

# Appendix 1

Municipal Class • Environmental Study Report • Executive Summary

## QUEENS QUAY REVITALIZATION ENVIRONMENTAL ASSESSMENT



**Waterfront Toronto  
and the City of Toronto**

May 2009



**WATERFRONT**Toronto



# Appendix 1

Waterfront Toronto and  
City of Toronto

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**Queens Quay  
Revitalization  
Environmental  
Assessment**

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Environmental Study  
Report

Executive Summary

May 15, 2009

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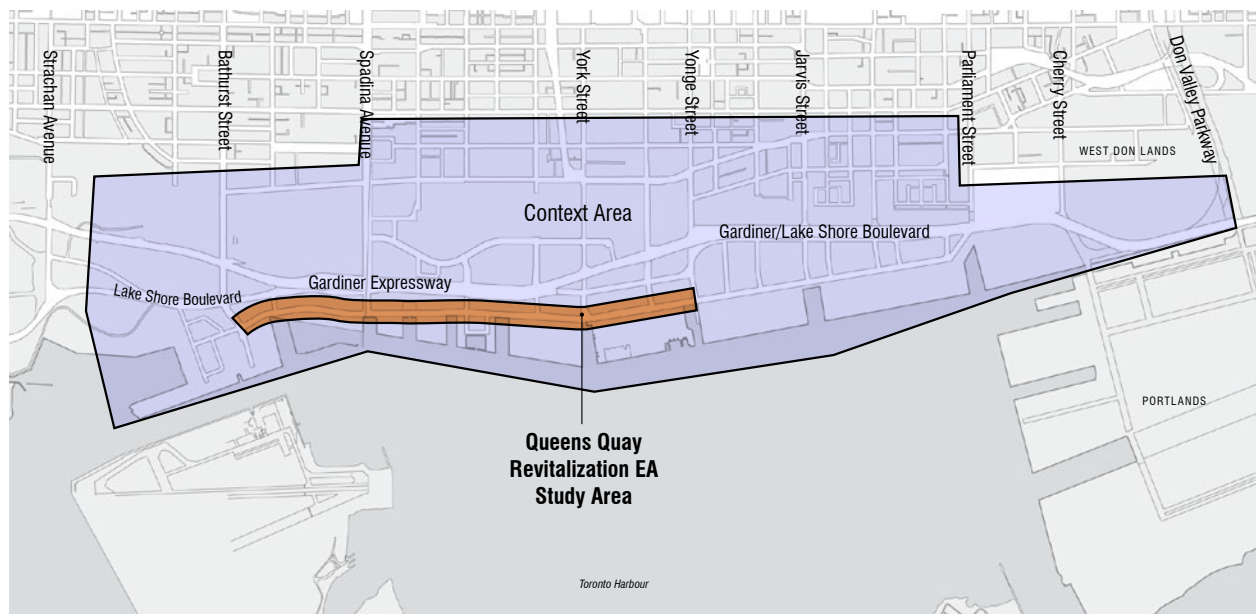
## E.1 The Queens Quay Revitalization Project - Overview

The Central Waterfront, from Bathurst Street to Parliament Street, is one of Toronto's most valuable assets. Yet despite decades of planning and scattered development projects, there is no coherent vision for linking the pieces into a greater whole – visually or physically. Within the Central Waterfront is Queens Quay, Toronto's main waterfront street. Given its prime location the street should be a showpiece for the city, a grand boulevard that serves as a destination for locals and tourists alike. In its current configuration, Queens Quay is a barrier to the waterfront rather than the gateway that it should be.

The transformation to Queens Quay is core the Central Waterfront Master Plan, which aspires to create a comprehensive design concept in conformance with numerous official City of Toronto policies. This plan includes a continuous waters edge promenade stitched together with five new bridges, a transformed Queens Quay that greatly improves the pedestrian and cycling environment, and a complimentary set of eight new WaveDecks at constrained portions along the street.

Waterfront Toronto (formerly the Toronto Waterfront Revitalization Corporation) was formed in 2001. Its mandate and chief responsibility is to revitalize Toronto's waterfront, from the Humber River to the Don River, with over 800 acres of brownfield development, encompassing both private and public realm components. The Central Waterfront is one of the corporation's priority projects. Collectively, the components of the Central Waterfront Master Plan fulfill Waterfront Toronto's core objective of creating continuous public access to the water's edge.

In September 2007, Waterfront Toronto and the City of Toronto initiated an Environmental Assessment (EA) Study as co-proponents to remake Queens Quay into a grand lakefront boulevard – one that would give residents a thriving area to live, work and play and visitors a reason to come back. The EA focused on the stretch of Queens Quay between Bathurst Street to the west and Yonge Street to the east. The overall objective of the EA was to plan for facilities that balance the needs of all users, by successfully accommodating recreational, transit, bicycle, pedestrian and vehicular traffic while enhancing landscape features and the public realm within the Queens Quay corridor. The EA was conducted under Schedule C of the Municipal Class EA process.



**Figure E-1: Queens Quay Environmental Assessment Project Study Area**

The preferred plan—**Southside Transit with Expanded Public Realm and Two-Way Operations**—reconfigures the street by locating all traffic lanes north of the transit right-of-way with pedestrian and bicycle facilities to the southern side of Queens Quay. The Martin Goodman Trail will be introduced from the Spadina transition to Yonge Street, and continue through the East Bayfront Precinct.



**The Preferred Plan for Queens Quay Revitalization:  
Southside Transit with Expanded Public Realm and Two-Way Operations**



## E.2 The Study Context

### E.2.1 Planning and Policy Direction

Toronto’s transportation network is evolving in a sustainable direction, to move people not cars, reduce car dependency, and to encourage cycling, transit and walking. Numerous policy documents support this shift in thinking. Specific direction is found in the City of Toronto Official Plan, Pedestrian Charter, Toronto Waterfront Revitalization Corporation Sustainability Framework, The Toronto Green Development Standard, and the 2003 Central Waterfront Secondary Plan—which specifically recommends that:

*‘Queens Quay will become a scenic water view drive and an important component of the Toronto street network from Bathurst Street to Cherry Street providing ready access to the public activities on the waterfront and pedestrian connections to the water’s edge. It will be designed to meet the diverse needs of motorists, transit users, cyclists and pedestrians as well as providing opportunities for vistas to the harbour and lake.’*

A thorough review of City of Toronto Official Plan policies specific to this project is found in Chapters 6 and 7 of the complete Environmental Study Report.



Direction for the Revitalization of Queens Quay is found in several Policy documents

### **E.2.2 Design Competition**

In 2006, Waterfront Toronto initiated an international design competition to beautify the Central Waterfront. This effort was borne of numerous City of Toronto policy goals explicit to the waterfront. The competition brief called for the creation of a comprehensive concept design for a continuous waters edge and revitalized Queens Quay from “end to end”, as well as “specific design proposals for each of the eight heads of slip” (now referred to as WaveDecks). Waterfront Toronto unveiled the five finalist designs at a public exhibition and solicited public input.

A prestigious jury was tasked with selecting the winning design: the transformation of the south side of Queens Quay into a cycling and pedestrian zone, complemented by a family of eight new WaveDecks at the head of each slip, and a public promenade along the waters edge with six new bridges. Collectively these design elements fulfill Waterfront Toronto’s core objective of creating continuous public access to the water’s edge.

While Waterfront Toronto advocated for the Queens Quay’s vision, it fully supported a Traffic Feasibility Study, a pilot project to ‘test-run’ the design competition concept, and the mandatory Class EA process before any implementation could take place.



**Winning entry for the 2006 Central Waterfront Innovative Design Competition highlighting the transformation of Queens Quay into a world class boulevard**

### **E.2.3 Quay to the City**

The Quay to the City pilot project—carried out for a 10-day period in August 2006—simulated the potential street reconfiguration to observe how pedestrians, cyclists, and one-way traffic operations would adjust. The study team proactively collected data, monitored traffic operations, and gathered feedback through public and local business surveys.

For the purposes of the pilot, the two westbound travel lanes on the north side of Queens Quay were maintained. Due to limitations posed by a temporary installation (major modifications to traffic signals and intersections would be required to accommodate both eastbound and westbound traffic on the north side of the transit right-of-way), eastbound traffic was rerouted to Lakeshore Boulevard.

Overall, the pilot was a positive experiment. Many respondents felt that changes to Queens Quay are “much needed” and “overdue”. Most agreed that the trail provided a safer area to cycle, and that the landscape improvements—although temporary—were welcome. Seventy percent of the 1000 public survey responses supported a permanent design. A major challenge identified by the pilot was to ensure safe and efficient access to properties on the south side of the street. Area businesses expressed concerns about parking, traffic flow and general impact on businesses. Despite this, forty percent of business survey responses supported a permanent installation.

Key observations of the pilot were: the street reconfiguration supported an overwhelming increase in pedestrian and cyclist activity; Queens Quay westbound saw an initial peak in traffic during the first couple of days. After one week, the volumes settled to typical levels; Lake Shore Boulevard eastbound saw an increase in traffic volumes. This increase was distributed throughout the day and not confined to the peak hours.



**Quay to The City pilot project**

## E.3 Study Process

### E.3.1 The Problem and Opportunities

Queens Quay in its existing condition is not a great waterfront street. Pedestrian boulevards are constrained – the sidewalk width varies between three to five metres but is as narrow as two metres in certain locations. North-south crossings are difficult – the average spacing between signalized pedestrian crossings is 250 metres and the longest stretch is 450 metres. Bike facilities are absent, creating challenging conditions for those who choose to cycle. Transit service is inefficient, with no transit priority provided. Auto traffic dominates—curb lanes are congested with illegally parked vehicles, while a notable proportion (10 to 20 percent) of the traffic is transient or “cut-through” traffic. Street trees suffer from inadequate growing conditions. Street finishes and treatments are basic, common and inconsistent.

The space allocated to each user group is inequitable. During the peak months, the overwhelming majority of traffic is non-auto. Pedestrians, cyclists and transit constitute up to 75% of the intersection movement, all in less than 50% of the available cross section space. A successful waterfront main street requires balance to better accommodate all types of movement, putting to better use the space now dedicated to vehicles.

The problem statement for the EA was developed over a five-month period. It was based on several past efforts—the Innovative Design Competition, Quay to the City pilot, Queens Quay Traffic Feasibility Study, as well as established City and Waterfront Toronto policies and guidelines. It was refined through considerable input and collaboration with the public. Two Stakeholder Advisory Committee meetings and one public forum were dedicated to build consensus among the study team and stakeholders with the problem statement.



Queens Quay Existing Condition

The result was not only a clear statement of the transportation, urban design, public realm and civic deficiencies of Queens Quay; it also confirmed the need for considerable change. The following is the problem statement that served as the framework for the EA:

- Queens Quay is Toronto's main waterfront street, yet in its current configuration acts as a barrier rather than a gateway to the waterfront.
- North-south connections to the water's edge are limited, unwelcoming, and difficult for pedestrians to cross between the north and south sides of Queens Quay.
- East-west connections between individual destinations, including the Martin Goodman Trail, are constrained or absent, creating an unpleasant experience for commuter and recreational cyclists, in-line skaters, joggers, residents and visitors moving along the lake front.
- Aesthetically it fails to provide the kind of atmosphere conducive to economic vitality, ground floor retail activity, and urban vibrancy.
- Operationally it suffers from sub-standard streetcar platforms, conflicting and illegal parking activities, and major points of conflict at intersections.
- Civically it fails to provide a grand and beautiful public realm befitting its role as the primary address for Toronto's waterfront.
- A revitalized Queens Quay presents the opportunity to implement long-standing City of Toronto policy objectives while more effectively balancing the needs of its residential, business, recreational and visitor users.
- Strategically there is an opportunity to coordinate Queens Quay revitalization with other planned waterfront projects and infrastructure renewal by the TTC.

### **E.3.2 Data Collection**

The study required a detailed understanding of both existing conditions and the proposed operations on Queens Quay.

Data collected included high-resolution aerial photography, ground level photography, time-lapse photography during special events, digital base mapping, topographic survey, existing intersection controls, signal operations, curb management regulations, Automatic Traffic Recorder (ATR) counts, turning movement counts into driveways, Road Emergency Service Communications Unit (RESCU) counts, collision history and existing transit patronage counts.

Detailed traffic and transit operations analysis employed a collection of sophisticated modelling software. Prior to the EA, the traffic feasibility study included the first existing conditions traffic model for Queens Quay and the waterfront area, using PARAMICS microsimulation software. The results of this modelling exercise provided an acceptable level of comfort to the City that the base assumption—to reduce the total number lanes on Queens Quay from four to 2—was plausible.

### **E.3.3 Alternative Planning Solutions**

To address the problems and opportunities outlined in the Problem Statement, four alternative planning solutions were identified and evaluated during Phase 2 of this EA process:

1. Do Nothing – Maintain the existing physical conditions and operations.
2. Modify Operations – No physical modifications, curbs remain in current location, add bicycle lanes, and adjust signal operation.
3. Physical Modifications Within Existing Right-of-Way – Includes modified operations, conversion of existing lanes to other uses, relocation of existing streetcar infrastructure, adjust signal operation.
4. Physical Modifications Within an Expanded Right-of-Way - Property Acquisition.

The evaluation criteria were established directly from the Problem Statement. Based on the results of the analysis, evaluation and public feedback, Alternative 3 - Physical Modifications within the Existing Right-of-Way was identified as the preferred solution. To do nothing would obviously not solve the problem. Adjusting operations would improve part of the street function, but fall short on many of the criteria. Expanding the right-of-way within a currently built up area is simply not possible due to land ownership patterns. The only suitable solution was clear: Alternative 3.

The complete Planning Solution Evaluation Matrix is found in Chapter 5 of the Environmental Study Report.

**Table E-1: Alternative Planning Solutions - Evaluation Summary****Legend**

✓ = Yes. Meets criteria   ● = Challenging. May be designed to meet criteria   x = Fail. Cannot meet criteria

<b>Evaluation Criteria / Problem Statement Objectives</b>	<b>1. Do Nothing</b>	<b>2. Operational Changes</b>	<b>3. Existing ROW</b>	<b>4. Expand ROW</b>
Waterfront Main Street	<b>X</b>	●	✓	✓
North-South Connections	<b>X</b>	●	✓	✓
East-West Connections	<b>X</b>	<b>X</b>	✓	✓
Aesthetically Vital	<b>X</b>	●	✓	✓
Operations	<b>X</b>	✓	✓	✓
Grand & Beautiful Blvd.	<b>X</b>	●	✓	✓
Policies	<b>X</b>	<b>X</b>	✓	✓
Leverage Renewal	<b>X</b>	●	✓	✓
Access	✓	●	●	●
Fit	✓	✓	✓	<b>X</b>

**Preferred**

### **E.3.4 Alternative Design Concepts**

Five alternative design concepts were developed and considered for the preferred solution—to physically modify the street within the existing right-of-way:

1. Do Nothing - carried forward for comparative purposes.
2. Centre Transit with On-Street Bike Lanes
3. Centre Transit with Martin Goodman Trail
4. Southside Transit with Expanded Public Realm and One-way Traffic Operations
5. Southside Transit with Expanded Public Realm and Two-way Traffic Operations

As with the planning solutions, the alternative design concepts were evaluated through a formal screening process using the same ten criteria that relate to the problem statement. Three alternatives—2, 4 and 5—were shortlisted and carried forward for more detailed assessment. The complete Alternative Design Concept Evaluation Matrix is found in Chapter 6 of the Environmental Study Report.

Future traffic and transit operations were assessed for each of the three shortlisted alternatives, using the same analysis time periods as measured for existing conditions. Traffic and transit operations were modelled using Synchro and VISSIM microsimulation software. Signal timings were consistent between the Synchro and VISSIM models; however the VISSIM models employed a more sophisticated control algorithm required for optimum transit performance. City of Toronto Urban Traffic Control Systems agreed in principle to both signal-phasing strategies. The Canadian National Institute for the Blind (CNIB) agreed in principle to the intersection configurations proposed for the atypical south-side transit alternatives. TTC provided the detailed transit operating parameters for use in the model, based on the existing fleet.

Overall, the modeling results indicated that traffic operations on Queens Quay would be similar for the two south side alternatives (one-way or two-way). Intersections within the study area would operate at level-of-service (LOS D) or better in the future condition. The south side transit arrangement provides some benefit to traffic over centre transit alternative for the majority of traffic is destined to the north of Queens Quay. When transit is on the south side of the street, there are fewer turn conflicts between transit and traffic.

The south side one-way alternative does increase localized impacts on Lake Shore Boulevard, due to the added eastbound traffic between Lower Spadina Avenue and York Street. However, the overall network impacts are within the same order-of-magnitude as the other alternatives.

Modeling results for transit operations indicated that a revitalized Queens Quay with the fewest signalized intersections would provide the best possible transit service. Significant effort went into developing a unique transit priority system to maximize transit travels speeds through the corridor and minimize service delay. Given the importance of transit to achieve the modal split targets necessary to support waterfront redevelopment efforts, all alternatives were required to minimize the number of signalized intersections.

For a detailed discussion of the transportation analysis and evaluation, please refer to Chapter 6 of the complete Environmental Study Report and appended Transportation Report.



**Figure E-2: The Three Shortlisted Alternative Design Concepts**



**Alternative 2:  
 Centre Transit with  
 On Street Bike Lanes**  
 Maintain Existing Conditions  
 add dedicated on-street bike lanes



**Alternative 4:  
 Southside Transit with Expanded  
 Public Realm and One-Way  
 Operations**  
 Through Lanes Northside for One-Way  
 traffic operations, Martin Goodman Trail  
 Southside



**Alternative 5:  
 Southside Transit with  
 Expanded Public Realm and  
 Two-Way Operations**  
 Through Lanes Northside for Two-Way  
 traffic operations, Martin Goodman Trail  
 Southside

**Table E-2: Queens Quay Overall Intersection Operations Comparative Summary**

Queens Quay @	Do Nothing	Centre Transit	South Side Two-Way	South Side One-Way
Lower Spadina Avenue	D / D	D / E	C* / C	C / D*
TTC Loop	B / B	A / A	B / A	A / A
EMS / Beer Store	Unsignalized	A / B	A / B	A / A
Rees Street	B / C	D / C	C* / B	B / C
Lower Simcoe Street	C / B	D / C	B / A	B / B
Queens Quay Terminal	Unsignalized	Unsignalized	B / B	A / A
York Street	D / F	C / C	B / B	C / D*
Harbour Square	C / D	C / D	Removed	Removed
Bay Street	C / D*	D / C	C / C*	C* / C*
Yonge Street	B / B	B / C	B* / C*	B / C*

## Notes:

1. morning peak hour / afternoon peak hour
2. \* indicates individual through movements with V/C > 0.80 or left turn V/C > 1.0

**Table E-3: Lake Shore Boulevard Overall Intersection Operations Comparative Summary**

Lake Shore Boulevard @	Do Nothing	Centre Transit	South Side Two-Way	South Side One-Way
Lower Spadina Avenue	C / C	C / C	C / C	D / F
Rees Street	C / F	C / F	E / F	F / F
Lower Simcoe Street	B / C	B / C	B / D	B / E
York Street (WB)	C / E	D / E	D / E	C / E
York Street (EB)	E / D	E / D	C / D	C / E
Bay Street (EB)	D / E	C / D	C / C	B / D
Bay Street (WB)	F / D	F / C	F / C	F / C
Yonge Street (EB)	C / B	B / B	B / B	C / B
Yonge Street (WB)	F / D	F / D	F / D	F / D

## Notes:

1. morning peak hour / afternoon peak hour
- 2.\* indicates individual through movements with V/C > 0.80 or left turn V/C > 1.0

Each shortlisted alternative was further analyzed and evaluated with over 50 criteria and 400 individual measures developed from an understanding of the existing conditions of the study area, the Problem and Opportunity Statement, input received from stakeholders and the public through the consultation process. Each measure was organized into one of eight broad categories: transportation, safety/emergency response, urban design/quality of place, socio-economic conditions, natural environment, cultural environment, cost, and land use plans and policies. Sophisticated traffic and transit micro simulation modeling was carried out for each, and is discussed in more detail later in this section.

Considering the broad policy and public realm objectives, input from stakeholders and based on the detailed technical analysis, the Technically Recommended Alternative was determined to be South Side Transit – Alternatives 4 and 5 (South Side One-way Operations and South Side Two-way operations).

The Technically Recommended Alternative was presented to the public at Public Forum 3 on March 25, 2009. Based on input received since Public Forum 3 from stakeholders and the public, the study team refined the Technically Recommended Alternative to determine the Preferred Plan. This included a final evaluation of Alternatives 4 and 5 to identify the preferred configuration for traffic operations. The Preferred Plan is discussed in Section E-4.

**Table E-4: Alternative Design Concepts - Evaluation Summary**

Legend

★ = Best ✓ = Good ● = Poor x = Fail

Group	1. Do Nothing (for comparison purposes only)	2. Centre Transit	4. Southside Transit One-Way Operations	5. Southside Transit Two-Way Operations
A. Transportation	●	✓	★	★
B. Safety/Emergency Response	✓	★	✓	★
C. Urban Design/Quality of Place	●	✓	★	★
D. Socio-Economic Conditions	x	✓	★	★
E. Natural Environment	●	✓	★	★
F. Cultural Environment	●	✓	★	★
G. Cost	★	✓	✓	✓
H. Land Use Plans and Policies	x	✓	★	★
Summary	x	✓	★	★
	Not Carried	Not Carried	Carried	Carried

### **E.3.5 Public Consultation Process**

The overall objective of the EA public consultation process was to inform non-government stakeholder groups, the general public and municipal and agency representatives about the project and invite input at key stages throughout. Waterfront Toronto achieved a consistently high level of engagement via the following methods:

- Queens Quay Revitalization EA Stakeholder Advisory Committee;
- Interactive Public Forums and Open Houses; and
- Multiple individual meetings with area landowners, resident groups and community organizations.

Consultation for the Queens Quay EA built on earlier efforts as part of the Central Waterfront Design process, including those carried out as part of the design competition and the “Quay to the City” pilot project.



**Quay to the City Pilot Project**

The Queens Quay EA component of the Central Waterfront Design process officially began September 2007. As required of any Schedule C Municipal Class EA, a Notice of Commencement was published and distributed to local businesses and residents. Meeting notices were distributed to the mailing list and published in local newspapers prior to each of the three Public Forums/Open Houses. Waterfront Toronto maintained a database of interested parties to ensure interested parties were contacted consistently and efficiently.

A Stakeholder Advisory Committee (SAC) was formed to assist Waterfront Toronto and the City of Toronto throughout the EA process. The SAC consisted of 24 representatives from both local and citywide stakeholder groups. Their role was to advise the co-proponents on specific issues, and comment on public presentation materials. The SAC met a total of five times between September 2007 and March 2009.

Three Public Forums and one Open House were held at accessible meeting locations within the EA study area. Each of the meetings was well attended, with at least 200 participants at each. Worksheets ensured each participant had the opportunity to record his or her ideas and opinions. These worksheets were collected and documented in the meeting reports, which were posted on the Waterfront Toronto website for review following the meetings. Throughout the EA process, Waterfront Toronto continued to receive and document questions, concerns and suggestions from stakeholders and members of the public.



**Three Public Forums and one Open House were part of the consultation process**

Face-to-face meetings with stakeholder groups, resident groups, local businesses, landowners and government agencies were a vital component of the consultation process. The reconfiguration of Queens Quay brought to light many questions and concerns regarding access to individual buildings and properties, while city-wide interest groups wanted to see improvements that would make the waterfront a more welcoming place for pedestrians, cyclists, and public transit users. Waterfront Toronto worked closely with both local and citywide interest groups to ensure that mutually beneficial solutions could be identified. Waterfront Toronto is committed to continuing to work with these groups during the detailed design phase of the project to resolve any outstanding issues.

Additional opportunities for public consultation will take place during Executive Committee and Toronto City Council deliberations in June and July 2009, during the 30-day review following notice of completion. Waterfront Toronto will continue to assess and respond to any additional feedback received during the EA review phase, and during the detailed design work.

#### **E.4 The Preferred Plan**

Considering the broad policy and public realm objectives and based on the detailed technical analysis, this EA recommends **Southside Transit with Expanded Public Realm and Two-way Operations** as the best overall solution for Queens Quay. This decision was based on several factors:

- Two-way operations on Queens Quay allows for greater system flexibility. In the event of closures or congestion on Lake Shore, Queens Quay can accommodate movement in both directions
- Fire and EMS access can use either the roadway or the TTC right-of-way for emergency response in either direction. In the one-way, they would be required to use the TTC right-of way exclusively for eastbound travel.
- Two-way streets from both a community and urban design perspective are more desirable. One-way traffic is considered less conducive to creating and supporting pedestrian friendly main street environments.
- Reduced north-south crossing distance for pedestrians allows more time in the cycle to be dedicated to east-west transit to support the transit oriented development and non-auto goals of the waterfront and city more broadly.
- The extension of the Martin Goodman Trail provides a safe and efficient facility for bicycles and pedestrians, an improvement over today and better overall than on-street bike lanes.
- Transit service will be improved over the existing condition
- Two-way traffic can be accommodated on Queens Quay at an acceptable level of service with only minor re-routings to Lake Shore Boulevard in the westbound direction.
- Adequate auto access can be provided to all lands south of Queens Quay.
- On-street loading and parking can be accommodated where space permits on the north curb of Queens Quay.
- Eastbound traffic on Queens Quay allows eastbound left turns into downtown from Queens Quay and does not force all traffic to the west.
- Existing eastbound traffic on Queens Quay is not forced onto Lake Shore Boulevard.

One of the defining features is the arrangement and continuation of the Martin Goodman Trail—a multi-use off-road facility that runs for 22 kilometres along Lake Ontario and is part of the 900-kilometre Waterfront Trail—to the south of the TTC right-of-way. Framing the Martin Goodman Trail will be a row of trees on both sides. One row will separate the TTC right-of-way from the Trail; the other will define the edge between the Trail and the pedestrian boulevard. Each tree will be provided a minimum of 30 cubic metres of growing volume, meeting the City Department of Forestry target. Although pedestrians are permitted to use the Martin Goodman Trail, it will be primarily for non-pedestrian movement and activities.



**The Preferred Plan for Queens Quay Revitalization:  
Southside Transit with Expanded Public Realm and Two-Way Operations**



**The Martin Goodman Trail to the south of the TTC right-of-way within a double row of trees**



**Proposed expanded and accessible TTC Platforms**

The pedestrian boulevards on both sides of the street will vary in width, simply due to inconsistencies in the right-of-way dimension. In the existing built-up segment, Queens Quay varies from 21 to 30.5 metres. Generally, the north curb (and thus the pedestrian boulevard) will remain in its existing location with local adjustments where required. The south pedestrian boulevard will be quite generous. The preferred alternative considers pedestrian-accessible spaces along the streets in weather-protected colonnades and arcades as part of the boulevard. This is a similar strategy used in Toronto and many European cities to expand the pedestrian portions of the street. The TTC right-of-way itself affords an opportunity to further improve the quality and character of the public realm. Currently the track bed is poured in place concrete. Future materials could include unit pavers or reinforced turf to accommodate vehicle access. In either case, the right-of-way could be of higher quality materials than what is typically designated in Toronto.

The TTC platforms would accommodate proposed low-floor LRT vehicles, providing improved accessibility for all users.

## **E.5 Environmental Impacts and Mitigation**

This report examines the environmental impacts of the project and discusses mitigation measures.

Queens Quay and the primary study area are located within a highly modified, built-up urban area. The original shoreline of Lake Ontario is found a kilometer to the north of the corridor. The land on which the street is situated consists mainly of lake fill taken place over more than a century. As a result of its highly artificial character, there are no wetlands, terrestrial environmental features, Areas of Natural and Scientific Interest (ANSI's) or Environmentally Significant Areas (ESA's) in the study area. No impact to groundwater is projected. Although air quality within the larger context area is characterized by adjacency to major transportation corridors, the project will promote an improved local air quality.

One of the primary concerns expressed throughout the project is the ability of the street to accommodate existing and future vehicular traffic demands. The detailed technical inventory



and analysis demonstrates that the preferred plan can indeed provide an acceptable level of service for known future conditions. In several cases, the adjustments to enhance transit and traffic operations have improved intersection performance from the existing situation.

Given the above, the major potential impacts are:

- Construction related nuisance impacts
- Traffic - during construction and modifications to south side property access
- Management of curbside activities

During construction, potential concerns include impacts to existing drainage facilities (storm sewers), soils and groundwater, air quality, noise and vibration. A design and construction impact management plan will address any major concerns.

Road traffic operations will be maintained throughout the construction period on Queens Quay. The travel lanes—although in a reduced capacity—will be open to either the north or south of the TTC right-of-way. The proposed asymmetrical street arrangement allows construction to occur on one side and retain east-west traffic on the other. Traffic flows will be restored to the new street as soon as the new facilities are available. Transit service will be temporarily provided by surface bus routes until the new track system is in place and available.

There may be occasional obstruction to property entrances during construction, but access to properties on the both side of Queens Quay will be retained as much as possible.

No property takings are required to implement the EA nor will a widening of the right-of-way throughout the corridor be required. However, it has been determined that some site-specific property widening or easements may be necessary. This will be further determined during detailed design in consultation with impacted property owners.

To better manage curbside activities, the City and Waterfront Toronto have proposed to carry out a bus management plan. The plan will identify locations for short-duration drop-off/pickup zones for buses, short-term parking, and long-term parking. The plan will also identify a management system to better direct how bus related traffic occurs on the waterfront. Further to the issue of curbside management, the recommended preferred plan will include a number of dedicated parking/loading zones where possible. This will minimize conflicts between illegal stopping and parking activities with through traffic.

In short, the many benefits of the recommended preferred plan outweigh the impacts:

- Improved pedestrian and cyclist conditions
- Improved transit operations
- Maintain acceptable traffic operations
- Greatly improved urban forest canopy and microclimate
- Potential to reduce noise and vibration impacts
- Increased opportunity for social activities, programming, and installations
- No displacement of businesses or residences
- Potential to stimulate private economic investment

## **E.6 Conclusion**

The revitalization of Queens Quay is pivotal to transforming Toronto's waterfront. It will become a signature street, an internationally identifiable symbol of the City. Queens Quay will serve the greater public interest, represented through many years of focused political leadership and public consultation. The preferred plan best responds to long standing City Policies, Waterfront Toronto's mandate, and the entire City's aspirations for the waterfront. It satisfies the overall goals of the Environmental Assessment and addresses the challenges set forth in the Problem Statement.

Furthermore, the preferred plan serves the public interest because:

- **It will transform Queens Quay into a neighbourhood Main Street.**  
Its appearance will be that of a destination, not a thoroughfare. It will discourage cut-through traffic. By making the street more intimate in scale, reducing the amount of the right-of-way that is perceived as non-auto, it will become more of an experience. It will foster greater social interaction by giving more space to a broader range of users. The Urban tree canopy cover will be greatly improved. Overall, it will be a far more pleasant place to be.
- **It will connect the waterfront to the City.**  
Queens Quay will be perceived as less an obstacle. The recommended preferred plan builds on the Council-approved pedestrian promenades. Further, the plan includes regularly spaced signalized pedestrian crossings along Queens Quay. As a result of this EA, the potential for additional north south connections have been identified for further study through future processes. The extension of the Martin Goodman Trail will bring a high-quality, family friendly multi-use facility to the waterfront, and connect to the broader cycling network—both east and west, north and south. Transit service will be improved with better connections in and out of the waterfront to the rest of the city.
- **It will provide a better balance.**  
A revitalized Queens Quay will promote alternatives to travelling by car. It will be more equitable in how space is allocated to all users. Cyclists and pedestrians will move within a more generous and inviting environment. Transit service will be the best possible with improved east-west priority. Conflicts between the various users will be reduced. Queens Quay will still provide capacity to accommodate future traffic demand.
- **It will create a destination boulevard.**  
The recommended preferred plan will transform Queens Quay from a corridor to a place. It will display a continuous and cohesive design character. It will support and help develop successful destination retail. The street will become the setting for year round activities, provide more space for programming, and present a more gracious and grand public realm comparable to the world's most identifiable streets.
- **It will offer a world-class transit experience.**  
Queens Quay will be one of the best downtown light-rail transit services in North

America. In addition, passengers will have a unique transit experience as they travel through a linear waterfront park. It will provide the highest transit signal priority possible. As with all new TTC projects, routes that serve Queens Quay will include off-vehicle payment at transit platforms to improve passenger loading, new accessible low-floor transit vehicles, and larger accessible platforms with new shelters as part of the City of Toronto street furnishings program. Passengers waiting for transit will stand safely to the south of the roadway with the eastbound platform within a canopy of trees.

- **It will present an easy and attractive point of arrival.**

The recommended preferred plan provides adequate traffic capacity and maintains accessibility for residents and businesses. It streamlines traffic operations, restricts turning movements to facilitate better transit operations, and provides dedicated bus drop off locations, taxi lay-bys and opportunities for on-street parking. The plan improves pedestrian crossings to promote a more walking friendly waterfront and offer a positive experience for tour buses arriving at the waterfront.

- **It will create a grand and beautiful public realm.**

The recommended preferred plan “visually expands” the street segment without automobiles, and indicates that the transit way is not a formal pedestrian area. This unique arrangement will support the planting of 300 new street trees within enhanced growing systems to provide the best possible urban forest. Queens Quay can become a street that the residents of Toronto feel proud. It can become a focal point for civic life.

- **It will provide a host of environmental improvements.**

The recommended preferred plan will promote a more sustainable mobility system; with secondary benefits including promoting improvements to local air quality and reduced carbon impact of transportation. An enhanced street tree canopy will meet the City’s urban forest requirement with 35% coverage of the Queens Quay right-of-way. This extensive planting—and turf tramway if implemented—will help reduce the overall urban heat island effect, and improve microclimatic conditions by buffering wind, providing shade, and normalize ground level air temperature during the warmer months. Ground level noise and vibration will be reduced with the new TTC track installation. Further noise reduction is possible if a grass tramway is determined feasible through detailed design.

- **This is all possible with no significant unmitigable adverse environmental effects.**