



**TTC – TWRC**

**Toronto Waterfront  
East Bayfront Transit  
Environmental Assessment**

**Terms of Reference (ToR)**

**August 2006**

**As amended**

**January 24, 2007**

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## **VOLUME 2 (under separate cover)**

Terms of Reference Consultation Record

## **1. INTRODUCTION**

The Toronto Transit Commission (TTC) is proceeding with Individual Environmental Assessment (IEA) Studies to identify the transit improvements required to support planned development in the Eastern Waterfront. These Studies are being undertaken in cooperation with the Toronto Waterfront Revitalization Corporation (TWRC) and the City of Toronto. Ultimately the IEA Studies will identify a preferred approach to providing an effective transit network to serve the new waterfront communities comprised of the East Bayfront, West Don Lands, and Port Lands precincts. The TTC as proponent is seeking to conduct three IEAs (one for each precinct).

Transit in the three precincts will be interconnected and will eventually form a continuous system linked to the downtown core, the subway system, the grid of local transit routes in the area and the GO commuter rail system. Given that the overall problem statement, network considerations and overall planning process will be similar for the three IEAs, three similar IEA Terms of Reference (ToR) documents are being prepared which will govern the preparation of the appropriate IEA. The separate ToRs and studies will allow each IEA to be completed on its own timeline, which is tied to anticipated development of the various precincts, while at the same time ensuring full coordination amongst the 3 studies.

The overall objective of each IEA is the identification of feasible and cost effective solutions to the challenges faced in expanding Toronto's transit system through the study area to support planned growth, while minimizing impacts on the environment. An integral component of this transit expansion will be the integration of service through the West Don Lands, the East Bayfront Lands, and the Port Lands.

This ToR outlines what will be studied in the East Bayfront IEA to address the information requirements set out in section 6.1(2) of the Ontario Environmental Assessment Act (OEAA). The ToR is being prepared in accordance with Section 6(2) (a) of the OEAA.

The OEAA requires proponents to examine two types of alternatives. The first type consists of "alternatives to the undertaking", which may be thought of as functionally different ways of approaching and dealing with the identified problem or opportunity. For the purposes of this ToR and subsequent IEAs, these alternatives will be referred to as "planning alternatives". The second type consists of "alternative methods of carrying out the undertaking", which may be thought of as different ways of carrying out a similar activity (i.e. different cross-section designs). For the purpose of this ToR and subsequent IEAs these alternatives will be referred to as "design alternatives".

### **1.1 BACKGROUND**

The TWRC and the City of Toronto have now completed sufficient Precinct Planning and the development of Class EA Master Plans, which allows the TTC to commence IEAs to define the required transit facilities required to support proposed development in the East Bayfront and West Don Lands. Although the Precinct Plan is not yet complete for the Port Lands precincts, TTC has elected to prepare the ToR for the Port Lands, recognizing the potential interrelationship with the two adjacent precincts: the East Bayfront and the West Don Lands.

Sustainable redevelopment and revitalization of these three precincts will require an effective transit system (as well as roads, pedestrian and cycling facilities) to service the large number of planned residential and employment opportunities. While roads will provide some of the transportation capacity in and out of the area, a high transit modal split is absolutely essential to achieve TWRC's and the City's objectives.

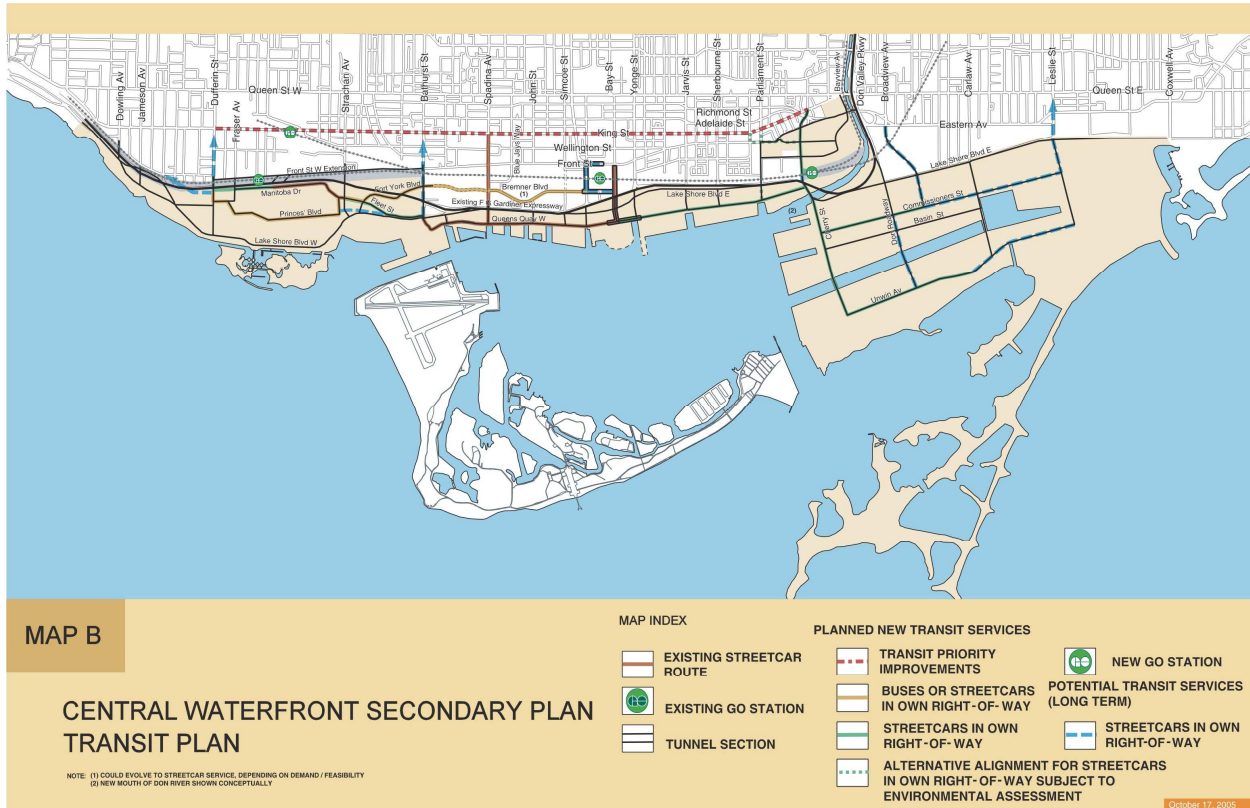
The formal framework for achieving these objectives was set out in the Central Waterfront Secondary Plan which was approved by City Council on March 2003 (BY-LAW No. 346-2003). It identifies a transportation strategy to provide a sustainable network in, to and from the waterfront communities with a particular focus on encouraging walking, cycling, transit use and water transportation. A number of policies are noted including:

- A “Transit First” approach will be adopted which provides for the early construction and operation of planned higher-order transit services at an early stage in the development process so that the transit-oriented objectives of the plan are achieved from the outset.
- The provision of the rights-of-way required to accommodate the proposed waterfront transit network over time as shown in Exhibit 1.1. The rights-of-way are to accommodate travel lanes, transit, pedestrian and cycling requirements and are to be refined through further detailed study;
- The existing bus and streetcar network will be extended into the waterfront area providing numerous connections north-south to connect the waterfront with existing nearby communities;
- New streetcar routes will operate in exclusive rights-of-way on existing and proposed streets to ensure efficient transit movement; and
- Waterfront streets will be renamed as “places” with distinct identities; Streets will act as lively urban connections as well as traffic arteries. The needs of motorists will be balanced with efficient transit service and high-quality amenities for pedestrians and cyclists.

Based on this framework the TWRC and City staff prepared Precinct Plans and EA Master Plans for West Don and the Eastbay Front Precincts which were approved by City Council in March 2005 and January 2006 respectively.

The TWRC also adopted a formal “Sustainability Framework” in July 2005 to guide planning and development in the waterfront including the provision of transit services and facilities.

**Exhibit 1.1 – Secondary Plan – Transit Plan Map**



**1.2 WATERFRONT STUDY AREA**

As shown in Exhibit 1.2 below, the primary Waterfront study area for the three IEAs extends from Bay Street to Leslie Street, north from Lake Ontario to King Street west of the Don River, and Queen Street east of the Don River. The primary study area encompasses the three precincts: East Bayfront; West Don Lands; and Port Lands. The East Bayfront, West Don Lands, and Port Lands are situated within the Greater Toronto Area, and are located south and east of the downtown core area at the edge of Lake Ontario.

- The East Bayfront precinct is a 36-hectare (90 acre) waterfront area that runs between Jarvis Street on the west and Cherry Street on the east and between the Gardiner Expressway corridor in the north and the lakefront. It is expected to be a community with 6,000 – 8,000 homes, including affordable housing, and related commercial spaces.
- The West Don Lands precinct is a 32-hectare (80 acre) area located generally between Parliament Street on the west, the Don River to the east, Front Street, Eastern Avenue and King Street to the north and Mill Street and the railway corridor to the south.
- The Port Lands precinct is a 400-hectare (1000 acre) waterfront area bounded by the Keating Channel/Don River and Lake Shore Boulevard on the north the Toronto Inner Harbour in the west, Ashbridges Bay in the east and Lake Ontario and Tommy Thompson Park to the south.



**Exhibit 1.2 – Waterfront Study Area**



**Exhibit 1.3 – Three Environmental Assessment Study Areas**



### **1.3 PREVIOUS STUDIES**

As described in more detail below, numerous waterfront and related studies have been conducted or are on-going; these include Precinct Plans and EA Master Plan Studies, Travel Demand Forecasting, Waterfront Transportation Studies, The Gardiner Expressway / Lake Shore Boulevard Scoping and Environmental Assessment, The Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP), Don Valley Corridor Transportation Master Plan Study, and GO Transit Corridor Studies. These studies will be used to assist in defining existing conditions and generating and evaluating alternatives.

#### **TWRC Precinct Planning and Environmental Assessment Precinct Master Plan Studies**

The basic intention behind the precinct planning process is to provide the necessary urban design, planning and development guidance to permit the actual revitalization of individual precincts of the Toronto waterfront. The following precinct plans and implementation strategy plan have been completed:

- West Don Lands Precinct Plan/Master Plan – March 2005;
- East Bayfront Precinct Plan/Master Plan – January 2006;
- Port Lands Implementation Plan – April 2006;
- TWRC Sustainability Framework;
- Queens Quay Design Competition; and
- Union Station District Plan

Other Waterfront area studies that are relevant to this initiative are noted below.

#### **The Gardiner Expressway / Lake Shore Boulevard Scoping and Environmental Assessment**

The TWRC has completed a number of studies over the last few years to examine how to reduce and/or eliminate the impediment to place making posed by the Gardiner Expressway structure. The studies assessed three alternatives, in addition to the “Do Nothing” scenario. The alternatives were intended to provide a movement system that provided adequate automobile access to the city’s centre but which also acted as a framework for sustainable city building and waterfront revitalization.

#### **The Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP)**

This EA project underway by the Toronto and Region Conservation Authority (TRCA) includes the Don’s channel from its mouth near Cherry Street to Riverdale Park and all adjacent lands to the river bounded by the CN Railway in the north, Villiers Street in the south, Parliament Street in the west and the Don Valley Parkway in the east. The goal of this project is to develop a preferred design and its associated projected costs to naturalize the mouth and lower reaches of the Don River, and permanently remove approximately 230 hectares of the Port Lands from the Regulatory Floodplain.

## **Don Valley Corridor Transportation Master Plan Study**

The Don Valley Corridor Transportation Master Plan assessed opportunities to improve transportation operations and person-carrying capacity in the Don Valley Corridor. The Study Area encompassed the area bounded by Leslie Street/Bayview Avenue in the west, Steeles Avenue to the north, Victoria Park Avenue to the east and Gardiner Expressway/Lake Shore Boulevard to the south. Improvements cover a wide range of solutions including traffic operations/management enhancements, transit priority, higher order transit services, transportation demand management, local road improvements and commuter parking. The plan includes a recommendation for the eventual provision of a high capacity express bus service from the north into the downtown area via Bayview Avenue and Eastern Avenue.

## **GO Transit Corridor Studies**

GO Transit is in the process of increasing its rail service on the Lakeshore corridor. Capacity to accommodate increased service for both the Lakeshore East and Stouffville Rail services is restricted by the number of available tracks. To remove this operational constraint and improve overall rail service, it is proposed to construct a third mainline track between Cherry Street and the Scarborough GO Station where the Stouffville service diverts to the north. Therefore, GO Transit has completed a Class EA, Federal EA Screening, and a Preliminary Design Study for an additional mainline track on the Lakeshore East GO line from Cherry Street to the Scarborough GO Station. Construction of the third track is underway. GO has commenced site preparation work of the Don Yard and construction of yard improvements will commence in the summer of 2006.

## **1.4 OUTLINE OF THE TERMS OF REFERENCE**

While the three transit IEAs for the three waterfront precincts are interrelated and will be coordinated with each other and other studies in the area, a separate ToR is being prepared for each study. The separate ToR will allow each IEA to be completed on its own timeline, which is tied to anticipated development of the various precincts.

The preparation, submission, and approval of the ToR are requirements under section 6. (1) of the OEAA prior to commencing an IEA. Once approved by the Ontario Minister of the Environment (“the Minister”), the ToR will provide the framework for preparing the IEAs and serve as a benchmark for reviewing the IEA. It is the first statutory decision by the Minister in the EA planning and approval process.

The ToR sets out the methodology for conducting the EA and its approach to compliance with Section 6.1 of the EAA. The EA will include the following components (referencing the appropriate Section numbers from this ToR document):

- A description of the purpose of the undertaking (Chapter 2);
- A description of and statement of the rationale for the proposed undertaking (Chapter 3), alternatives to the undertaking (Sections 6.4.), and alternative methods for carrying out the undertaking (Sections 6.5);

- A description of:
  - The environment that will be affected or might reasonably be expected to be affected, directly or indirectly, by the undertaking, the alternatives to the undertaking, and the alternative methods of carrying out the undertaking (Sections 6.2, 6.3 and 6.6);
  - The effects that will be caused or that might reasonably be expected to be caused to the environment, by the undertaking, the alternatives to the undertaking, and the alternative methods of carrying out the undertaking (Preliminary analysis criteria in Appendix C); and
  - The actions necessary or that may reasonably be expected to be necessary to prevent, change, mitigate or remedy the effects upon or the effects that might reasonably be expected upon the environment, by the undertaking, the alternatives to the undertaking, and the alternative methods of carrying out the undertaking (Section 5.4 and Chapter 11).
- An evaluation of the advantages and disadvantages to the environment of the undertaking (Sections 5.4), the alternatives to the undertaking (planning alternatives) (Sections 5.2 and Appendix C), and the alternative methods (design alternatives) of carrying out the undertaking (Sections 5.3 and Appendix C);
- A description of any consultation about the undertaking by the proponent and the results of the consultation (Chapter 7).

In addition the ToR outlines:

- A preliminary description of the study area and the existing and future environment (Sections 6.1, 6.2 and 6.3);
- A description of the public and agency consultation undertaken during the ToR preparation (Chapter 8);
- Other approval requirements (Chapter 10); and
- A commitment to carry out compliance monitoring (Chapter 11).

As part of this IEA, the TTC will coordinate Federal and Provincial EA requirements if applicable. Preliminary discussions with Federal Agency have determined it is unlikely that this project will trigger the Canadian Environmental Assessment Act (CEAA). This ToR will not limit the scoping activity that the Federal Authorities will undertake if CEAA is formally triggered.

## **2. PURPOSE OF THE UNDERTAKINGS**

Over the last 30 years, the Toronto Waterfront has been transitioning from a functioning port with a dominant land use of heavy industrial and good handling to a centre of recreational and tourist activity. In light of this changing situation, the City of Toronto has developed an overall strategy for future land use development for Toronto's Waterfront. The overall strategy for this development is outlined in the Central Waterfront Secondary Plan.

In order to implement this strategy the City of Toronto and the TWRC have been developing Precinct Plans for the various areas in the waterfront. These Precinct Plans have been developed or are currently being developed in the eastern section of the central waterfront including the East Bayfront, West Don Lands and the Port Lands.

The following summarize the key land use recommendations of the various Precinct Plans.

### **East Bayfront**

- Total area – approximately 36 hectares (90 acres);
- Land use type – employment and residential functions;
- Population – approximately 14,400 residents;
- Employment – approximately 3,800 employees; and
- Housing targets – approximately 6,300 total units (which includes a minimum of 1260 affordable rental units and 315 low-end-of market units).

### **West Don Lands**

- Total area – approximately 32 hectares (80 acres);
- Land use type – employment and residential functions;
- Population - approximately 10,200 residents (which includes 860 school aged children);
- Employment – approximately 4,100 employees and
- Housing targets – approximately 6,000 total units (which includes a minimum of 1200 affordable rental units and 300 low-end-of market units).

### **Port Lands**

- Total area – approximately 400 hectares (1000 acres)
- Land use type – mixed use (residential, employment, industrial)
- Population - approximately 32,900 residents; and
- Employment – approximately 24,700 employees.

As a result of this future development a significant demand for both inbound and outbound traffic will result. As noted previously, in order to accommodate these demands on the proposed and existing transportation network and reducing auto dependence, or, at a minimum, not significantly increasing vehicular capacity, the Council of the City of Toronto has adopted among other things, a “transit first” policy to service the revitalization of the lands within the Waterfront Secondary Plan area.

Therefore, the overall purpose of the undertaking embodied in this ToR is:

**To determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs in the study area while achieving the City's and TWRC's objectives for land use, design and environmental excellence.**

This IEA will build on the land use planning work completed, as well as on the Class EA Master Plans prepared for the waterfront precincts.

### **3. SYSTEM PLAN**

The following describes the existing overall transit system as it relates to the eastern part of the central waterfront from an Inter-Regional (macro) to Local (micro) level, and includes a description of the proposed transit network within the study area based on planning conducted to date, as well as estimated future transit demand to, from and through this area.

#### **3.1 OVERALL CITY TRANSPORTATION NETWORK**

The City's overall transportation network relies on an extensive infrastructure comprised of roads (supporting cars, and buses) and rails (supporting streetcars, subways and GO transit). At some locations within the City, streetcars operate in mixed traffic sharing the road with other modes of travel, while in other locations (for instance, along Spadina Avenue south of Bloor Street), streetcars operate in a semi-exclusive right-of-way.

It is anticipated that similar infrastructure will support the forecasted travel patterns to, from and through the study area based on the following three types of travel:

- Inter-Regional (from/to locations within the GTA);
- Intra-Regional (from/to locations within the City of Toronto); and
- Local (from/to locations within the study area).

#### **3.2 EXISTING CONNECTIONS TO THE WATERFRONT**

- Inter-regional travel (from the outlying Regions to the City of Toronto) generally utilizes the GO Transit and Provincial Highway network. In addition to the GO Transit and Provincial Highway network, intra-regional travel utilizes the TTC subway and Scarborough RT network, as well as arterial roads. Local travel presently associated with the study area relies on local surface public transit routes and the automobile.

#### **3.3 EXISTING TRAVEL DEMAND**

Existing inter-regional and intra-regional travel patterns to the GTA are addressed in the following reports:

##### **The Transportation Tomorrow Survey (2001, 1996 & 1986 Summaries)**

Conducted on behalf of 19 local, regional, provincial and transit operating agencies in the greater Toronto and surrounding areas, this document summarizes among others, trips coming into and leaving an area, travel purpose, distance travelled and travel mode choice.

##### **The Toronto Official Plan (OP)**

The Toronto Official Plan notes that the GTA is forecast to grow by 2.7 million residents and 1.8 million jobs by the year 2031. The forecast allocates 20% of the increase in population and 30% of the increase in jobs to Toronto.

As further noted, in a mature city like Toronto, the emphasis must be directed towards a more efficient use of the available road network to move people, by making transit, cycling and walking increasingly attractive alternatives to car use. Chapter two has identified a number of principles to be used in the generation of sustainable transportation options including the following:

- Promoting land use development and urban form that lead to fewer and shorter trips (by achieving a more intense, mixed use pattern of development);
- Improving access to public transit for all Torontonians that is competitive with the cost and convenience of using a car for most personal travel; and
- Instituting planning, traffic engineering and street design practices that encourage walking and cycling.

### 3.4 FUTURE TRAVEL DEMAND

The City of Toronto developed a series of travel demand forecasts for road, transit and other trip making to / from and within the Waterfront as part of the planning of the Central Waterfront Secondary Plan adopted by Council in April 2003. The Waterfront Transportation Plan embodied in the Central Waterfront Secondary Plan was developed to meet the travel demand needs of Waterfront through, in large part, an emphasis on the role that transit plays in meeting those demands.

These forecasts will be refined by staff on a more detailed basis as part of this IEA process to provide a comprehensive series of forecasts of transit, vehicular and other (pedestrian / bicycle) trip making for the East Waterfront areas being considered as part of this IEA.

The travel demand forecasts will be used in the detailed evaluation of planning and design alternatives considered as part of this IEA. This includes the evaluation of corridors and technologies (Planning Alternatives) for new transit infrastructure and location and right-of-way features (Design Alternatives) in the context of the selected corridors and technology.

The refined travel demand forecasts will reflect current planned population and employment levels within the IEA study area and in the Waterfront Area more generally. Current population forecasts and employment levels for the Precincts within the IEA study area are as follows:

- **East Bayfront**

Population	–	approximately 14,400 residents
Employment	–	approximately 3,800 employees
- **West Don Lands**

Population	-	approximately 10,200 residents
Employment	-	approximately 4,100 employees



• **Port Lands**

- Population - approximately 32,900 residents
- Employment - approximately 24,700 employees

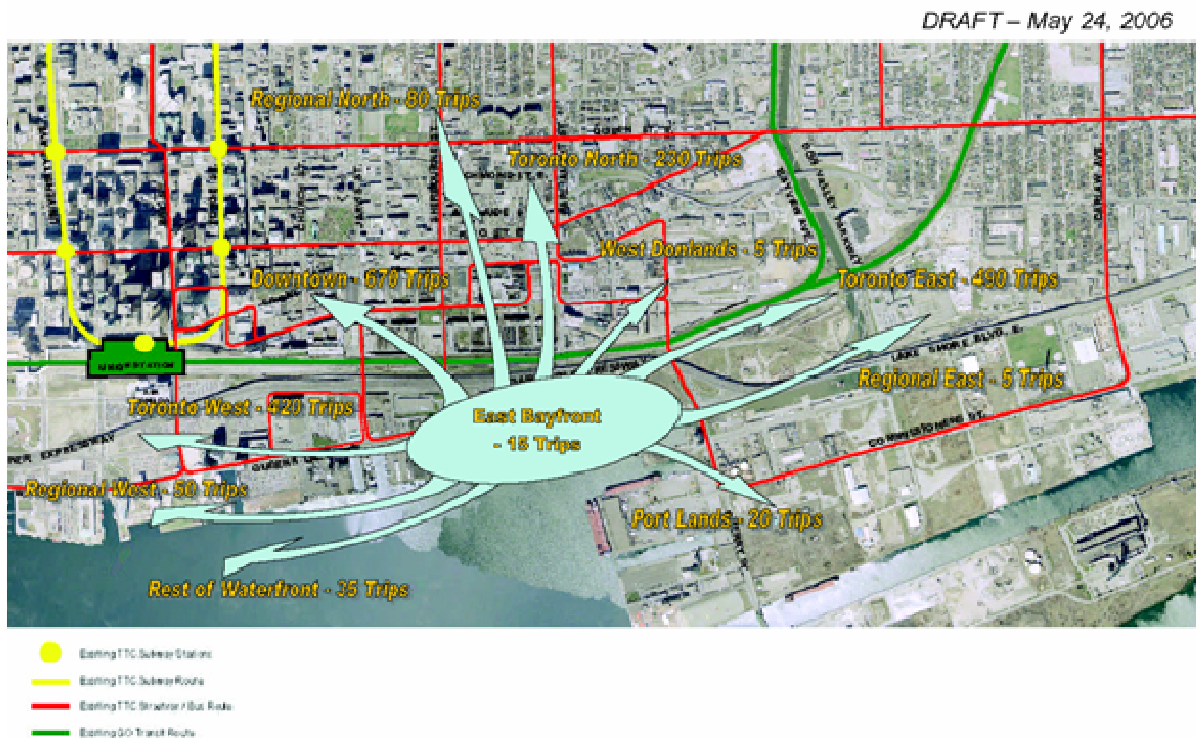
For the purposes of this ToR and in defining the Planning Alternatives to be considered as part of the IEA Studies, preliminary travel pattern forecasts have been developed for each of the three Waterfront East areas (East Bayfront, West Don Lands and the Port Lands).

These preliminary forecasts are illustrated graphically on the following three figures for each of East Bayfront, West Don Lands and Port Lands areas. These forecasts provide a preliminary and general outline of the number of person trips made by transit in each case to the various parts of the City of Toronto and beyond during the morning peak period.

The total number of outbound transit person trip from the three Waterfront East areas being considered is, based upon this preliminary travel demand information, in the order of 11,200 trips. It is assumed and expected that during the peak hours of travel an estimated 40 percent of all Waterfront area trips will be made by transit.

The information provided in the following figures will be updated and refined as part of the EA process and may therefore change.

**Exhibit 3.1 – East Bayfront Precinct: Travel Patterns and Transit Volumes (Morning Peak Period, Outbound)**



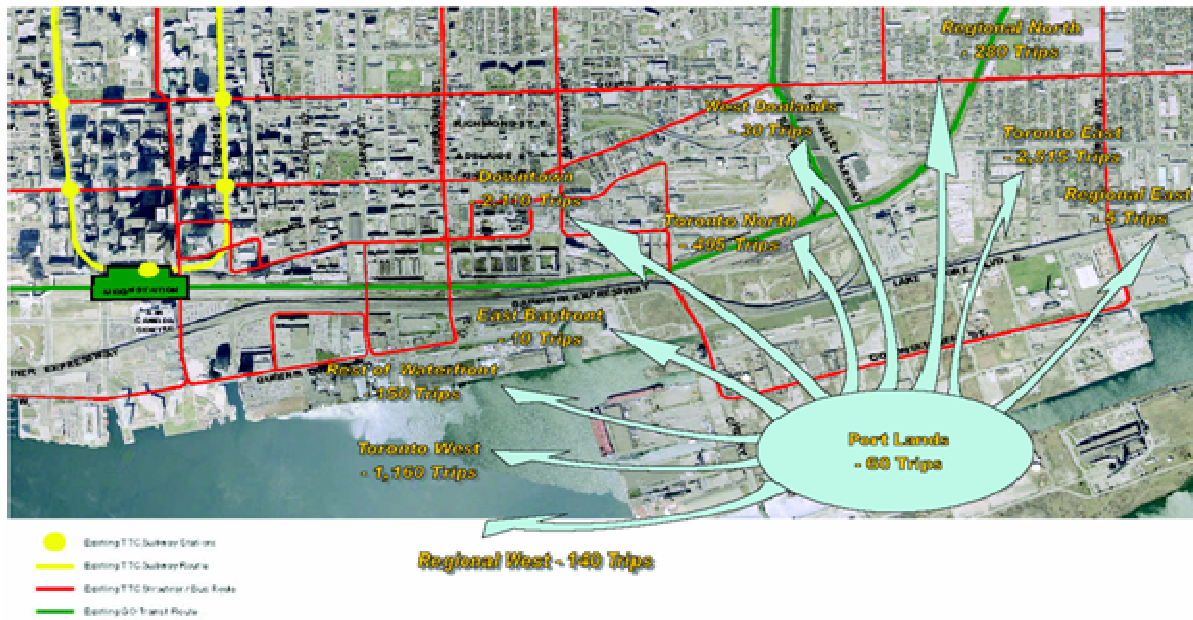
**Exhibit 3.2 – West Don Lands Precinct: Travel Patterns and Transit Volumes (Morning Peak Period, Outbound)**

DRAFT – May 24, 2006



**Exhibit 3.3 – Port Lands Precinct: Travel Patterns and Transit Volumes (Morning Peak Period, Outbound)**

DRAFT – May 24, 2006



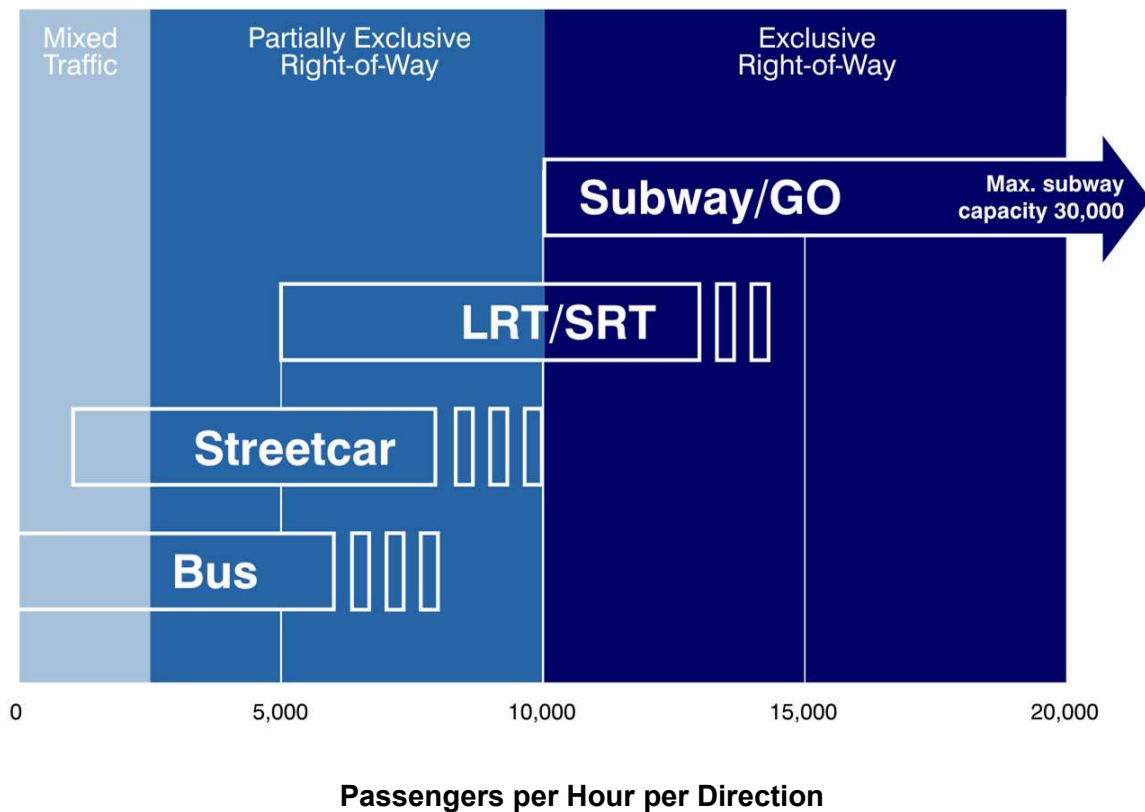
### 3.5 PROPOSED WATERFRONT TRANSIT NETWORK

Fundamentally, the transit facilities in the overall study area must connect with each other, and with the rest of the existing and proposed future TTC network. As previously noted, the overall objective of each IEA is the identification of feasible and cost-effective solutions to in expanding Toronto’s transit system through the study area to support planned growth, while minimizing impacts on the environment. During the development of the East Bayfront and West Don Lands Class EA Master Plans and Precinct Plans, on a broad scale, proposed street grids and transit routes have been identified. The proposed conceptual transit network and the updated ridership for that network will be developed during the Planning Alternatives phase of the study and included as an early chapter in each IEA report.

The chart below illustrates the typical range of demand that can be accommodated by different transit technologies.

**Exhibit 3.4**

**Range of Capacity for Various Transit Technologies**



The initial demand estimates for a transit facility serving the waterfront does not require a Subway service. Travel demand forecasts may limit technology options for the IEA.

Bus technologies include all rubber-tired vehicles that can operate on a paved surface. These vehicles can be powered through a number of different means including traditional diesel

engines, bio-diesel, diesel-electric and fully-electric trolley operation. There are also a number of advanced technologies being developed to power buses including hydrogen fuel cells and electric battery-based technologies. The capacity of buses, and many of the physical characteristics related to bus operations, is common to all of the types of propulsion systems used. The choice of propulsion system can, however, affect local air quality, noise pollution level, capital costs for construction and vehicle purchases, and operating costs and will be considered when evaluating technologies.

Streetcar/LRT vehicles operate on rails and typically have two to three times the carrying capacity of a bus. They can also be set to operate in trains to increase the capacity further. They are usually electrically powered although diesel-powered units are available. Streetcars/LRT vehicles can also be single ended as is the case with existing TTC streetcars or dual ended as is the case with more modern streetcar/LRT vehicles.

The final IEAs will identify and describe the preferred alternative for the transit network in each IEA study area.

#### **4. THE PLANNING PROCESS**

The IEAs will be undertaken to comply with existing provincial, legislation, guidelines and policies. The IEAs will describe and identify the potential natural, social, economic and cultural environmental effects of the preferred undertaking and alternatives. In general, the identification of potential environmental effects will include an inventory or profile of existing conditions, a prediction of the effects for each alternative, identification of impacts and mitigation measures, and an evaluation of advantages and disadvantages.

Two types of alternatives are required to be examined to meet the requirements of the OEAA: these include planning alternatives (alternatives to the undertaking) and design alternatives (alternative methods of carrying out the undertaking). These alternatives are fundamentally different in scope and nature. Planning alternatives consider a number of different approaches to deal with a given problem or opportunity and once an approach has been decided upon, the design alternatives look at different ways of applying the chosen approach.

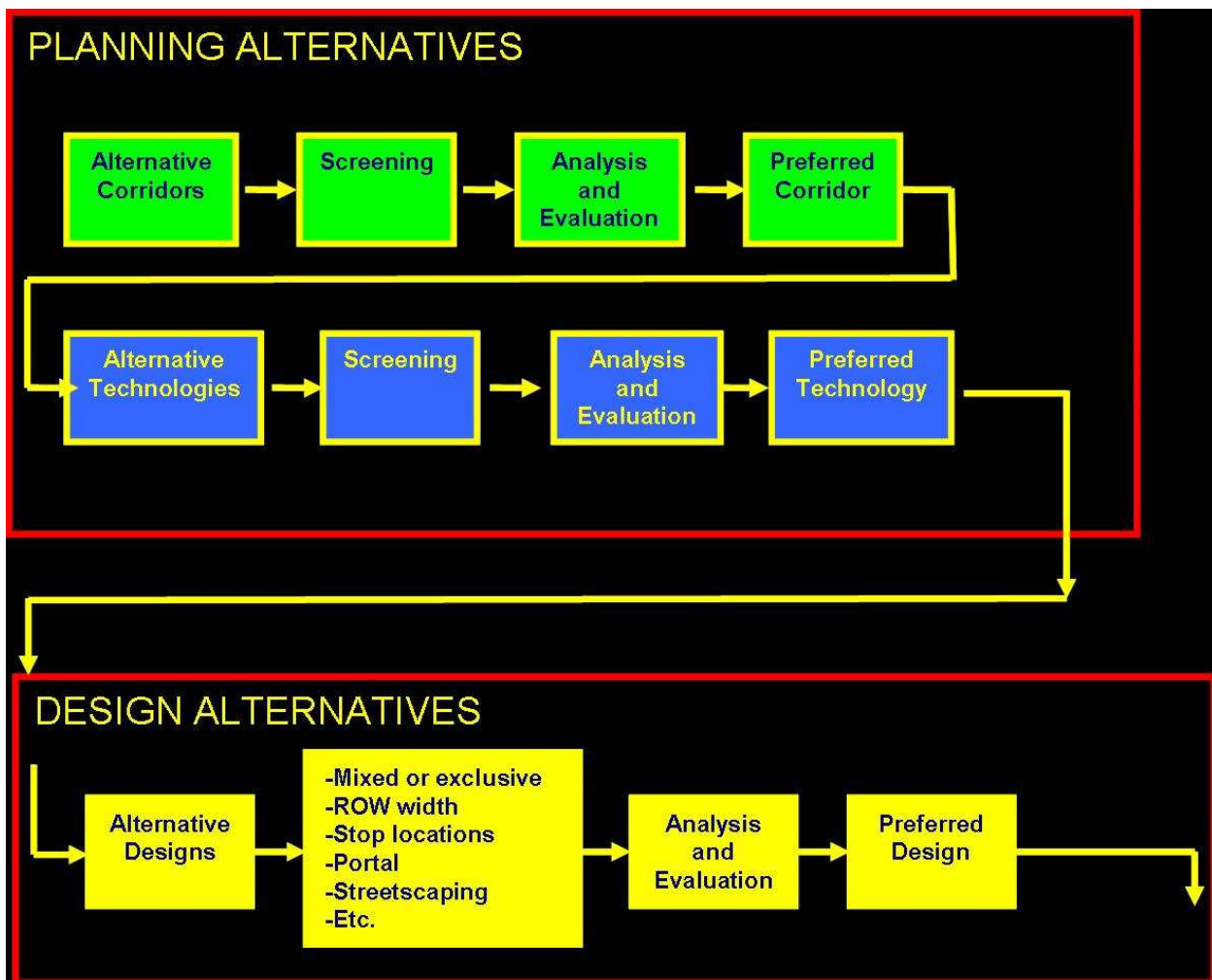
To generate and assess these two types of alternatives, the IEA will involve several steps as outlined in Exhibit 4.1. The first phase will focus on the purpose and rationale for the undertaking, the identification and assessment of planning alternatives and selection of the preferred planning alternative. The second phase of the IEA will involve the generation and assessment of design alternatives and selection of a preferred alternative.

The planning framework is based on a phased sequence of decision-making in which these two types of alternatives are assessed at an increasing level of detail as they become more focused. In the initial stages (planning alternatives), when the size, location or type of facility is not yet known, less detailed criteria are used (see Appendix C for criteria) for the evaluation. At this stage impact assessment will be conducted at a more general and strategic level, based primarily on secondary source information. At the design alternative phase, when it becomes more difficult to differentiate between alternatives, more detailed information is required (see Appendix C for criteria).

Once a preferred alternative design is selected, more focused data will be collected. This process of collecting additional environmental data as the project becomes more focused ensures that current information is sought and used throughout the study process.

Potential effects to be studied include positive and negative effects. Chapters 6, 7, 8 and Appendix C outline the specific factors to be examined for planning alternatives and design alternatives. During the IEA, the Proponent will work closely with the affected agencies and the public to refine issues/concerns and to develop acceptable measures for resolving concerns.

**Exhibit 4.1 – Environmental Assessment Flow Chart**



## **5. GENERATION AND EVALUATION OF PLANNING AND DESIGN ALTERNATIVES**

### **5.1 KEY CONSIDERATIONS IN GENERATING PLANNING AND DESIGN ALTERNATIVES**

When considering the development of the possible transit infrastructure alternatives in the study area a number of fundamental considerations will be applied to the development of these alternatives. These include but are not limited to the following:

- Develop the new transit infrastructure required to encourage transit use and reduce auto dependence;
- Develop new infrastructure in accordance with TTC, City of Toronto and TWRC design criteria/guidelines;
- Provide for full accessibility to the disabled community;
- Minimize street and right-of-way widths;
- Provide effective transit services within a five 5 minute walk of the majority of the residents and businesses of planned waterfront developments;
- Establish transit network connections to integrate the recommended services with the existing transit system in accordance with an integrated systems plan;
- Utilize existing infrastructure to the extent possible - taking advantage of existing and planned transportation corridors may reduce impacts to the natural, social and economic environment;
- Avoid, or where this is not possible, minimize impacts to natural systems with particular emphasis on natural features, functions, systems and communities;
- Avoid, or where this is not possible, minimize impacts to significant cultural features; and
- Maximize the use of “Green” transit technology. A range of possible existing and developing “green” propulsion technologies (electricity, fuel cells, etc.) will be considered when evaluating vehicle technologies so that both existing and future conditions are taken into account.

These Key Considerations will be used to assist in the development of alternatives. The criteria used to compare and select a preferred alternative are outlined in Appendix B.

### **5.2 ANALYSIS AND EVALUATION OF ALTERNATIVES**

As discussed above, each transit EA will have to assess planning and design alternatives. Within the list of planning alternatives, preferred corridors and technologies will be selected. Design alternatives will focus on location within the selected corridors and right-of-way features in the context of the selected technology. The analysis and evaluation of all alternatives will be subject to an initial screening, followed by a more thorough evaluation.

### **5.2.1 Screening of Planning Alternatives**

The OEAA requires a proponent to consider all reasonable alternatives. For the purposes of this ToR and the subsequent IEA, all alternatives must be able to address key project objectives as identified in key approved planning documents (see section 1.3) and consistent with the proponent's policies and standards. The preliminary screening criteria for planning and design alternatives have been developed in consultation with key stakeholders and agencies, as well as the public. This ToR will allow for additional refinements to the screening criteria (documented in Appendix C) during the IEA.

Therefore, all alternatives listed in this ToR as well as others that may be suggested during the IEA must satisfy all screening criteria. Only those alternatives that meet these minimum project requirements will be subjected to further analysis.

### **5.2.2 Evaluation of Planning Alternatives**

After the various planning alternatives are generated, the alternatives which pass the initial screening process will be carried to the evaluation stage. The advantages and disadvantages of the various alternatives will be compared based on criteria that address all facets of the environment. As part of the consultation process for this ToR, preliminary criteria and indicators have been developed (see Appendix C). Similar to the screening criteria, this ToR will allow for additional refinements to the criteria and indicators during the IEA. Any changes and the rationale for the change will form part of the IEA documentation.

The actual assessment process will entail the identification of advantages and disadvantages of the various alternatives under consideration. At this stage, each environmental feature is examined to determine the extent of impact, based on specific measures that will address each indicator. Net impacts will be identified; these refer to the effects on the environment that remain after standard mitigation measures have been applied to reduce the extent of the impact.

### **5.2.3 Evaluation of Design Alternatives**

This stage builds upon the information obtained from the impact assessment stage and involves a comparative analysis of the advantages and disadvantages of the alternatives considered to select a preferred alternative. At this stage, the relative importance of the environmental features is determined. A "Do Nothing" scenario will be carried forward to represent a base case for comparison to the preferred alternative.

The evaluation of alternatives is a central component of the EA. A sound evaluation process is based on five key principles:

- The evaluation of alternatives must be comprehensible and systematic;
- The process must be rational and understandable;
- The results must be replicable;
- The data must be traceable; and
- The entire process must be participatory, with broad but not duplicative opportunities for input from the public, stakeholders, regulatory agencies, municipalities, Aboriginal Communities, etc.

At the outset and at key points during the study, the Ontario Ministry of the Environment (MOE) recommends that the evaluation approach should be clearly described and government ministries, municipalities, agencies, First Nations and the public should be asked for their comments early in the IEA study. The method(s) used to predict net environmental effects and evaluate advantages and disadvantages should clearly identify the relative differences and key impact trade-offs.

A Reasoned Argument (or Trade-Off) method will be used to identify a preferred alternative. The Reasoned Argument (Trade-Off) evaluation component will provide a clear presentation to stakeholders of the key trade-offs between the various evaluation factors and the reasons why one alternative is preferred over another. During the IEA study, the decision making process will be clearly documented to support a traceable process and to ensure that it is understandable to those who may be affected by the decisions.

This method highlights the differences in net effects associated with the various alternatives. Based on these differences, the advantages and disadvantages of each alternative are identified. The relative significance of the impacts is examined to provide a clear rationale for the selection of a preferred alternative. The rationale that favours the selection of one alternative over all others will be derived from the following sources:

- Government legislation, policies and guidelines;
- Municipal policy (i.e. Official Plans);
- Issues and concerns identified during consultation with ministries and agencies, municipalities, ratepayer and interest groups and the general public (including input obtained through the assessment of the relative level of importance of evaluation criteria); and,
- Project Team expertise.

The rationale will be documented clearly and concisely in a format that can be easily understood by all stakeholders.

### **5.3 ASSESSMENT OF THE UNDERTAKING AND DEVELOPMENT OF MITIGATION**

As part of the identification of potential impacts, mitigation measures will be identified to offset predicted negative environmental effects that have been identified for the undertaking and its alternatives. The identification of mitigation measures will be developed in the context of relevant technical guidelines. As this process will be iterative as alternatives are developed and evaluated, opportunities to avoid or minimize impacts will be integrated wherever feasible.

Appropriate technical and economically feasible mitigation measures will be developed for specific characteristics and sensitivities of the environmental features and the related significance (e.g. magnitude, duration, certainty) of the potential impact. Such measures may include, but are not limited to:

- Avoidance measures i.e. design options to minimize impacts to or caused by construction and operations;



- Protection of water quality through appropriate facility routing and drainage design; and
- Identification of the recommended construction timing window, staging of work, etc.

Mitigation measures will be developed in consultation with appropriate agency staff and stakeholders to confirm the environmental analyses, issues and impacts, and subsequently to review the impact assessment and mitigation measures. Mitigation measures will also include recommendations for a monitoring program.

## 6. ENVIRONMENTAL ASSESSMENT WORK PLAN – EAST BAYFRONT

### 6.1 STUDY AREA

The East Bayfront study area extends from west of Bay Street in the west to Cherry Street in the east and encompasses the area between the Gardiner Expressway to the north and Lake Ontario in the south as shown in Exhibit 6.1.

Exhibit 6.1 – East Bayfront Study Area



### 6.2 DESCRIPTION OF THE EXISTING ENVIRONMENT

A Precinct Plan has recently been developed for the East Bayfront area extending between Lower Jarvis Street and Cherry Street east of downtown Toronto. Its northern boundary is formed by the main line rail corridor serving Union Station. The westerly portion of the East Bayfront Precinct was the subject of a recent Class EA Master Plan exercise.

Secondary source environmental research has been undertaken during the course of preparing the EA ToR. The following summarizes the notable environmental features in the broader area.

#### 6.2.1 Existing Land Use

Lands within the East Bayfront study area are currently utilized for a variety of commercial and industrial uses.

The Redpath Sugar plant is located just west of the Jarvis Street Slip and just outside the Precinct plans area although a rail spur serving the plant runs along the south side of Queens Quay East through the Precinct area.

Approximately half of the lands in the study area are owned by the City of Toronto Economic Development Corporation (TEDCO). The remainder are privately owned parcels of land. In general terms the lands located to the south of Queens Quay East are owned by TEDCO while those to the north and east of Queens Quay East are under private ownership.

## **6.2.2 Existing Transit**

### **TTC**

The TTC currently provides bus and streetcar service to the East Bayfront study and adjacent areas. A brief description of the key TTC services within the East Bayfront Precinct area is given in the following.

- **Route 97 - Yonge**

This route currently travels along Yonge Street and ends on Queens Quay West while returning via Front Street. The short section travel along Queens Quay West is the only section that travels through the East Bay Front area.

- **Route 75 – Sherbourne**

This bus service runs along Sherbourne Street and loops at its southern end within the study area using Lower Jarvis Street, Queens Quay East and The Esplanade. It provides a connection to the Bloor-Danforth subway line that runs east-west along Bloor Street East. Buses run every 11 or 12 minutes during the peak rush periods.

- **Route 6 – Bay**

This bus service loops from central Toronto along Queen Street East and Lower Jarvis Street to the western portions of the study area. From downtown Toronto these services run along the Bay Street urban clearway to the Dupont subway station on the Yonge-University-Spadina subway line. Buses run every 5 to 8 minutes during peak rush periods.

- **Route 72A – Pape**

This limited service route runs from the Pape Subway station on the Bloor-Danforth subway line to Union Station via Cherry Street. Buses run approximately every 13 to 14 minutes in the morning and afternoon rush periods.

- **Routes 509/510 – Harbourfront LRT**

This streetcar services runs from Union Station south in tunnel under Bay Street and then turns west and comes to the surface in a partially exclusive right-of-way in the centre of Queens Quay West. The streetcars run west to the CNE grounds and north along Spadina to the Bloor Danforth subway.

### **GO Transit**

GO Transit's Lakeshore East and Stouffville services operate along the main rail-line running along the northern study area boundary. The nearest station is Union Station within downtown Toronto. Union Station is served by seven inter-regional commuter rail services. GO Transit's downtown bus terminal is also located just east of Union Station.

### **6.2.3 Existing Road Network**

The Major transportation connections in terms of east-west roads within the East Bayfront are the Gardiner Expressway, Lake Shore Boulevard, and Queens Quay East. Yonge Street, Bay Street, Sherbourne Street, Jarvis Street, Parliament Street and Cherry Street (on the eastern edge of the study area) provide north-south connections to the waterfront from the neighbourhoods north of the Gardiner/Lakeshore.

Descriptions of the key streets and roadways in the East Bayfront study area is provided in the following sections.

#### **Expressways**

- **Gardiner Expressway**

The Gardiner Expressway is an east-west oriented, basic 6-lane elevated roadway running along the northern boundary of the East Bayfront study area. The Gardiner Expressway is one of the principal roadways providing regional access to central Toronto and links to the Queen Elizabeth Way (QEW) west of the City, as well as the Don Valley Parkway and Lake Shore Boulevard East east of the Don River. It carries high traffic volumes and operates as a controlled access, free-flow, facility with access ramps at Lower Jarvis Street and Lower Sherbourne Streets. The posted speed limit is 90 km/h.

#### **Major Arterial Streets**

- **Lake Shore Boulevard East**

Lake Shore Boulevard East is an east-west oriented, basic 6-lane divided roadway that runs through the East Bayfront study area parallel to, and either beneath or to the south of, the Gardiner Expressway. Lake Shore Boulevard East carries relatively large volumes of traffic. Lake Shore Boulevard East connects with each of the main north-south streets serving the East Bayfront Precinct area (Lower Jarvis Street, Lower Sherbourne Street, Parliament Street and Cherry Street) at a series of signalized intersections. The posted speed limit is 60 km/h.

#### **Minor Arterial Streets**

- **Queen Quay East**

Queens Quay is an east-west oriented, basic 4-lane roadway (approximate pavement width of 19.0 metres) that runs parallel to Lake Shore Boulevard across central Toronto. Queens Quay connects from Lake Shore Boulevard West at Stadium Road just west of Bathurst Street, runs across the downtown and through the East Bayfront study area, before and connecting back to Lake Shore Boulevard East at Parliament Street at Small Street. Queens Quay East has a basic 25.0 to 27.44-metre right-of-way through the Precinct area.

A road plan for the Precinct is illustrated in Appendix B (Exhibit 8-21 extracted from the January 2006 Class EA Master Plan report). The road plan illustrates proposed cross-sections for new and improved road linkages within the Precinct including the four primary and secondary recommended cross-section arrangements for Queens Quay East.

The configuration of Queens Quay East is to be confirmed as part of this study. A summary of the proposed alternate arrangements developed and evaluated as part of the Class EA Master Plan is provided in the drawings shown in Appendix B. These plans will be used as input and to inform this IEA study.

- **Lower Sherbourne Street / Sherbourne Street**

Lower Sherbourne Street and Sherbourne Street is a north-south oriented, basic 3 / 4 lane roadway that extends from Queens Quay East northwards to just north of Bloor Street East. Lower Sherbourne Street has a basic 20.0 metre right-of-way within the Precinct.

- **Parliament Street**

Parliament Street connects with Queens Quay East within the East Bayfront study area at Small Street and extends to Lake Shore Boulevard East as a 4-lane facility with on-street bicycle lanes. It then extends northwards from Lake Shore Boulevard East as a basic 2-lane roadway to Bloor Street East.

- **Lower Jarvis Street / Jarvis Street**

The section of Lower Jarvis Street south of Lake Shore Boulevard East and within the East Bayfront Precinct area is a 4-lane collector street with a 20.0 metre right-of-way.

#### **6.2.4 Bicycles and Pedestrians**

##### **Pedestrian Sidewalks**

Sidewalks are provided on all existing public streets within the study area except in a few instances including, notably, on the south side of Queens Quay East. Pedestrians walking on the south side of Queens Quay East are able to use the multi-use Martin Goodman Trail but are required to cross to the north side of Queens Quay East at Richardson Street in order to proceed further west.

##### **North-South Pedestrian Connections Beneath the Rail-Line**

Sidewalk connections are provided on either side of the north-south streets that run below the mainline rail corridor. The sidewalks are located behind structural elements supporting the bridge structures and are separate from the road travel lanes.

##### **On-Street Bicycle Lanes**

On-street bicycle lanes are provided in both directions on Queens Quay East and Lower Sherbourne Street.

##### **Off-Road Multi-Use Facilities**

Part of the Martin Goodman Trail, a major multi-use off-road pathway, runs along the south side of Queens Quay East and connects to trail systems running into the Port Lands, north along the Don Valley corridor and eastwards on the north side of Lake Shore Boulevard East.

A minor multi-use off-road pathway connects along the north side of Lake Shore Boulevard East from Parliament Street to Cherry Street.

### **6.2.5 Industrial Rail Spur Lines**

There are a number of heavy rail industrial spur lines within the study area; however, only one line is currently in use. All tracks are owned and controlled by the TEDCO.

#### **Redpath Sugar Rail Spur**

An operational industrial rail spur line serving the Redpath Sugar (Tate and Lyle) plant runs along the south side of Queens Quay East through the study area. Based upon general observations the Redpath rail spur is used on an occasional basis for the transportation of refined sugar and liquid sugar.

The Redpath rail spur is serviced from the TEDCO Keating rail yard located to the east of the Don River. The spur runs generally along the south side of the Gardiner Expressway from the TEDCO Keating Yard and crosses Lake Shore Boulevard East near the Cherry Street (north) signalized intersection as it enters the study area.

There is a second track running parallel to the main spur. This track serves as a siding facility for the Redpath Sugar plant and is used for rail car storage and shunting purposes.

Rail activity on the entire TEDCO system serving the Port Lands and waterfront areas is controlled such that only one train is within the system at any one time for rail safety reasons. Both the Canadian National (CN) and Canadian Pacific (CP) rail companies provide service on the TEDCO system with CN providing service during the morning and CP during the afternoon. Both CP and CN provide service to Redpath Sugar.

#### **Disused Rail Spurs – North of Queens Quay East**

There are two disused rail spur crossings of Queens Quay East that link to the main Redpath Sugar spur line. One is located just west of Lower Jarvis Street while the second is located near the Queens Quay East / Lake Shore Boulevard East / Parliament Street intersection. These lines will be eliminated with development of the East Bayfront Precinct.

### **6.2.6 Natural (Terrestrial) Environment**

The natural environment within the East Bayfront study area has been described in the East Bayfront Class EA Master Plan. This report notes that the area is an extensively developed environment - an urban brownfield site containing some buildings occupied by industrial or commercial uses, with large areas of underused sites. There is negligible vegetation, with no other features of natural environmental significance. The Toronto waterfront is an extensively developed environment. There are a number of significant natural areas including Tommy Thompson Park and the Toronto Islands; however the majority of the current landscape has been developed.

### **6.2.7 Natural (Aquatic) Environment**

As documented in the East Bayfront Class EA Master Plan, aquatic habitat associated with the site consists of the Don River and Lake Ontario. The Don River originates north of Major Mackenzie Drive in the Region of York eventually discharging into Lake Ontario through the Keating Channel located east of Cherry Street. Located south of the study area is the Lake

Ontario shoreline and to the west is the Toronto Inner Harbour. As a result of urbanization and shoreline alteration, diversity of aquatic habitat in the vicinity of the East Bayfront is limited.

### **6.2.8 Socio-economic Environment**

Approximately half of the lands in the East Bayfront are owned by TEDCO. The remainder are privately owned. Land use is governed by the Central Waterfront Secondary Plan, and includes Parks and Open Space, Development Areas, and Existing Use Areas. The existing residential uses are to be maintained.

### **6.2.9 Cultural Environment**

The Redpath Sugar Refinery, located at 95 Queens Quay East, is a main heritage feature. The Refinery contains a museum used to display the history of the sugar industry and is used as an educational resource for school children and the general public. The Victoria Soya Mills silos at the east end of the study area are another heritage landmark.

The Sustainability Framework provides guidelines to promote and protect cultural resources, including creating cultural and heritage destinations and creating a strong public image. The TWRC will be responsible for implementing and monitoring these activities.

There is no apparent current use of the lands by First Nations for traditional purposes.

## **6.3 DESCRIPTION OF THE FUTURE ENVIRONMENT**

### **Future land use, population and employment**

- Total area – approximately 36 hectares (90 acres);
- Land use type – employment and residential functions;
- Population – approximately 10,100 residents;
- Employment – approximately 3,700 employees; and
- Housing targets – approximately 6,300 total units (which includes a minimum of 1260 affordable rental units and 315 low-end-of market units).

Further investigations, including secondary source reviews and field investigations will occur during the EA to inventory the existing environment as defined by the OEAA.

## **6.4 PLANNING ALTERNATIVES (ALTERNATIVES TO THE UNDERTAKING)**

### **6.4.1 Description and Statement of Rationale for Alternatives**

As noted previously, the primary purpose for this IEA Study is:

- **To determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs in the study area while achieving**

**the City's and TWRC's objectives for land use, design and environmental excellence.**

Providing a convenient link to Union Station is a key requirement of the study.

As part of the East Bayfront IEA study there are a number of planning alternatives that can be considered in arriving at a recommended alternative. These will be compared to a “do nothing” alternative that will be considered in the process.

In the case of the provision of transit services, in the “do nothing” alternative it is assumed that the TTC will provide transit services to the area based on its normal service standards utilising the proposed street system without the construction of any transit-specific facilities. In this way the “do nothing” alternative is, in effect, a “business as usual” alternative. The “do nothing” alternative includes the provision of bus services into the area as continuations of existing routes and the introduction of a new bus route on Queens Quay connecting to Union Station through the downtown street system. It is assumed that the frequency of service provided on these routes will reflect the actual passenger demand for the service based on the TTC normal financial standards.

In addition to the “do nothing” alternative there are both corridor and technology options to consider as part of the “planning alternatives”.

### **Corridors**

With respect to corridors there are a limited number of east-west options in the study area. In order to serve this east-west community and connect it to the existing (and future) transit network at both the east (Union Station) and west ends there are two possible corridors:

1. Queens Quay East; and
2. Lake Shore Boulevard.

The Queens Quay East corridor bisects the future development in the precinct and provides the most direct service to and from existing and future development. It also allows for a connection to the existing streetcar tunnel under Bay Street.

Suggestions have been made concerning the possible elimination of the current streetcar connection between Queens Quay and Union Station to be replaced by a possible moving sidewalk or “people mover”. This option, and variations thereof, will be considered as a subset of the Queen's Quay East corridor option.

The Lakeshore corridor is on the extreme northern edge of the study area and, while providing only limited direct service to existing and future development in the East Bayfront area, it allows for a possible bypass route for transit riders passing through the study area. As part of the public consultation for this ToR, it was agreed that the Lakeshore corridor will be retained as one of the options to be considered during the IEA study for use as a possible bypass of the East Bayfront development area. It should also be noted that this express route has the potential to be an “Expo Express” route directly from Union Station to Port Lands in support of the Expo 2015 bid.

As a result the corridor options that will be considered in the East Bayfront IEA study include:

1. One transit facility along the Queen's Quay East and up the Bay Street corridor and



2. One transit facility along the Queen’s Quay East corridor to provide local service to and from the overall study area and a second transit facility to provide an express bypass route for those riders passing through the study area with origins and destinations elsewhere.

### **Technologies**

There are also a number of technology options that could be considered in the study corridor. These include the following:

1. Bus Service on existing roads (the “do nothing” alternative);
2. Bus Service on a dedicated right-of-way (primarily on the surface);
3. Conventional Streetcar Service on existing roads;
4. Streetcar Service on a dedicated right-of-way (primarily on the surface); and

As discussed in section 3 of this ToR, a fully grade separated facility such as a subway is not required to service the anticipated level of demand associated with waterfront revitalization and will not be considered further in the East Bayfront IEA study. However, recognizing the system connectivity that the East Bayfront will provide for both the West Don Lands and the Port Lands, the accumulative travel demand is anticipated to exceed that which can be accommodated by buses in mixed traffic. In that regard it is anticipated that transit in a partially exclusive right of way will be required for a single transit facility. For the corridor option considering transit facilities on both Queens Quay East and Lake Shore both buses and streetcars will be considered for each corridor depending on the volume of riders estimated for the through versus local facilities

For the bus technology options, consideration will be given to the range of propulsion systems, both existing, and under development, that could have a significant effect on the results of the evaluation. For example, bus technologies that eliminate local emissions (e.g. fuel cell or fully-electric and hydrogen powered buses) will be considered in the evaluation and the benefits of these technologies considered against the costs associated with their use.

As a result it is proposed that the following planning alternatives will be further considered and evaluated for the East Bayfront EA and will be carried forward for consideration.

1. Do Nothing (accommodate future travel demand with bus service and the road network as identified in the Transportation Master Plan);
2. Streetcars in a partially exclusive right-of-way in the Queens Quay east corridor for the corridor option that only considers Queens Quay East and
3. A combination of buses and/or streetcars in exclusive lanes and/or mixed traffic for the corridor options that considers local transit service on Queens Quay East and express bypass service in the Lake Shore Boulevard corridor.

Both options 2 and 3 above will be evaluated in the context of various possible network configurations including:

- direct service from Queens Quay West to Queens Quay East
- a streetcar connection from Union Station to Castle Frank station via Queens Quay and Parliament Street

- express transit service from Union Station to the Port Lands and the south-east part of the City

#### **6.4.2 Assessment of Planning Alternatives**

As set out in the proposed evaluation criteria (Appendix C), planning alternatives will be generated and assessed with specific regard for the “Key Considerations” described in Chapter 5. Planning alternatives will be compared to the “do nothing” approach and the preferred corridor and technology option(s) will be selected to generate design alternatives. To identify the potential environmental effects associated with these criteria, appropriate technical analysis (e.g. natural environment investigations, noise assessment, heritage assessment, etc) will be undertaken during the EA. It is expected that these criteria will be refined through the public consultation process during the study.

### **6.5 DESIGN ALTERNATIVES (ALTERNATIVES METHODS OF CARRYING OUT THE UNDERTAKING)**

#### **6.5.1 Overview**

Alternative methods are essentially different ways to accommodate the undertaking within a chosen corridor. With respect to accommodating streetcars within the Queens Quay east corridor there are a significant number of location and operational issues to consider in arriving at various alternative designs. Those issues include:

- 1) The location of streetcar line within road allowance;
- 2) Location of underground entrance (portal);
- 3) Location of Redpath railway spur;
- 4) Connection to Cherry and Port Lands;
- 5) Overall width of the right-of-way noting Council direction to consider ways to minimize the width of the right-of-way including consideration of possible “car free” zone;
- 6) Location of transit stops;
- 7) Streetscaping and public realm design; and
- 8) Configuration of the underground loop under Bay Street.

#### **6.5.2 Assessment of Design Alternatives**

Alternative designs will be generated and assessed with specific regard for the “Key Considerations” described in Chapter 5. As set out in the proposed evaluation criteria (Appendix C), alternative designs will be evaluated with specific regard to the “Key Considerations” described in Chapter 5. To identify the potential environmental effects associated with these

criteria, appropriate technical analysis (e.g. natural environment investigations, noise assessment, heritage assessment, etc) will be undertaken during the EA.

## **6.6 EVALUATION OF THE UNDERTAKING**

Based on the previous evaluations, the undertaking will be identified. The undertaking will then be developed to a level of detail so that the effects on the environment are known and can be documented as part of the IEA study. The undertaking will be developed in sufficient detail to identify potential natural, social, economic and cultural effects and proposed mitigation measures. Impact assessment and development of mitigation will be undertaken in accordance with relevant provincial, municipal and TTC policies and guidelines (i.e. MOE's *Stormwater Management Planning and Design Manual* (2003), *Guidelines for Evaluating Construction Activities Impacting on Water Resources* (Guideline B-6); *Land Use Compatibility* (Guideline D-1), etc.). Consultation will be undertaken with relevant stakeholders to assist in the development of appropriate mitigation measures.

## **7. ENVIRONMENTAL ASSESSMENT CONSULTATION PLAN**

Consultation is an integral component of the EA process and begins from the earliest stages of planning, including the preparation and approval of the ToR. The purpose of the consultation program is to provide input to assist the Project Team in making decisions throughout the IEA process. Consultation provides opportunities for two-way communication with interested stakeholders. Consultation activities also enable the identification of potentially significant environmental issues early in the decision making process and ensure that they are given appropriate consideration. The consultation program for the EA is based on the following principles:

- All reasonable efforts will be made to ensure that potentially affected or interested parties are given the opportunity to participate in the consultation process;
- Stakeholders may provide input at any time during the study; however, consistent with the narrowing down process of describing and evaluating alternatives set out in this ToR, structured opportunities for input will occur at key study stages;
- The Project Team will constructively address input received during the consultation process;
- The Project Team will make reasonable efforts to resolve concerns; and
- Consultation plans and process will be sufficiently flexible to permit responses to new issues that may arise as the study proceeds.

Various forms of consultation will take place throughout the different study steps. Consultation activities may not necessarily be limited to that described in this section. The Project Team may consider additional enhancements to the IEA consultation plan if deemed to be of value to the Studies.

The purpose of this chapter is to present the proposed plan for stakeholder consultation during the IEA. Stakeholders can be defined as any individual or group who has an interest in the study, who could be affected by the study or who can provide pertinent information regarding the study. Generally stakeholders include public/interest groups, regulatory agencies, First Nations and area municipalities. The stakeholders consulted in preparation of this ToR will form a starting point for establishing stakeholder contact lists during the IEA. A list of stakeholders consulted in preparation of this document is provided in the Consultation Record (under separate cover).

### **7.1 OVERALL PROCESS FOR STAKEHOLDER CONSULTATION DURING THE ENVIRONMENTAL ASSESSMENT**

Consultation with affected parties is an essential part of the IEA process and provides a mechanism for the proponent to define and respond to issues.

It is recognized that the identification and resolution of issues during each of the following stages of the IEA will be a challenge. To this end, the public and agency / municipal consultation process outlined in this section is focused on facilitating meaningful dialogue with stakeholders to identify and address study issues as they arise so that the Project Team can make informed

decisions. Various consultation tools and approaches (including meetings, presentations, etc.) will be utilized to identify and discuss study issues raised by stakeholders.

## **7.2 PUBLIC CONSULTATION DURING THE ENVIRONMENTAL ASSESSMENT**

The public has a major role and responsibility in determining the success of a public consultation program. The extent to which the public participates, the issues they raise and how such issues are resolved all influence the effectiveness of the consultation process. Consistent with this ToR, the proposed consultation plan encourages proactive communication, which allows comments and views of the public to assist the Project Team in the decision making process.

### **Public Notification**

The first component of the Public Consultation Plan will be to develop contact lists, which will include interested individuals, ratepayer groups, recreational groups, business groups, etc. located in the study area. The mailing list developed during the ToR will be the starting point for this stakeholder list. These stakeholders will be notified by letter/email of project activities including study start-up, Public Workshops, and follow-up activities (as appropriate). In addition, the Project Team will publish newspaper advertisements for each round of Public Workshops and the formal IEA Report submission

During the IEA, additional notification tools and techniques will be considered and utilized where appropriate.

### **Public Workshops and Follow-up Activities**

During the IEA, it is proposed that two rounds of workshops will be held. These workshops will be supplemented by follow-up activities where appropriate. Each round of workshops will include individual events held throughout the identified study area. The precise locations/venues and timing of each workshop will be determined during the IEA based on project needs/issues and the availability of venues.

The first workshop will focus on obtain input on:

- The description and evaluation of planning alternatives
- The generation of design alternatives
- A summary of the advantages and disadvantages of the various design alternatives
- Input on the preliminary analysis to assist in the selection of a preferred design alternative

The second Workshop will focus and obtain input on:

- The evaluation of design alternatives
- The preferred design alternative
- Possible refinements to the preferred design alternative

- Opportunities to mitigation potential adverse impacts of the preferred design alternative

Follow-up consultation activities will be held as necessary throughout the studies. It is expected that these activities will be very helpful to facilitate additional dialogue and attempt to resolve any outstanding concerns and issues during the process. Follow-up activities will be arranged to address specific project issues and concerns as they arise. The format of these activities will be flexible to reflect the type of Project Team - stakeholder interaction required to address a particular issue but could include stakeholder group meetings, kitchen table meetings, presentations, site walks, surveys, and other.

Summary Reports for workshops, follow-up activities and other consultation events will be prepared and posted on the project website in a timely manner.

### **Project Web Site**

The TWRC has established a project website which will be maintained throughout the course of the IEA. The website will host pertinent and up-to-date information regarding the project such as: notices of study commencement, notices of public events, project documents for information/review and the project process/schedule.

## **7.3 COMMUNITY LIAISON COMMITTEE DURING THE ENVIRONMENTAL ASSESSMENT**

A Community Liaison Committee (CLC) was established to assist in the preparation of this ToR. The CLC will continue to function during the IEA to provide additional input to assist the Project Team's decision-making process. It is envisioned that four rounds of meetings will be held with the CLC to assist the IEA study. The following summarize the issues to be discussed at each CLC meeting:

### **CLC #1**

- The description of planning alternatives
- A summary of the advantages and disadvantages of the various planning alternatives
- Input on the preliminary analysis to assist in the selection of a preferred planning alternative

### **CLC #2**

- The evaluation of planning alternatives
- The preferred planning alternative
- The generation of design alternatives
- A summary of the advantages and disadvantages of the various design alternatives
- Input on the preliminary analysis to assist in the selection of a preferred design alternative

CLC #3

- The evaluation of design alternatives
- The preferred design alternative
- Possible refinements to the preferred design alternative

CLC #4

- Possible refinements to the preferred design alternative
- Opportunities to mitigate potential adverse impacts of the preferred design alternative

#### **7.4 REGULATORY AGENCY AND MUNICIPAL CONSULTATION DURING THE ENVIRONMENTAL ASSESSMENT**

Government agencies and other departments within the City of Toronto provide valuable input related to compliance issues (laws, regulations, policies and programs) and other areas of concern within their jurisdiction. These groups can offer valuable input and professional expertise and are often knowledgeable regarding local issues and can assist in the identification of local interest groups that should be consulted.

A Technical Advisory Committee (TAC) was established to assist in the preparation of this ToR. The specific agencies and City departments included on the TAC are outlined in the Consultation Record. Additional agencies that have requested to be consulted (i.e. Ministry of Culture and the Ontario Heritage Trust) will be consulted during the IEA. Consultation with the TAC will involve reviewing, commenting and providing input to the IEA, the technical analysis and the ongoing comment/input to the consultation process. TAC meetings will be held to coincide with key study stages/milestones. Additional meetings will be held with individual agencies during the IEA as required to assist in agency specific issues (e.g. to develop noise and vibration protocol, review site specific agency issues, etc).

Involvement with federal agencies is not anticipated as CEAA triggers or issues of federal jurisdiction are not anticipated for this IEA (however, a representative of the Canadian Environmental Assessment Agency will be invited to the TAC meetings to determine an appropriate course of action if a CEAA trigger arises).

#### **7.5 FIRST NATIONS CONSULTATION DURING THE ENVIRONMENTAL ASSESSMENT**

The 1991 Statement of Political Relationship with First Nations of Ontario confirmed the right of First Nations in Canada to have an inherent right to self-government. While the study areas are urbanized and disturbed, they encompass lands related to Lake Ontario and the mouth of the Don River. The Don River and associated tributaries and ravines functioned as major portage and transportation routes up until the late 18th century. The Lake Ontario shoreline functioned as a source of fishing, area of aboriginal occupation and transportation routes. In addition, the study area may have been an area of traditional land use.

First Nations were invited to participate in the workshops during the preparation of this ToR and, were provided a draft copy of the ToR document and asked to comment. Follow up calls were made to each First Nation and they were asked for comments on the ToR. They were also asked for their advice on how they wish to be consulted during the EA. The Association of the Iroquois and Allied Indians participated in the second workshop and a follow-up one on one meeting was convened. Other First Nations were invited to attend. These included: Alderville First Nation, Mississaugas of Scugog Island First Nation, Mississaugas of the New Credit First Nation, Six Nations of the Grand Territory, Hurons-Wendat First Nation, Beausoliel First Nation, Chippewas of Georgina Island, Chippewas of Rama, Curve Lake First Nation, Hiawatha First Nation, and Mnjikaning First Nation. Aboriginal groups such as the Métis Nation were also invited to attend a workshop and follow-up meeting.

Discussions with First Nations will occur from the outset of the EA and continue in a manner appropriate to them. Discussions will focus on issues such as traditional use of land and resources, land claim, and cultural heritage. Consultation activities will be adjusted during the EA to meet particular needs of specific First Nations as those needs are made apparent. As a minimum, each First Nation will be asked to comment at each benchmark, before decisions are made pertaining to planning and design alternatives. Because of cumulative effects and implications of EA studies underway, a joint meeting between EA Teams and all First Nations is envisioned.



## **8. CONSULTATION DURING THE PREPARATION OF THE TERMS OF REFERENCE**

Public consultation is an integral component of the IEA process. As the first step in meeting the consultation requirements for this initiative, the public and stakeholders were consulted during the preparation of the ToR. Public consultation during the ToR was conducted in accordance with the OEAA requirements (Section 5.1) that “such persons as may be interested” be consulted during the preparation of the ToR.

### **8.1 PUBLIC CONSULTATION: IMPORTANCE TO THE TERMS OF REFERENCE**

The objectives of public consultation during the preparation of the IEA ToR were to:

- Provide input on how the Project Team has defined the problem/opportunity, study areas, projected routes and service types during the IEAs;
- Comment on the proposed alternatives the Project Team is proposing to study and technical studies proposed to be conducted;
- Comment on the proposed IEA evaluation methodology;
- Discuss and obtain input on how the public and stakeholders are to be consulted during the IEA;
- Obtain comments from the public and stakeholders on the proposed content of the IEA studies to ensure that the proposed processes to be followed during each IEA study is acceptable;
- Review and recommend additional evaluation criteria; and
- Provide input on the draft ToR report.

These objectives were derived from the draft ToR Public Consultation Plan, the ToR for the CLC and the ToR for the TAC.

### **8.2 CONSULTATION ACTIVITIES UNDERTAKEN DURING THE TERMS OF REFERENCE**

During the consultation process, various agencies, stakeholders, organizations, interest groups, the general public, and First Nations (see Section 7.1.5) were invited to provide input and ask questions about the TTC-TWRC Waterfront IEAs.

Several consultation activities were undertaken during the ToR, including:

- The development of a CLC, which comprised of representatives of community associations, transit specific interest groups, environmental organizations and other interested parties;
- The development of a TAC, which comprised of technical staff from local agencies including the City of Toronto Planning Department, City of Toronto Public Works Department, City of Toronto Fire Services, TTC, GO Transit, TEDCO, the TRCA, Toronto Port Authority, Ontario Ministries (Culture, Municipal Affairs and Housing, Transportation, Environment,

and Natural Resources), Ontario Realty Corporation (ORC), and the Toronto 2015 World Expo Corporation

- Public notification of the ToR, which was advertised in the *Toronto Star* in March of 2006 and distributed to the TWRC's mailing list of 3,000 individuals, organizations, regulators and agencies;
- Identification and contact with aboriginal interests who have made previous land claims in the study area or recognize the study area as culturally significant, including a formal request for comments on the draft ToR;
- Development of a project Web page that was linked to the TWRC's Home Page;
- The preparation of Frequently Asked Questions (FAQs), which were made available online at the TWRC's Web site and distributed to participants at the first public workshop;
- A meeting with Toronto City Councillor Paula Fletcher (Ward 30) in the spring of 2006 to exchange information about the ToR;
- A walking tour of the study area with residents of the Central Waterfront Neighbourhood Association, the CLC, and other members of the public.

### **Public Workshops**

In addition to the preceding list of consultation activities, two public workshops were scheduled during the ToR.

The purpose of the first public workshop, held on April 5, 2006 was to:

- Introduce the project team undertaking the IEA studies;
- Provide an overview of the background to the IEA studies;
- Clarify the IEA study process;
- Discuss the ToR (define what is a ToR); and
- Invite participants to share ideas on purpose statement, study area, proposed consultation activities, potential service types (i.e., technologies) and potential alignments.

Sixty (60) people attended the first workshop.

The purpose of the second public workshop, held on June 13, 2006, was to:

- Update the progress of the ToR since the first workshop;
- Review and recommend additional draft evaluation criteria developed by the Project Team, in consultation with the CLC; and
- Distribute the draft ToR document and questionnaire with an invitation for participants to comment prior to final submittal.

Thirty-five (35) people attended the second workshop.

The first workshop was advertised as part of the Notice of Commencement in the *Toronto Star* and in *The Bulletin*. The second workshop was advertised in the *Toronto Star*. For both workshops, invitations were distributed to over 3,000 individuals and organizations in the TWRC's contact list.

Please see Supporting Document Volume 2 for a summary of each public workshop.

### **Meetings with the CLC and the TAC**

Four (4) meetings were held during the spring of 2006 with the CLC and one (1) meeting with the TAC (see table below).

Participating Committee	Scheduled Meeting Dates
CLC	March 21, 2006
TAC	March 21, 2006
CLC	May 9, 2006
CLC	May 25, 2006
CLC	June 13, 2006

CLC and TAC members were provided the opportunity to review all relevant project materials; attend and participate in committee meetings during the development of the ToR; attend and participate in public workshops and to provide input on information relevant to the project.

The committees assisted the project team by:

- Defining the problem/opportunity, study area, service area, potential alignments and service types for the East Bayfront, West Don Lands and Port Lands;
- Identifying proposed alternatives to be studied, technical studies to be conducted, and proposed consultation activities to undertake for the IEAs;
- Identifying IEA methodology;
- Recommending additional evaluation criteria; and
- Reviewing the draft ToR report.

Please see Supporting Document Volume 2 for notes from each committee meeting. Comments that were provided at each committee meeting were written into the Comments Received Matrix.

### **Consideration of Issues and Concerns in the IEA ToR**

An extensive amount of public consultation was undertaken even before the official kick-off of the TTC-TWRC Waterfront Transit IEA ToR. In addition to the comments recorded at all CLC meetings, the TAC meeting and both public workshops, the project team maintained and documented all comments received from interested residents and groups via e-mail, fax or phone

calls. All documents and materials received from members of the public, the CLC and TAC were reviewed by project team members and were documented for the ToR (see Volume 2).

### **Meaningful Consultation**

Comments that were received from the CLC meetings, the TAC meeting, and both public workshops were critical in the development of the draft ToR, notably.

- Members of the CLC, the TAC and participants of the first public workshop refined the purpose of the TTC-TWRC Transit IEA Studies.
- Participants at the first public workshop overwhelmingly identified the importance of having transit vehicles and waterfront facilities that are fully accessible.
- Members of the CLC and participants at the first public workshop recognized the need for “Green” transit vehicles that are environmentally friendly.
- Members of the CLC and participants at the first public workshop were favourable of assessing ROW widths during the development and evaluation of “design alternatives”.
- Participants at the first public workshop identified the importance of having an integrated transit plan that connects with adjacent communities.
- Members of the CLC, the TAC and participants of the first public workshop provided additional network planning alternatives.
- Members of the CLC suggested a range of bus propulsion alternatives.
- Members of the CLC and participants at the first public workshop recognized the need to consider wildlife habitat improvement opportunities.
- Members of the CLC, the TAC and participants of the first public workshop recognized the need for meaningful and effective public consultation.

### **Submission of the ToR to the TTC and City Planning and Transportation Committee**

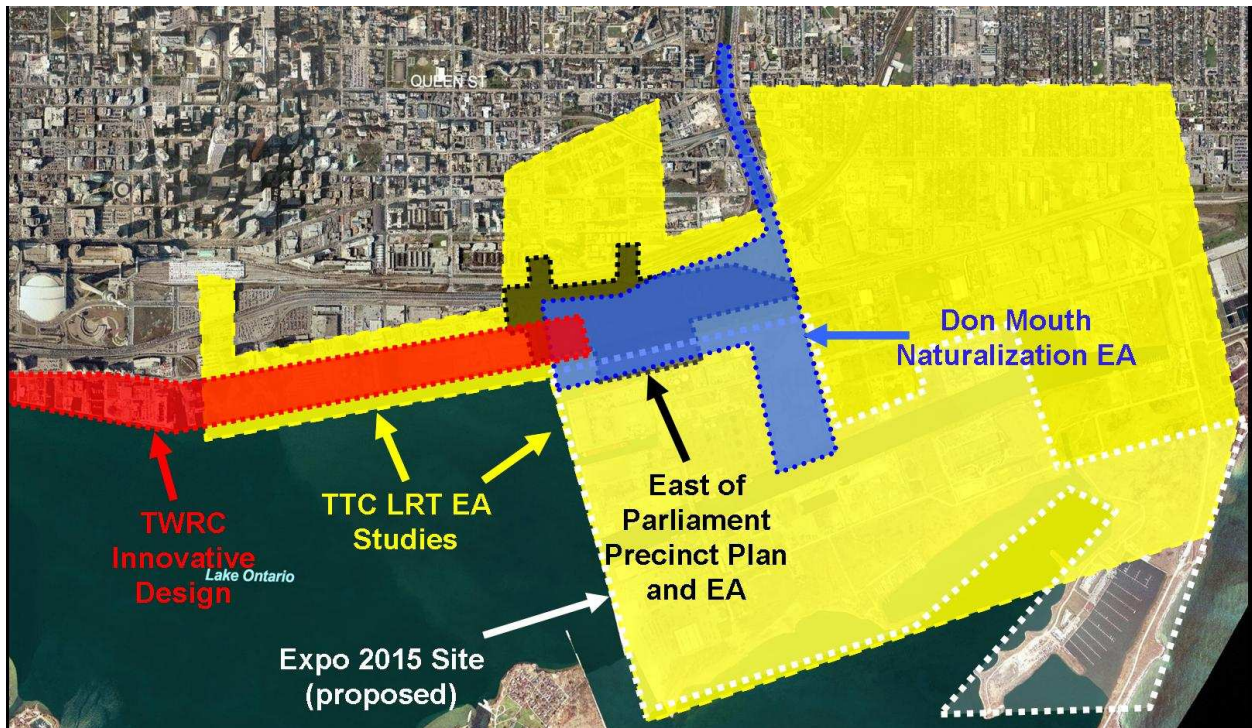
On June 21, 2006 and July 4, 2006 the TTC and the City of Toronto’s Planning and Transportation Committee (respectively) authorized submission of the ToR to the MOE.

## 9. COORDINATION WITH CONCURRENT STUDIES

In addition to coordination with the adjacent transit IEAs there are a number of other studies either in progress or about to commence. These studies generally cover the area of the waterfront as shown in Exhibit 9.1 below. These key studies overlap the Transit IEA study areas and the results and progress of each study has to be taken into consideration in informing all of the other studies. The ToR for the Don Mouth Naturalization EA have just been submitted for MOE approval. The Innovative Design Competition for Queens Quay and the waters edge has just been awarded and will have an impact on the overall public realm and corridor right-of-way. The East of Parliament Precinct Plan and EA study has not yet been awarded but is expected to be in progress at the same time as the transit IEAs and will have an impact on the road alignments in the Parliament Precinct.

In addition, the city of Toronto is considering a bid for Expo 2015 to be located in the Port Land area. If a decision is made to bid for this event a separate approved process will be required for the transportation infrastructure required. The present Expo 2015 bid schedule requires a Federal letter of support by November 2006 with a final Expo 2015 decision in February 2008. All necessary EA work for the Expo 2015 will be coordinated and undertaken in tandem.

**Exhibit 9.1 – Concurrent Studies**



## **10. OTHER APPROVALS REQUIRED**

It may not be possible to address all approval requirements at the time of seeking OEAA approval. A number of subsequent approvals may require detail design and process information that is not available at the time of OEAA approval. The TTC is committed to obtaining the necessary approvals at the appropriate time in the implementation phase.

The agencies responsible for issuing approvals will be consulted during the study to ensure that their interests and requirements are properly addressed. This will minimize the complications at the time of approval, thus providing reasonable assurance that the approvals will be obtainable. The following approvals may be required:

- Municipal Official Plan amendment and zoning bylaw changes if needed.
- Water taking permit from MOE
- Sewage and water approvals, under the Ontario Water Resources Act.
- Municipal Noise bylaw amendments/exemptions if required during construction.
- Municipal building permits.
- Utility Approvals (Bell, Hydro etc.)
- Environmental Protection Act approvals for wastes generated
- TRCA approvals (“Fill, Construction, Alteration to Waterways” permit and DFO authorization).

### **10.1 PROCESS FOR AMENDING THE UNDERTAKING FOLLOWING APPROVAL**

As part of the IEA, an amending procedure will be developed to deal with changes to the preferred alternative that may occur following the approval by the Minister. The amending procedure will:

- Define minor changes and major changes;
- Outline how the proposed changes will be examined;
- Detail the stakeholder consultation to be undertaken when considering the changes;
- Outline the documentation requirements; and
- Outline public review requirements.

The intent of the amending procedure is to allow changes to occur which address future conditions without having to submit an additional IEA. The amending procedure could also be used to address alignment and station location issues if these could not be resolved during the IEA.

## **10.2 CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA) COORDINATION**

The requirements of CEAA are triggered if a project is a federal project, requires federal land, is funded by a federal agency, or requires an approval by a federal agency. At this point in time no CEAA triggers or federal jurisdiction issues are anticipated (however, a representative of the Canadian Environmental Assessment Agency will be invited to the TAC meetings for these studies to determine an appropriate course of action if a CEAA trigger arises).

## **11. MONITORING**

TTC is committed to the preparation of a compliance monitoring strategy and schedule during the preparation of the IEA study, to measure impacts such as noise, water quality and air quality effects associated with the construction and operation of the undertaking. The monitoring strategy will be developed in consultation with the Environmental Assessment and Approvals Branch of the MOE. The proponent must comply with the terms and conditions as well as the commitments identified in the IEA and report to MOE on how the compliance has been achieved.

The framework for the monitoring strategy may include, but not be limited to, the following elements:

- Compliance monitoring and effects monitoring;
- A plan for implementation of mitigation and contingency measures;
- Long-term post construction monitoring and contingency measures and agreed upon triggers for employing contingency plans;
- Provisions for monitoring water quality and quantity, air quality, and soils;
- Provisions to ensure compliance with IEA commitments (e.g. an independent environmental inspector, compliance committee, contract specifications) to ensure that all environmental standards and commitments for both construction and operation work are met; and
- Details on monitoring and reporting relationships.

Baseline information on existing environmental conditions is a critical part of the monitoring strategy and will therefore be emphasized in the IEA.

The IEA will describe how the proponent will achieve compliance (e.g. technical agencies approval and satisfy public interest) and how the compliance will be reported. The proponent or its contractor will be required to obtain all permits from regulatory agencies prior to construction and will ensure compliance with all permits conditions throughout the work.

## **12. DOCUMENTATION**

To provide a clear, understandable and traceable planning process, the information gathered in preparation for and during the study will be documented as follows:

- 1) Various working and technical papers will document the inventory and analysis of existing and planned future conditions (including identification of data sources, methodology, and their limitations) and the public/agency input into it.
- 2) The IEA Report will document the following:
  - Executive Summary (including list of technical reports and a map showing the location of the preferred undertaking);
  - Purpose and Rationale for the Undertaking;
  - Evaluation of Planning Alternatives;
  - Evaluation of Design Alternatives;
  - The environment that will be affected;
  - The proposed mitigation measures;
  - The consultation undertaken; and,
  - Commitments to future action, including external approvals known to be required.

The IEA Report will be submitted to the Minister for a decision on approval. The Minister will then initiate a formal public and government review of the IEA Report to assist in making a decision on whether to approve the undertaking.

Reference copies of the IEA Report will be made available at local libraries, City Hall, City and the MOE Regional and/or District office.



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## **APPENDIX A**

# **GLOSSARY OF TERMS**

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### **Alternative to the Undertaking (Planning Alternatives)**

In the context of the OEAA, alternatives to the undertaking are functionally different ways of addressing an identified problem or opportunity. For example, Alternatives to the Undertaking to address the transportation need would include: road improvements, transit improvements, and the “Do Nothing” alternative. For the purpose of this ToR and subsequent EA these types of alternatives will be referred to as planning alternatives.

### **Alternative Methods of Carrying out the Undertaking (Design Alternatives)**

Once a preferred “alternative to” a transportation problem has been identified (e.g. rapid transit), alternative methods of carrying out the undertaking may include bus or rail technology in addition to different locations. For the purpose of this ToR and subsequent EA these types of alternatives will be referred to as design alternatives.

### **Bus Rapid Transit (BRT)**

Bus Rapid Transit refers to the operation of buses in a partially-exclusive right-of-way, to provide a quality of service comparable to other “rapid transit” services with respect to speed and reliability. Typically BRT services are physically separated from parallel auto travel lanes, are provided with signal priority at intersections and have defined passenger platforms often with shelters and fare collection equipment. BRT can also include such things as automated passenger information systems and system “branding” initiatives.

### **Class Environmental Assessment**

A Class Environmental Assessment (Class EA) is an EA carried out in accordance with the procedures identified in a “Parent” Class EA that has been approved by the Minister. If the project follows the process outlined in the “Parent” Class EA it is considered pre-approved and does not require formal approval from the Minister. Currently there is no “Parent” Class EA for municipal transit projects. As such, municipal transit project must be undertaken as IEAs.

### **Canadian Environmental Assessment Act (CEAA)**

A Federal Act, which came into force in 1995 (amended in 2003), requiring projects where the Government of Canada has decision-making authority to undertake an EA to determine whether the project is likely to result in a significant adverse environmental effect. CEAA is “triggered” if a Federal Authority is the proponent for the project, provides land, provides funding or is required to provide an approval.

The Federal Authority that “triggers” CEAA is referred to as the “Responsible Authority” and has the responsibility to ensure that an EA is undertaken prior to exercising its duty.

The Canadian Environmental Assessment Agency has the legal obligation to coordinate the CEAA process when an EA is also required under another jurisdiction. The Canadian Environmental Assessment Agency role is to facilitate coordination and co-operation among Federal, Provincial and Municipal Agencies.

## **Consultation Process**

The process during the course of the planning study, in which the proponent consults with various agencies, groups, and the general public, in order to identify and attempt to resolve any concerns or issues before formal submission to the MOE.

### **“Do Nothing” Alternative**

One way of demonstrating the benefits of a recommended undertaking is to compare the advantages and disadvantages of the undertaking against the status quo or “Do Nothing” alternative. In the context of a transportation project, the “Do Nothing” alternative would mean that only normal operations, maintenance and repairs of existing facilities would be carried out; however, no major improvements or undertakings would be initiated.

## **Environment**

The OEAA defines the environment as:

- (a) air, land or water,
- (b) plant and animal life, including human life,
- (c) the social, economic and cultural conditions that influence the life of humans or a community,
- (d) any building, structure, machine or other device or thing made by humans,
- (e) any solid, liquid, gas, odour, heat, sound, vibration or radiation resulting directly or indirectly from human activities, or
- (f) any part or combination of the foregoing and the interrelationships between any two or more of them,

in or of Ontario;

## **Individual Environmental Assessment Report (IEAR)**

A report documenting the planning process carried out by the proponent, following the requirements of the OEAA. Once the Report is approved by the Minister, no additional approval of the proposed undertaking is needed under the OEAA.

## **Fuel-cell Bus**

A bus fuelled by a pollution-free electricity generation technology carried on-board the vehicle. Currently under development is an electrochemical cell in which the energy of a reaction between a fuel, such as liquid hydrogen, and an oxidant, such as liquid oxygen, is converted directly and continuously into electricity.

## **Hydrogen Powered Bus**

A bus that uses hydrogen to generate its motive power in a pollution-free manner. Examples of such buses would include a zero-emission fuel cell system or an internal combustion engine system that would generate only trace emissions.

## **Light Rail Transit (LRT)**

Light Rail Transit is the operation of streetcar/tram-style rail vehicles in a partially- or fully-exclusive right-of-way. Typically LRT systems have protected passenger platforms or

stations and have a high degree of priority through intersections when operating in a partially-exclusive right-of-way. The term “light rail” refers to the fact that streetcar/tram-type vehicles are significantly lighter than the “heavy rail” cars typically used in subway and commuter rail systems. Streetcar/tram type vehicles can be operated in single units or in multiple car trains however multiple car trains typically require a greater degree of exclusivity along the right-of-way in which they operate.

**Mitigation**

Actions taken to reduce the effects of another action. If a particular alignment alternative, for example, has negative impacts then the proponent is obliged to attempt to identify any reasonable ways of reducing these impacts.

**Ontario Environmental Assessment Act (OEAA)**

An Ontario Act proclaimed in 1975 which requires project proposed by a provincial or municipal body to be subjected to a defined planning process which requires the proponent to document need, look at a full range of reasonable alternatives, and assess the impacts to the environment. The first step in the EA process is to prepare and obtain approval of a ToR.

**Proponent**

The body proposing to undertake a project and who is, therefore, required by law to prepare an EA in accordance with the OEAA.

**Rapid Transit Service**

Rapid Transit Service is transit service on an exclusive or semi-exclusive right-of-way, which allows transit vehicles (bus or rail) to travel more quickly than would be possible in mixed traffic.

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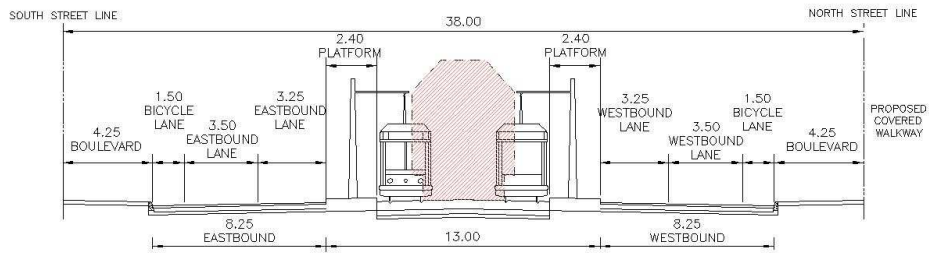
## **APPENDIX B**

# **QUEENS QUAY ROW RECOMMENDATIONS FROM EAST BAYFRONT PRECINCT PLAN**

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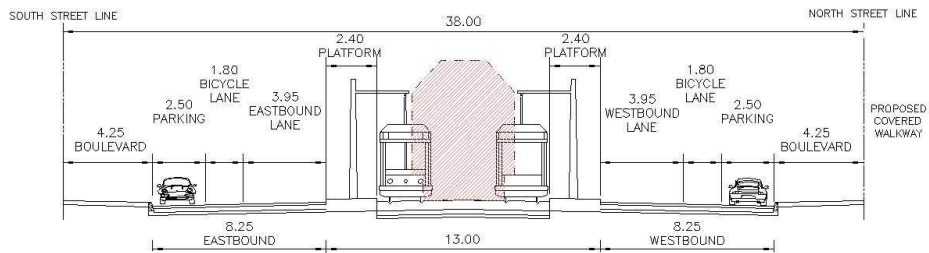
**Proposed Rights-of-Way for Queens Quay from East Bayfront Precinct Plan**

**OPTION Ai**



**38.0m RIGHT OF WAY WITH TWO TRAFFIC LANES IN EACH DIRECTION AND NO ON-STREET PARKING**

**OPTION Aii**

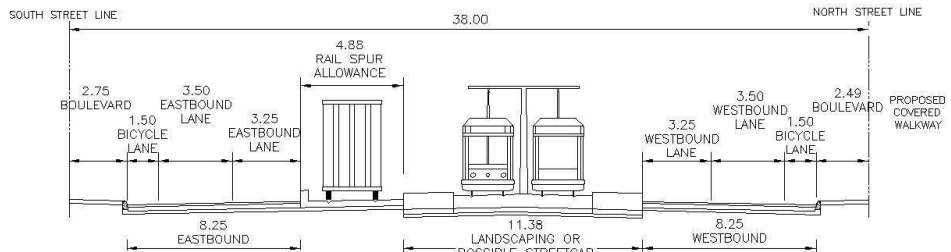


**38.0m RIGHT OF WAY WITH ONE TRAFFIC LANE IN EACH DIRECTION AND ON-STREET PARKING**

EAST BAYFRONT PRECINCT PLAN  
PROPOSED QUEENS QUAY EAST CROSS SECTIONS

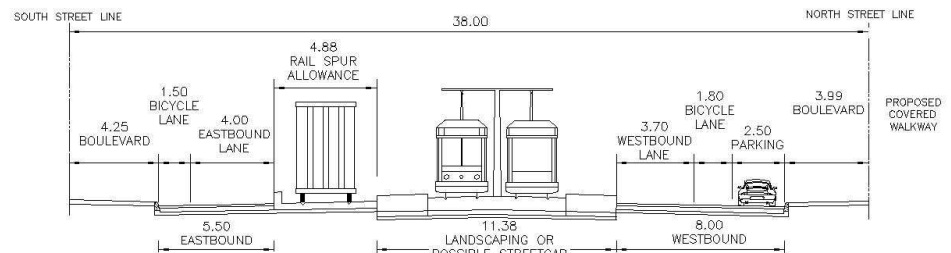
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**OPTION Ci**



**38.0m RIGHT OF WAY WITH TWO TRAFFIC LANES IN EACH DIRECTION AND NO ON-STREET PARKING**

**OPTION Cii**



**38.0m RIGHT OF WAY WITH ONE TRAFFIC LANE IN EACH DIRECTION AND ON-STREET PARKING**

EAST BAYFRONT PRECINCT PLAN  
PROPOSED QUEENS QUAY EAST CROSS SECTIONS

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## **APPENDIX C**

# **EVALUATION CRITERIA**

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**Criteria for Assessing PLANNING Alternatives**

<b>Criteria</b>	<b>Required Minimum “The alternative…”</b>	<b>Possible Planning Indicators<sup>1</sup> “The degree to which the alternative…”</b>
<b>LAND USE</b>		
<i>Local population / employment growth in the study area</i>	Must be capable of accommodating travel demand from forecasted development.	<ul style="list-style-type: none"> <li>• Supports future road and transit capacity requirements for forecasted development.</li> </ul>
<i>City, TWRC and Provincial Policies</i>	Must meet City’s Official Plan Policies and Principles.	<ul style="list-style-type: none"> <li>• Supports the City’s Secondary Plan and EA Master Plan objectives.</li> <li>• Supports the TWRC’s Precinct Plan and Sustainability Framework.</li> <li>• Supports Provincial growth management plans, policies, and objectives.</li> </ul>
<b>URBAN DESIGN</b>		
<i>Streetscaping</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<i>Width of transportation facilities</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<i>Public spaces and the pedestrian realm</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<b>TRANSPORTATION</b>		
<i>Auto dependence</i>	Must promote transit modal splits at least as good as comparable communities (such as the St. Lawrence neighbourhood).	<ul style="list-style-type: none"> <li>• Maximizes non-auto (transit, pedestrian and cycling) modal split for trips to, and within, the study area.</li> <li>• Maximizes non-auto (transit, pedestrian and cycling) modal splits for trips through the study area.</li> </ul>
<i>Transit</i>	<p>Must provide transit service to majority of future inhabitants within 500m of transit.</p> <p>Must be able to connect to other planned Waterfront Precincts at boundaries of study area.</p>	<ul style="list-style-type: none"> <li>• Provides attractive transit service (reliability, speed, few transfers).</li> <li>• Maximizes population and employment within 300m of transit.</li> <li>• Provides flexibility and adaptability for staging and expansion by preserving opportunities for existing and future connections.</li> <li>• Provides for transit travellers wishing to travel through the study area but who are not destined for locations in the study area.</li> </ul>
<i>Vehicles</i>		<ul style="list-style-type: none"> <li>• Provides for local auto access</li> <li>• Provides for auto travellers needing to travel through the study area but who are not destined for locations in the study area.</li> <li>• Connects to other planned Waterfront Precincts at boundaries of study area.</li> </ul>

<sup>1</sup>Indicators are to be refined based on public comment during the TOR and the IEA.



**Criteria for Assessing PLANNING Alternatives**

<b>Criteria</b>	<b>Required Minimum “The alternative...”</b>	<b>Possible Planning Indicators<sup>1</sup> “The degree to which the alternative...”</b>
<i>Barrier Free Design</i>	Must accommodate people with mobility difficulties	<b>(Considered during evaluation of Design Alternatives).</b>
<i>Cyclists</i>		<b>(Considered during evaluation of Design Alternatives)</b>
<i>Pedestrians</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<i>Emergency vehicle operations</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<b>SOCIO-ECONOMIC ENVIRONMENT</b>		
<i>Automobile use in and through area</i>		<ul style="list-style-type: none"> <li>• Minimizes through auto travel on local roads.</li> </ul>
<i>Tourism and waterfront access</i>		<ul style="list-style-type: none"> <li>• Provides transit stop access to attractions.</li> </ul>
<i>Existing and future businesses</i>		<ul style="list-style-type: none"> <li>• Affects existing properties</li> <li>• Encourages commercial activity</li> <li>• Minimizes adverse effects to Redpath freight rail spur.</li> <li>• Minimizes interference with rail service on the CN operations at the Cherry Street crossing.</li> <li>• Maximizes services within 300 m of concentrated commercial activity within precinct plans.</li> <li>• Minimizes EMI adverse effects (after construction)</li> <li>• Minimizes noise and vibration adverse effects (after construction) in order to consider those TV/film businesses that have critical sensitivity to EMI.</li> </ul>
<i>Existing and future residences</i>		<ul style="list-style-type: none"> <li>• Affects existing properties</li> <li>• Minimizes noise adverse effects (after construction)</li> <li>• Minimizes vibration adverse effects (after construction)</li> </ul>
<i>Effects on contaminated soils</i>		<ul style="list-style-type: none"> <li>• Minimize impacts on/of contaminated soils</li> </ul>
<b>NATURAL ENVIRONMENT</b>		
<i>Air Quality</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects to Air Quality</li> <li>• Maximizes opportunities to improve Air Quality</li> <li>• Minimizes emissions of greenhouse gases</li> </ul>

**Criteria for Assessing PLANNING Alternatives**

<b>Criteria</b>	<b>Required Minimum “The alternative...”</b>	<b>Possible Planning Indicators<sup>1</sup> “The degree to which the alternative...”</b>
<i>Aquatic habitats</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<i>Vegetation</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<i>Water quality</i>		<b>(Considered during evaluation of Design Alternatives).</b>
<b>CULTURAL ENVIRONMENT</b>		
<i>Built Heritage Features</i>		<ul style="list-style-type: none"> <li>• Minimizes built heritage features affected.</li> <li>• Maximizes opportunities to enhance built heritage features</li> </ul>
<i>Cultural Landscapes</i>		<ul style="list-style-type: none"> <li>• Minimizes cultural landscapes affected</li> <li>• Maximizes opportunities to enhance cultural landscape features.</li> </ul>
<i>Archaeological Features</i>		<ul style="list-style-type: none"> <li>• Minimizes archaeological features affected.</li> </ul>
<i>First Nations peoples and activities</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects to lands and resources used for traditional purposes.</li> </ul>
<b>COST</b>		
<i>Capital Costs</i>		<ul style="list-style-type: none"> <li>• Minimizes construction and transit vehicle acquisition costs.</li> </ul>
<i>Property acquisition</i>		<ul style="list-style-type: none"> <li>• Minimizes property acquisitions.</li> </ul>
<i>Operating Costs</i>		<ul style="list-style-type: none"> <li>• Minimizes the net operating cost.</li> </ul>

Criteria for Assessing DESIGN Alternatives		
Criteria	Required Minimum “The alternative...”	Possible Design Indicators <sup>2</sup> “The degree to which the alternative...”
<b>LAND USE</b>		
<i>Local population / employment growth in the study area</i>		<ul style="list-style-type: none"> <li>• Supports future road and transit capacity requirements for forecasted development.</li> </ul>
<i>City, TWRC and Provincial Policies</i>		<ul style="list-style-type: none"> <li>• Supports City’s Secondary Plan, EA Master Plans and standards for transportation planning and design.</li> <li>• Supports TWRC’s Sustainability Framework including car free zones, and Design Excellence objectives.</li> <li>• Supports Central Waterfront Design Competition Results.</li> </ul>
<b>URBAN DESIGN</b>		
<i>Streetscaping</i>		<ul style="list-style-type: none"> <li>• Supports sustainable landscaping / urban forestry</li> </ul>
<i>Width of Transportation facilities</i>		<ul style="list-style-type: none"> <li>• Minimizes right-of-way width.</li> </ul>
<i>Public spaces and the pedestrian realm</i>		<ul style="list-style-type: none"> <li>• Maximizes potential to enhanced public spaces and cultural opportunities including public art opportunities.</li> <li>• Supports potential for sidewalk enhancement / improvements</li> </ul>
<b>TRANSPORTATION</b>		
<i>Auto dependence</i>		<ul style="list-style-type: none"> <li>• Maximizes non-auto (transit, pedestrian and cycling) modal split for trips to, and within, the study area.</li> <li>• Maximizes non-auto (transit, pedestrian and cycling) modal splits for trips through the study area.</li> </ul>
<i>Transit</i>		<ul style="list-style-type: none"> <li>• Provides attractive transit service (reliability, speed, few transfers)</li> <li>• Maximizes population and employment within 300m of transit.</li> <li>• Provides flexibility and adaptability for staging and expansion by preserving opportunities for existing and future connections.</li> <li>• Provides feasible transit operations at connecting points (i.e. King Street, Union Loop etc.).</li> <li>• Provides for transit travellers wishing to travel through the study area but who are not destined for locations in the study area.</li> <li>• Maximizes safety</li> </ul>
<i>Vehicles</i>		<ul style="list-style-type: none"> <li>• Connects to other planned Waterfront Precincts at boundaries of study area.</li> <li>• Provides access to blocks at identified intersections in precinct plans.</li> <li>• Maximizes safety</li> <li>• Provides for auto travellers needing to travel through the study area but</li> </ul>

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<sup>2</sup>Indicators are to be refined based on public comment during the ToR and the IEA

**Criteria for Assessing DESIGN Alternatives**

Criteria	Required Minimum “The alternative...”	Possible Design Indicators <sup>2</sup> “The degree to which the alternative...”
<i>Barrier Free Design Cyclists</i>		<p>who are not destined for locations in the study area.</p> <ul style="list-style-type: none"> <li>• Provides barrier free access (Part of Design Standards).</li> <li>• Provides connections to future cycling networks</li> <li>• Provides for on-street and off-street cycling facilities as identified in the Secondary Plans and Precinct Plans.</li> <li>• Maximizes safety</li> </ul>
<i>Pedestrians</i>		<ul style="list-style-type: none"> <li>• Minimizes intersection waiting and crossing times.</li> <li>• Maximizes cross-street access by minimizing crossing distance.</li> <li>• Minimizes distance from transit stops to centres of interest.</li> <li>• Accommodates safe and pleasant pedestrian sidewalks of a sufficient width as identified in the Precinct Plans</li> <li>• Provides Waterfront and Don Valley trail connections.</li> <li>• Maximizes safety</li> </ul>
<i>Emergency vehicle operations</i>		<ul style="list-style-type: none"> <li>• Minimizes emergency response time.</li> </ul>
<b>SOCIO-ECONOMIC ENVIRONMENT</b>		
<i>Automobile use in and through area</i>		<ul style="list-style-type: none"> <li>• Minimizes through auto travel on local roads.</li> </ul>
<i>Tourism and waterfront access</i>		<ul style="list-style-type: none"> <li>• Provides transit stop access to attractions.</li> </ul>
<i>Effect on existing and future businesses</i>		<ul style="list-style-type: none"> <li>• Affects existing properties</li> <li>• Affects parking for existing businesses.</li> <li>• Provides delivery and loading access.</li> <li>• Minimizes adverse effects to Redpath freight rail spur.</li> <li>• Minimizes interference with rail service on the CN operations at the Cherry Street crossing.</li> <li>• Minimizes EMI adverse effects (after construction)</li> <li>• Minimizes noise and vibration adverse effects (after construction) in order to consider those TV/film businesses that have critical sensitivity to EMI.</li> </ul>
<i>Effects on existing and future residences</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects on existing residences (number of residences directly affected).</li> <li>• Minimizes noise adverse effects (after construction)</li> <li>• Minimizes vibration adverse effects (after construction)</li> </ul>
<i>Effects on contaminated soils</i>		<ul style="list-style-type: none"> <li>• Minimize impacts on/of contaminated soils</li> </ul>
<b>NATURAL ENVIRONMENT</b>		

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Criteria for Assessing DESIGN Alternatives		
Criteria	Required Minimum “The alternative...”	Possible Design Indicators <sup>2</sup> “The degree to which the alternative...”
<i>Air Quality</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects to Air Quality.</li> <li>• Maximizes opportunities to improve Air Quality.</li> <li>• Minimizes emissions of greenhouse gases</li> </ul>
<i>Aquatic habitats</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects to aquatic habitats.</li> <li>• Maximizes opportunity to enhance aquatic habitat</li> </ul>
<i>Vegetation</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects to vegetation.</li> <li>• Maximizes opportunity to enhance vegetation</li> </ul>
<i>Water quality</i>		<ul style="list-style-type: none"> <li>• Maximizes potential for stormwater quality control.</li> <li>• Minimizes adverse effects to existing stormwater facilities.</li> </ul>
<b>CULTURAL ENVIRONMENT</b>		
<i>Built Heritage Features</i>		<ul style="list-style-type: none"> <li>• Minimizes Built heritage features affected.</li> <li>• Maximizes opportunities to enhance built heritage features</li> </ul>
<i>Cultural Landscapes</i>		<ul style="list-style-type: none"> <li>• Minimizes Cultural landscapes affected.</li> <li>• Maximizes opportunities to enhance cultural landscapes</li> </ul>
<i>Archaeological Features</i>		<ul style="list-style-type: none"> <li>• Minimizes Archaeological features affected.</li> </ul>
<i>First Nations peoples and activities</i>		<ul style="list-style-type: none"> <li>• Minimizes adverse effects to land and resources used for traditional purposes.</li> </ul>
<b>COST</b>		
<i>Capital Costs</i>		<ul style="list-style-type: none"> <li>• Minimizes construction and transit vehicle acquisition costs.</li> </ul>
<i>Property acquisition</i>		<ul style="list-style-type: none"> <li>• Minimizes property acquisitions.</li> </ul>
<i>Operating Costs</i>		<ul style="list-style-type: none"> <li>• Minimize the net operating cost.</li> </ul>

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