

# TTC–TWRC Waterfront Transit Environmental Assessments

## *East Bayfront*

### CLC Progress Meeting #6

March 2, 2009



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## Agenda

- Introduction
- Review of Portal Options Considered
  - Bay Street Options
  - Queens Quay Options
- Assessment and Evaluation of Portal Options
  - Technically Preferred Portal Location
- Streetcar Loop at Parliament/Small Street
- Cherry Street Connection
- Union Station Loop Expansion
- Next Steps

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## Introduction

- Last CLC meeting held in May 2007
- Reviewed transit technology/ROW analysis and selection of streetcar in dedicated ROW as the preferred option
- Preliminary discussion on potential streetcar tunnel portal locations – presented 5 options to be considered for further analysis
- Public Consultation Centre held in June 2007

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## Introduction

- Waterfront Toronto and City of Toronto initiated Queens Quay Revitalization EA in September 2007
- As a result of close proximity and interconnection between the QQ EA and the EBF Transit EA, the two teams have been working on a joint timeline and consultation approach
- Both teams have been working together in developing Queens Quay design alternatives

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## Queens Quay Revitalization EA

- First Public Meeting held in January 2008: confirmed physical modifications within the existing roadway ROW as the preferred planning approach for Queens Quay revitalization
- Second Public Meeting held in December 2008: carried forward streetcar in "centre of road" and streetcar in "south side of road" for further analysis
- Joint Public Meeting planned for QQ EA and EBF EA on March 25 2009 to present the preferred Queens Quay design alternative

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## This Evening's Meeting

- Purpose of tonight's meeting is to discuss selection of the preferred streetcar portal location

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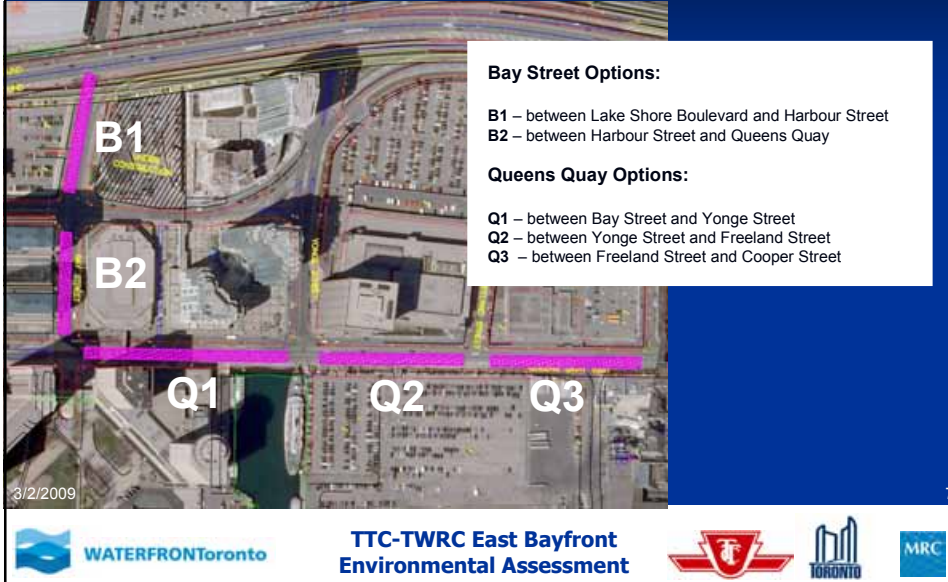
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## Portal Options Considered



**Bay Street Options:**





- B1 – between Lake Shore Boulevard and Harbour Street
- B2 – between Harbour Street and Queens Quay

**Queens Quay Options:**

- Q1 – between Bay Street and Yonge Street
- Q2 – between Yonge Street and Freeland Street
- Q3 – between Freeland Street and Cooper Street

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## Bay Street Options

- Involves closing/filling the existing portal on Queens Quay west of Bay Street, closing/filling the existing underground station and building a new portal on Bay Street
- Streetcars would turn east and west through the Queens Quay/Bay intersection **at grade**, mixed with surface traffic and pedestrian movements
- Results in only 1 portal to serve Queens Quay West and Queens Quay East streetcars

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## Queens Quay Options

- Involves extending the existing Bay Street tunnel easterly at the Queens Quay/Bay Street intersection and constructing a new tunnel portal on Queens Quay east of Bay Street
- Streetcars would turn east and west **under** the Queens Quay/Bay intersection, grade-separated from traffic and pedestrian movements
- Existing portal would serve Queens Quay West streetcars; new portal would serve Queens Quay East streetcars

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## Analysis Approach

- Complete assessment of factors pre-determined during development of the EA Terms of Reference:
  - Planning Policies
  - Urban Design
  - Transportation
  - Socio-Economic Environment
  - Natural Environment
  - Cultural Environment
  - Cost
- Evaluation based on key decision relevant factors

Objective	Criteria	Indicators (How progress is assessed and measured?)	Measures
Planning Policies	City Council endorsement of proposals submitted to the City Council	A 2.1.1. Support the City Council endorsement of proposals submitted to the City Council for the proposed development	
	2007 City Council Resolution	A 2.1.1. Support the City Council endorsement of proposals submitted to the City Council for the proposed development	Number of EA's submitted to the City Council
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City Council endorsement of proposals submitted to the City Council	A 2.1.1. Support the City Council endorsement of proposals submitted to the City Council for the proposed development	A 2.1.1. Support the City Council endorsement of proposals submitted to the City Council for the proposed development	Compatible with Ontario PDR on the north side of Queens Quay?
City Council endorsement of proposals submitted to the City Council	A 2.1.1. Support the City Council endorsement of proposals submitted to the City Council for the proposed development	A 2.1.1. Support the City Council endorsement of proposals submitted to the City Council for the proposed development	Compatible with Ontario PDR on the north side of Queens Quay?

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# Bay Street

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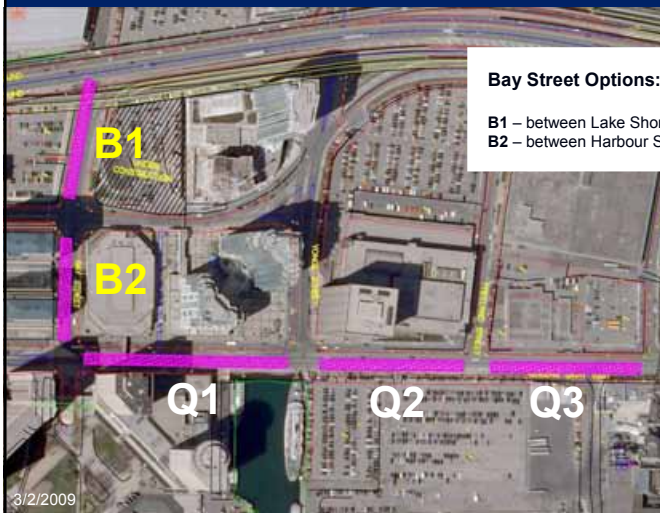
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# Bay Street Options



**Bay Street Options:**

- B1 – between Lake Shore Boulevard and Harbour Street
- B2 – between Harbour Street and Queens Quay

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## Bay Street Option B2 Screened Out

- Option B2 was **screened out** because distance from Harbour Street to Queens Quay Blvd. is inadequate to accommodate the required elements:
  - Short spacing between Harbour and Queens Quay precludes the ability for streetcars to be at-grade prior to entering the intersection
  - Track switches are required at the Queens Quay/Bay intersection to allow streetcars to turn from Bay Street to Queens Quay and vice versa
  - Must also provide adequate tangent between the portal and the track switches at the intersection

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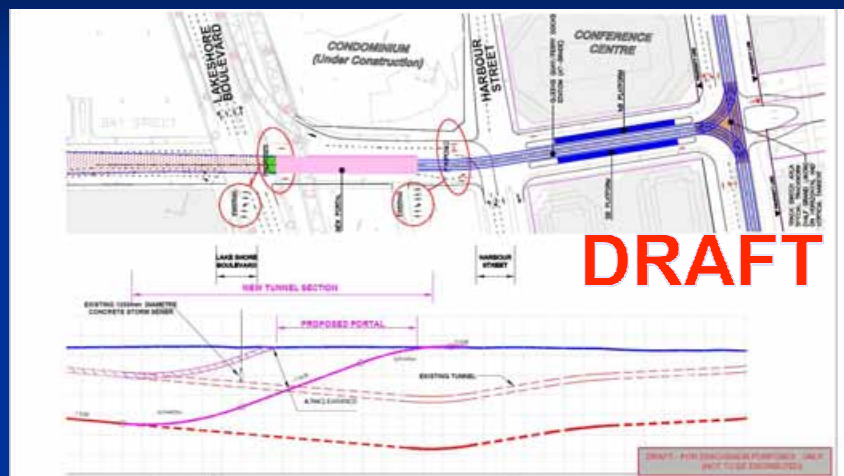


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## Bay Street Portal Option B1 between Lake Shore Blvd. and Harbour Street



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## Bay Street Portal Option B1 between Lake Shore Blvd. and Harbour Street

### Advantages

- 1 portal as opposed to 2 portals serving 2 lines – continuous boulevard across the ROW along the Queens Quay corridor
- Continuous streetcar ROW on the surface generates best flexibility in stop locations relative to destinations

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## Bay Street Portal Option B1 between Lake Shore Blvd. and Harbour Street

### Issue #1

At-grade turns at Queens Quay/Bay: problematic and difficult to operate reliably with short headways; conflicts between streetcars, cars and pedestrians; longer delay and lower service reliability



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## Bay Street Portal Option B1 between Lake Shore Blvd. and Harbour Street

### Issue #2

Portal located in an existing built-up area – large volume of at-grade streetcar turning movements at Queens Quay/Bay has high potential for generating noise and vibration effects on existing residents and businesses



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## Bay Street Portal Option B1 between Lake Shore Blvd. and Harbour Street

### Issue #3

Reduces north-south roadway capacity and ability for motorists to travel in and around the study area



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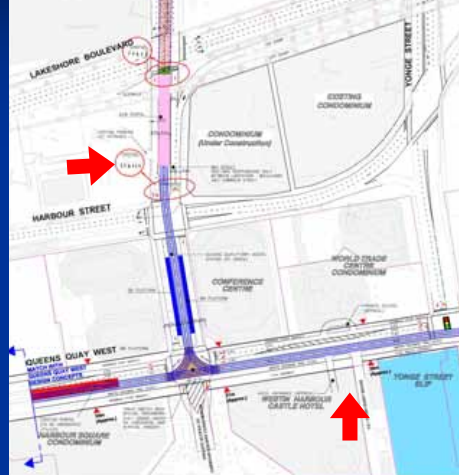
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## Bay Street Portal Option B1 between Lake Shore Blvd. and Harbour Street

### Issue #4

Portal restricts access to west side of Bay Street to existing commercial and residential properties on Bay Street (portal) and Queens Quay between Bay and Yonge (streetcar ROW crosses Westin Harbour driveways)



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## Queens Quay

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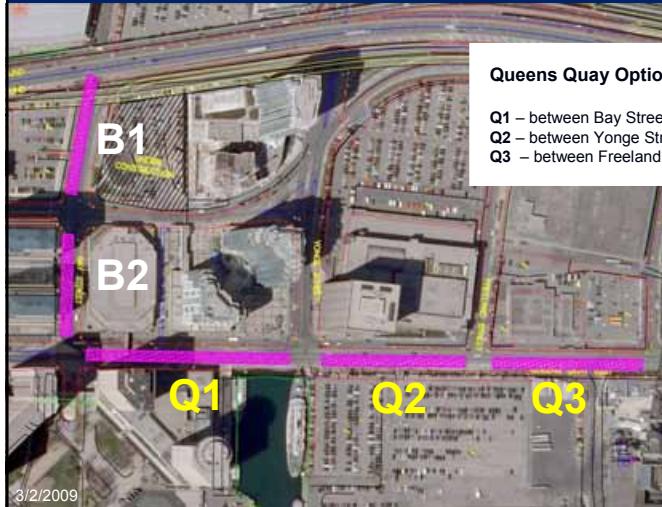
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# Queens Quay Options

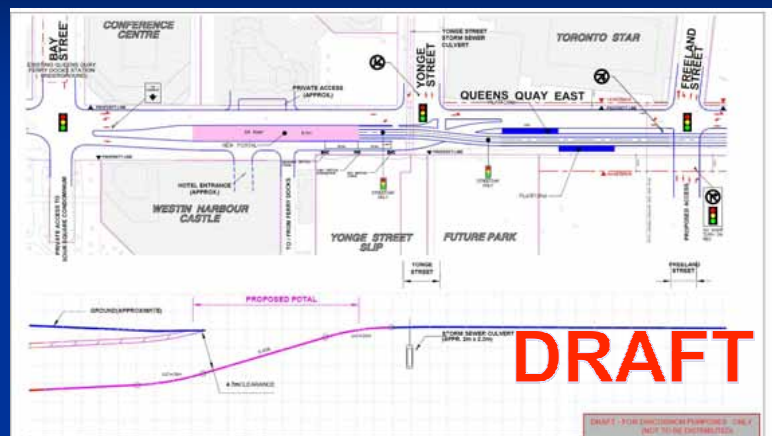


**Queens Quay Options:**  
 Q1 – between Bay Street and Yonge Street  
 Q2 – between Yonge Street and Freeland Street  
 Q3 – between Freeland Street and Cooper Street

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# Queens Quay Portal Option Q1 between Bay Street and Yonge Street



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## Queens Quay Portal Option Q1 between Bay Street and Yonge Street

### Advantages

- Can accommodate a transit stop on the surface at the foot of Yonge Street
- No impact on roadway capacity attributed to the portal

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## Queens Quay Portal Option Q1 between Bay Street and Yonge Street

### Issue #1

Two portals on Queens Quay



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## Queens Quay Portal Option Q1 between Bay Street and Yonge Street

### Issue #2

Portal has to be located in the centre of the road to prevent blockage of access to Westin Harbour Castle Hotel – would require eastbound through traffic to weave across streetcar ROW at Queens Quay/Yonge



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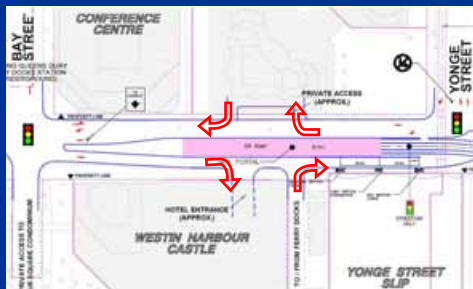
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## Queens Quay Portal Option Q1 between Bay Street and Yonge Street

### Issue #3

Accesses to Westin Harbour Castle Hotel and condominium on Queens Quay reduced to right-in/right-out only



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# Queens Quay Portal Option Q1 between Bay Street and Yonge Street

## Issue #4

Portal located in an existing built-up area between Bay Street and Yonge Street – least opportunities of all portal options to achieve desirable urban design goals and objectives; least flexibility to accommodate Martin Goodman Trail



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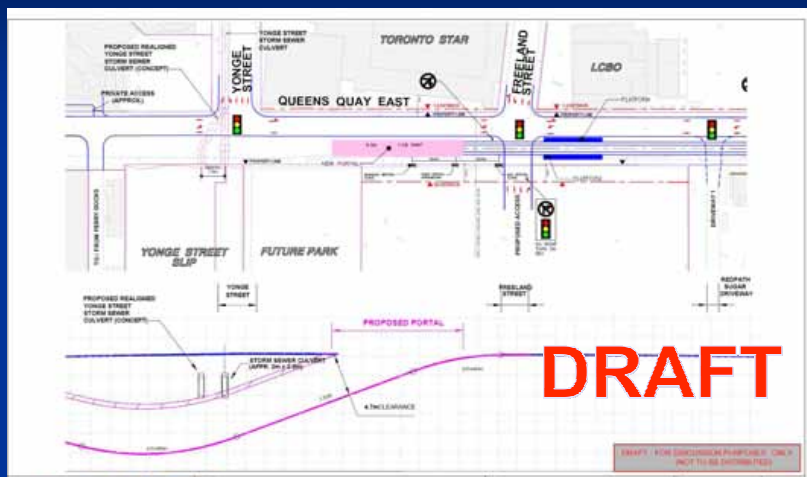
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# Queens Quay Portal Option Q2 between Yonge Street and Freeland Street



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## Queens Quay Portal Option Q2 between Yonge Street and Freeland Street

### Advantages

- Transit – better quality of service as a result of shorter delay at intersections, shorter travel time, and better service reliability
- No impact on existing commercial and residential properties between Bay Street and Yonge Street
- No impact on vehicular/pedestrian access to the Ferry Docks
- Compatible with either south side or centre option right of way
- Portal fits within ROW – extra width available on the south side of Queens Quay between Bay and Yonge for public realm improvement
- Fits full width of tree-lined Martin Goodman Trail

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## Queens Quay Portal Option Q2 between Yonge Street and Freeland Street

### Issue #1

Two portals on Queens Quay



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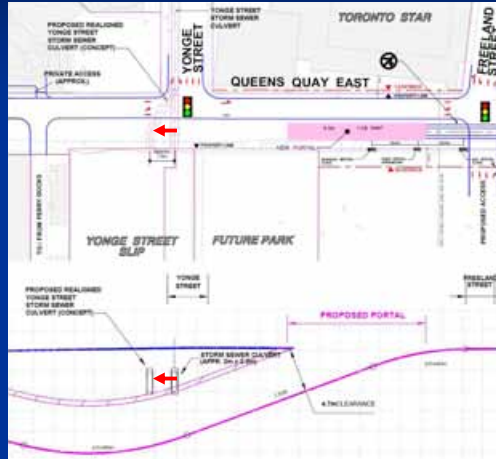
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## Queens Quay Portal Option Q2 between Yonge Street and Freeland Street

### Issue #2

Requires realignment of Yonge Street storm sewer culvert at the Queens Quay/Yonge intersection



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## Queens Quay Portal Option Q2 between Yonge Street and Freeland Street

### Issue #3

Precludes a transit stop at the foot of Yonge Street – closest stops are at Bay and Freeland



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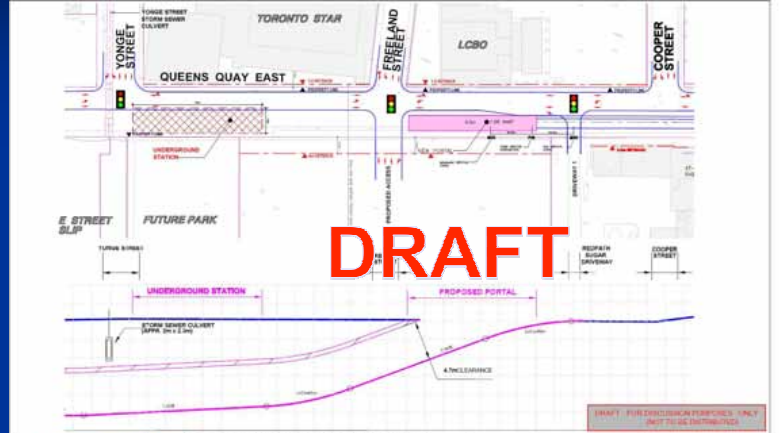


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## Queens Quay Portal Option Q3 between Freeland Street and Cooper Street



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## Queens Quay Portal Option Q3 between Freeland Street and Cooper Street

### Advantages

- Same as Option Q2

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# Queens Quay Portal Option Q3 between Freeland Street and Cooper Street

## Issue #1

Two portals on Queens Quay



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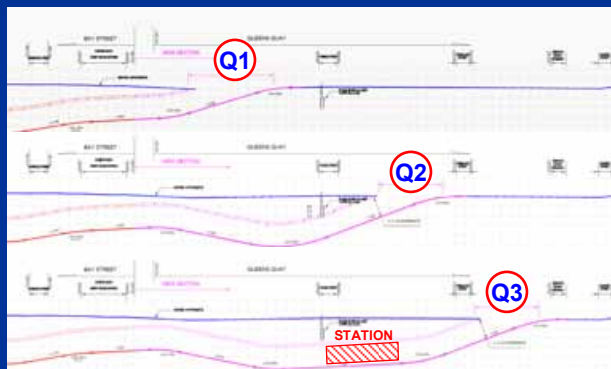
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# Queens Quay Portal Option Q3 between Freeland Street and Cooper Street

## Issue #2

Highest construction costs associated with the portal (longest tunnel, requires an underground station at the foot of Yonge Street)



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## Queens Quay Portal Option Q3 between Freeland Street and Cooper Street

### Issue #3

Portal close to Redpath Sugar's main entrance – end of streetcar ramp in conflict with driveway



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## Portal Evaluation Overall Summary

SUMMARY	B1 Lake Shore-Harbour	Q1 Bay-Yonge	Q2 Yonge-Freeland	Q3 Freeland-Cooper
<b>Planning Policies</b>	Supports City of Toronto policies and Waterfront Toronto goals	Supports City of Toronto policies. Does not support results Waterfront Toronto's Central Waterfront Design Competition	Supports City of Toronto policies and Waterfront Toronto goals. Portal location consistent with Central Waterfront Secondary Plan	Supports City of Toronto policies and Waterfront Toronto goals
Summary	✓	○	✓	✓



Meets criteria



Challenging - may meet criteria



Cannot meet criteria

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## Portal Evaluation Overall Summary

SUMMARY	B1 Lake Shore-Harbour	Q1 Bay-Yonge	Q2 Yonge-Freeland	Q3 Freeland-Cooper
<b>Urban Design</b>	Improves streetscaping on Queens Quay between Bay and Yonge	Reduces streetscaping on Queens Quay between Bay and Yonge	Improves streetscaping on Queens Quay between Bay and Yonge	Improves streetscaping on Queens Quay between Bay and Yonge
	One portal on Bay Street	Two portals on Queen's Quay	Two portals on Queen's Quay	Two portals on Queen's Quay
	Some potential to enhance public spaces and improve public realm	Minimal potential to enhance public spaces and improve public realm	Fits within ROW - high potential to enhance public spaces and improve public realm	Fits within ROW - high potential to enhance public spaces and improve public realm
	Limits a continuous Martin Goodman Trail	Interferes with a continuous Martin Goodman Trail	Fits full width of Martin Goodman Trail	Fits full width of Martin Goodman Trail
<b>Summary</b>				

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## Portal Evaluation Overall Summary

SUMMARY	B1 Lake Shore-Harbour	Q1 Bay-Yonge	Q2 Yonge-Freeland	Q3 Freeland-Cooper
<b>Transportation</b>	Provides poor transit service and operation - delays at Harbour, Bay, and Yonge intersections result in longer travel time and lower service reliability	Provides adequate transit service and operation	Provides better transit service and operation - grade-separated operation through Harbour, Bay, and Yonge intersections results in shorter delay, shorter travel time, and better service reliability	Provides better transit service and operation - grade-separated operation through Harbour, Bay, and Yonge intersections results in shorter delay, shorter travel time, and better service reliability
	Reduces north-south roadway capacity and ability for motorists to travel in and around the study area	Complex intersection operation at QQ/Yonge as a result of need for eastbound traffic to weave across streetcar ROW	No major impact on roadway operation	No major impact on roadway operation
<b>Summary</b>				

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## Portal Evaluation Overall Summary

SUMMARY	B1 Lake Shore-Harbour	Q1 Bay-Yonge	Q2 Yonge-Freeland	Q3 Freeland-Cooper
<b>Socio-Economic</b>	Potential future redevelopment site on west side of Bay Street - access limited to SB right-in/right-out only as a result of the portal; streetcar tracks in conflict with Westin Harbour Castle Hotel driveway, Ferry Docks east driveway	Westin Harbour Castle Hotel and Ferry Docks east driveway - access limited to eastbound right-in/right-out only as a result of the portal	No impact on access to existing commercial properties	Redpath Sugar – end of streetcar ramp in conflict with main driveway – likely requires modification of driveway
	Harbour Square Condominium – requires driveway modification	World Trade Centre Condominium - access on QQ reduced to right-in/right-out only	Portal will be located just west of Freeland Street - main access to MT 27 residential development; however, it is anticipated that full access can be maintained	No impact on access to existing residential properties
	Lowest potential to minimize perceived noise and vibration effects on <b>existing</b> residents - streetcars will operate at-grade between Harbour Street and Yonge Street and through the QQ/Bay intersection	Lower potential to minimize perceived noise and vibration effects on <b>existing</b> residents - streetcars will reach surface between Bay Street and Yonge Street	Higher potential to minimize perceived noise and vibration effects on <b>existing</b> residents - streetcars will be underground between Harbour Street and Yonge Street	Higher potential to minimize perceived noise and vibration effects on <b>existing</b> residents - streetcars will be underground between Harbour Street and Yonge Street
<b>Summary</b>	✘	✘	✔	○

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## Portal Evaluation Overall Summary

SUMMARY	B1 Lake Shore-Harbour	Q1 Bay-Yonge	Q2 Yonge-Freeland	Q3 Freeland-Cooper
<b>Cost</b>	Medium potential to minimize construction cost	Highest potential to minimize construction cost	Medium potential to minimize construction cost	Lowest potential to minimize construction cost
	Lower potential to minimize vehicle acquisition cost	Higher potential to minimize vehicle acquisition cost	Higher potential to minimize vehicle acquisition cost	Higher potential to minimize vehicle acquisition cost
	Potentially costly measure for mitigating access issues at Westin Harbour Castle Hotel	Potentially costly measure for mitigating access issues at Westin Harbour Castle Hotel	No major property acquisition anticipated	No major property acquisition anticipated
	Lower potential to minimize transit operating cost during and after construction	Higher potential to minimize transit operating cost during and after construction	Higher potential to minimize transit operating cost during and after construction	Higher potential to minimize transit operating cost during and after construction
<b>Summary</b>	✘	✔	○	✘

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## Portal Evaluation Overall Summary

	B1 Lake Shore-Harbour	Q1 Bay-Yonge	Q2 Yonge-Freeland	Q3 Freeland-Cooper
<b>Planning Policies</b>	✓	○	✓	✓
<b>Urban Design</b>	○	✗	✓	✓
<b>Transportation</b>	✗	✗	✓	✓
<b>Socio-Economic</b>	✗	✗	✓	○
<b>Natural</b>	Not Decision Relevant			
<b>Cultural</b>	Not Decision Relevant			
<b>Costs</b>	✗	✓	○	✗
<b>SUMMARY</b>	<b>Not Carried</b>	<b>Not Carried</b>	<b>Carried</b>	<b>Not Carried</b>
   				

## Preferred Portal Location

- **Option Q2** between Yonge Street and Freeland selected as the **preferred portal location**
  - o Transit – better quality of service as a result of shorter delay at intersections, shorter travel time, and better service reliability; no impact on roadway capacity
  - o Portal fits within ROW – extra width available on the south side of Queens Quay between Bay and Yonge for public realm improvement
  - o Lowest impact on existing commercial and residential properties

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## Streetcar Loop at Parliament Street

- Interim terminus for Queens Quay East streetcars until Queens Quay Blvd. extended to Cherry Street
- Property requirement – should minimize impact on redevelopment lands

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## Cherry Street Connection

- Alignment of Queens Quay Blvd. extension to Cherry Street to be confirmed by Lower Don Lands Class EA Master Plan
- EBF Transit EA will show conceptual connection with approved West Don Land streetcar on Cherry Street
- Connection with future streetcar network in the Port Lands via Cherry Street

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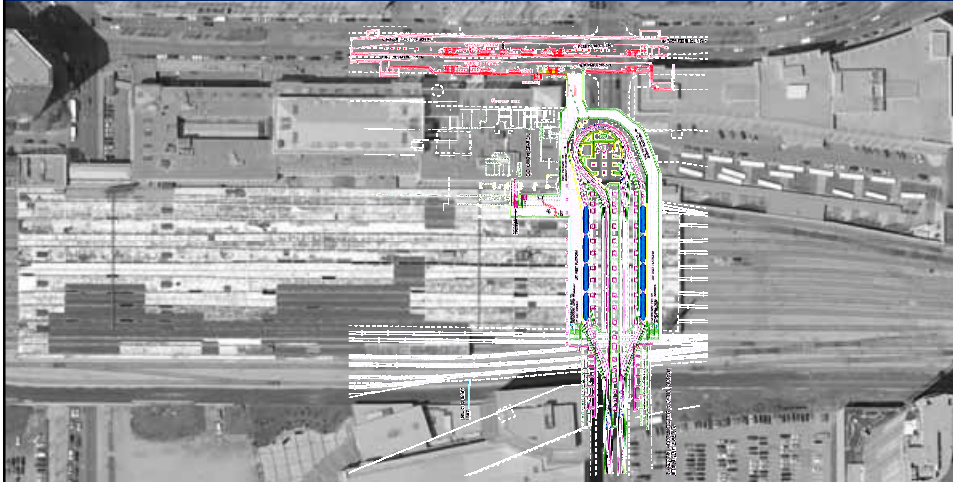
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# Union Station Loop Expansion



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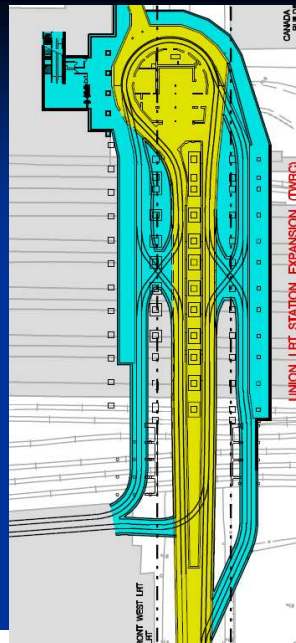


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# Union Station Loop Expansion

Significant platform expansion required to carry high transit volumes from east and west of Union Station



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## Next Steps

- Finalize streetcar alignment in conjunction with Queens Quay Revitalization EA
- CLC will be invited to joint Stakeholders Meeting on March 11, 2009
- Joint Public Meeting with Queens Quay EA on March 25, 2009
- Joint Drop-in centre on March 28, 2009
- Prepare Draft Environmental Study Report
- TTC Commission approval in May 2009 and Council approval in July 2009
- Submit Final Environmental Study Report in August 2009

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