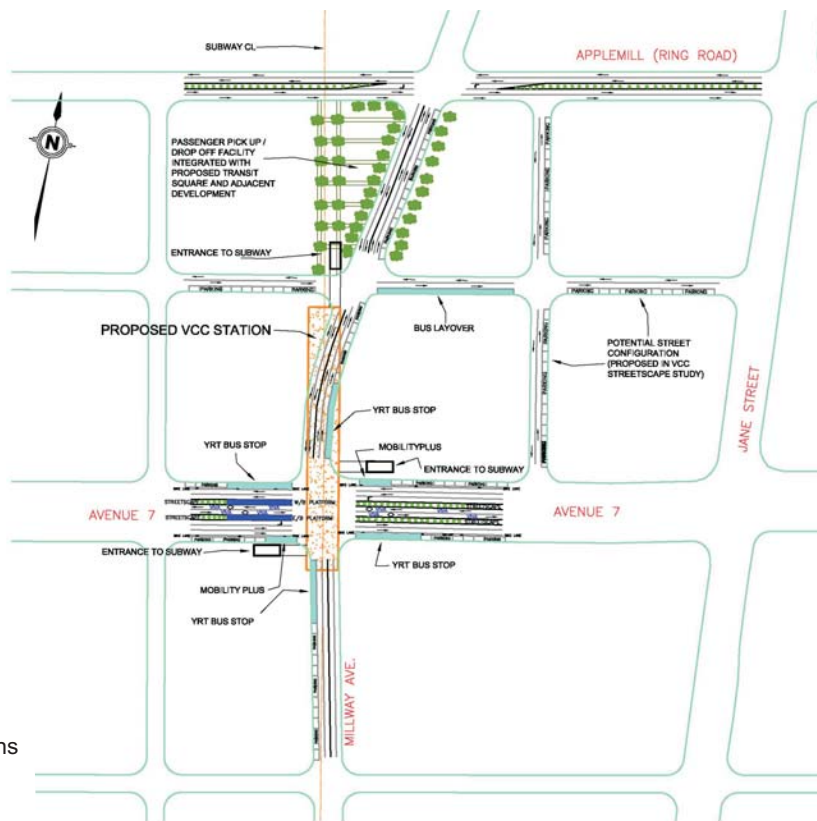
- The increased traffic volume due to private vehicles picking-up and dropping-off passengers will be offset by a greater use of convenient transit (bus routes and subway) for southbound trips.
- Potential traffic congestion around the station at VCC will be mitigated by providing most park-and-ride capacity at 407 station
- Improved transit feeder service (YRT/VIVA) to the subway will provide an alternative to auto use for accessing the subway.
- Terminal Subway Station will enhance VCC urban development plans and promote economic growth in the area.
- Connection and integration of YRT/VIVA bus routes to the Subway will improve convenience and save travel time for transit users.

Socio-economic Environment

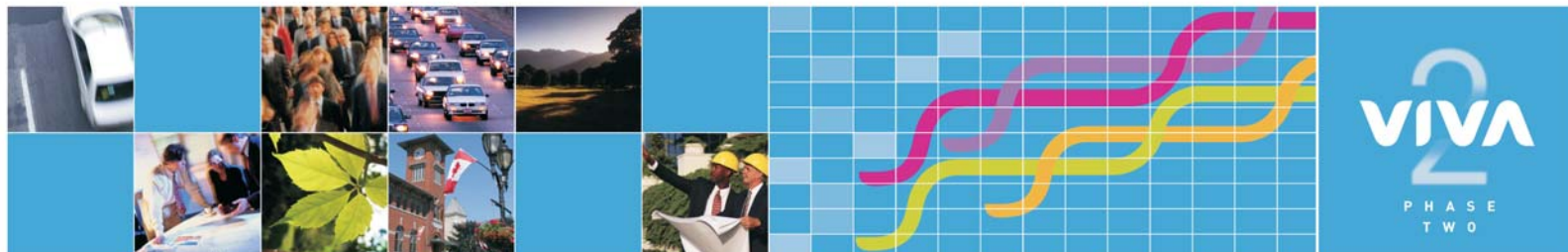
- Subway and Station facilities south of Highway 7 will require acquisition of the Millway Avenue road allowance identified in Vaughan OPA 500. The business owner affected will be consulted prior to acquisition in order to develop a method to minimize the effect on business activities.
- Disruption of business activities during construction will be mitigated by appropriate temporary measures and construction techniques to maintain access and circulation in the vicinity of station work.

Natural Environment

- No natural environment features are directly affected by the VCC station design and operation.
- Any effects of dewatering on Black Creek to the east during cut-and-cover construction of the station, crossover and storage tracks will be minimized by use of diaphragm or slurry wall excavation techniques.



**Subway VCC Station
Proposed Surface Facilities**



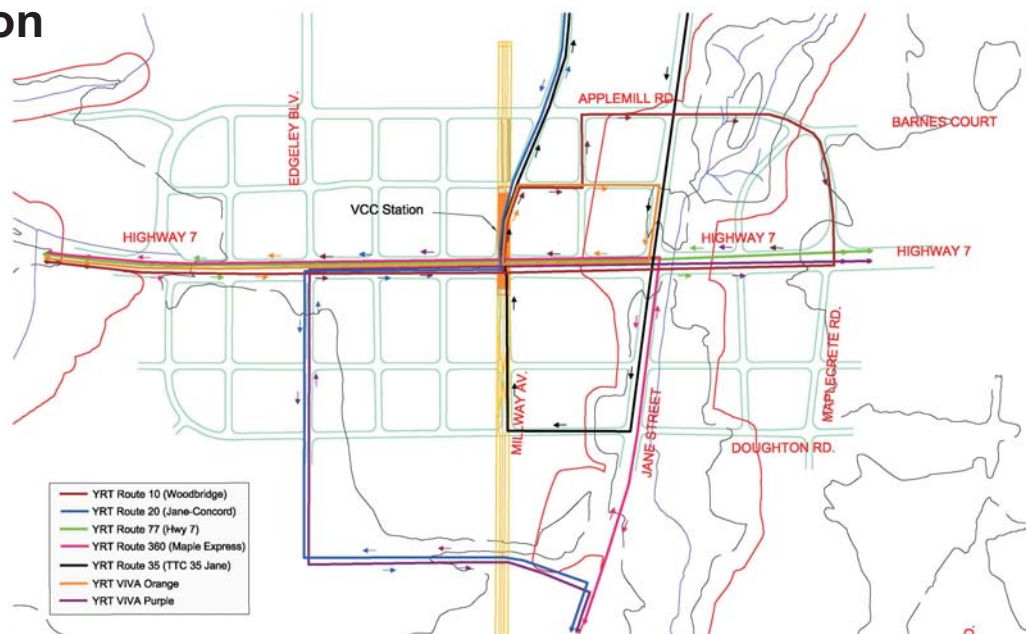
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Transit Improvements Environmental Assessment (EA)

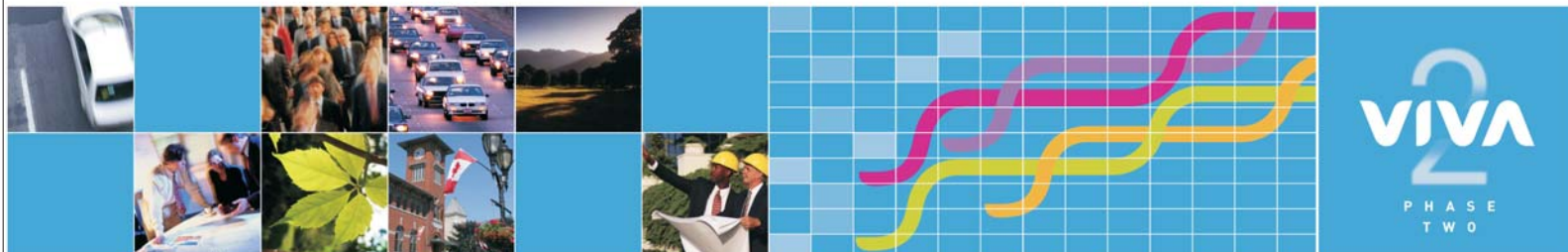
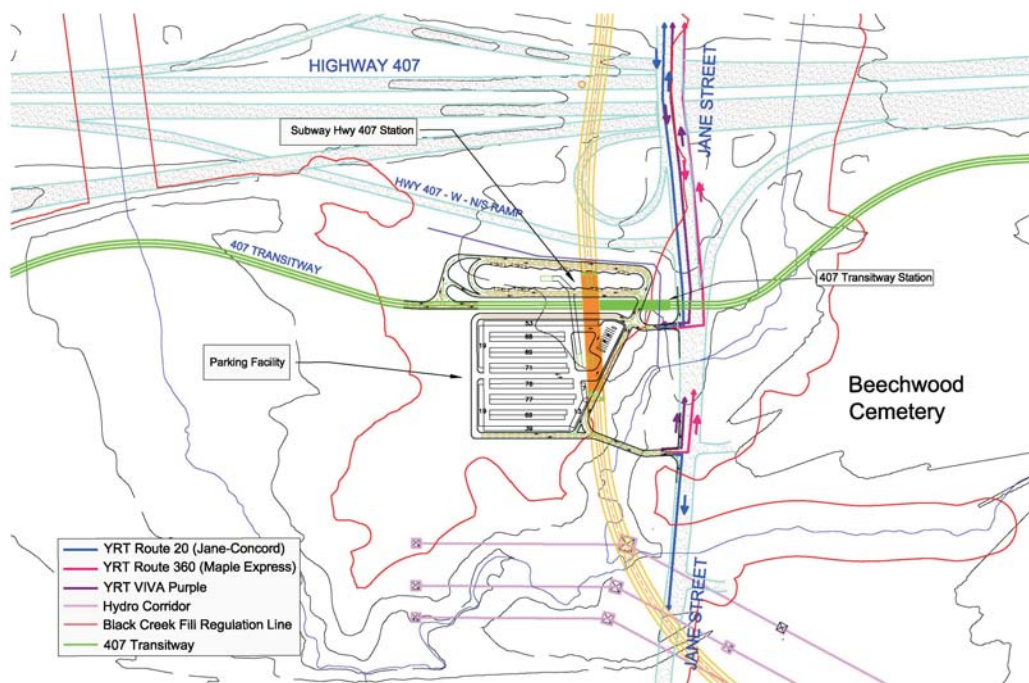
Subway Alignment Selection Report

Proposed YRT Transit Routes

VCC Station



Hwy 407 Station



HIGHWAY 7 CORRIDOR AND VAUGHAN NORTH-SOUTH LINK Transit Improvements Environmental Assessment (EA) Subway Alignment Selection Report

What Happens Next?

The next steps in the EA process involve:

- Respond to Stakeholder and Public Comments
- Finalize Subway Alignment Selection Report
- File Subway Alignment Selection Report with MOE (December, 2006) to comply with EA Conditions of Approval.

We encourage you to provide comments so that your ideas and concerns can be considered at each stage of the development of this important project.