

Topics to be discussed

- Overview of approved Terms of Reference
- Planning analysis done to date and preliminary recommendations
- Issues to be considered in the development of alternative designs



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The MOE Approved ToR Defined:

- The Study Area
- How we will make decisions:
 - Process
 - Criteria
- Alternatives to be considered

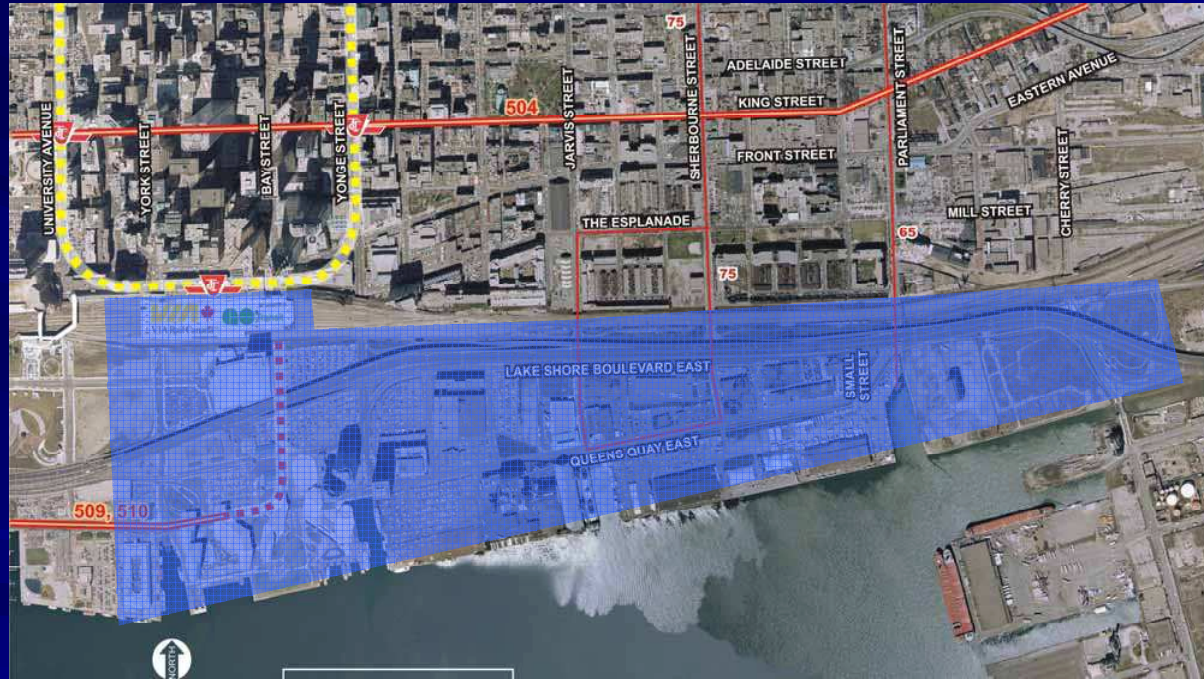


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East Bayfront EA Study Area

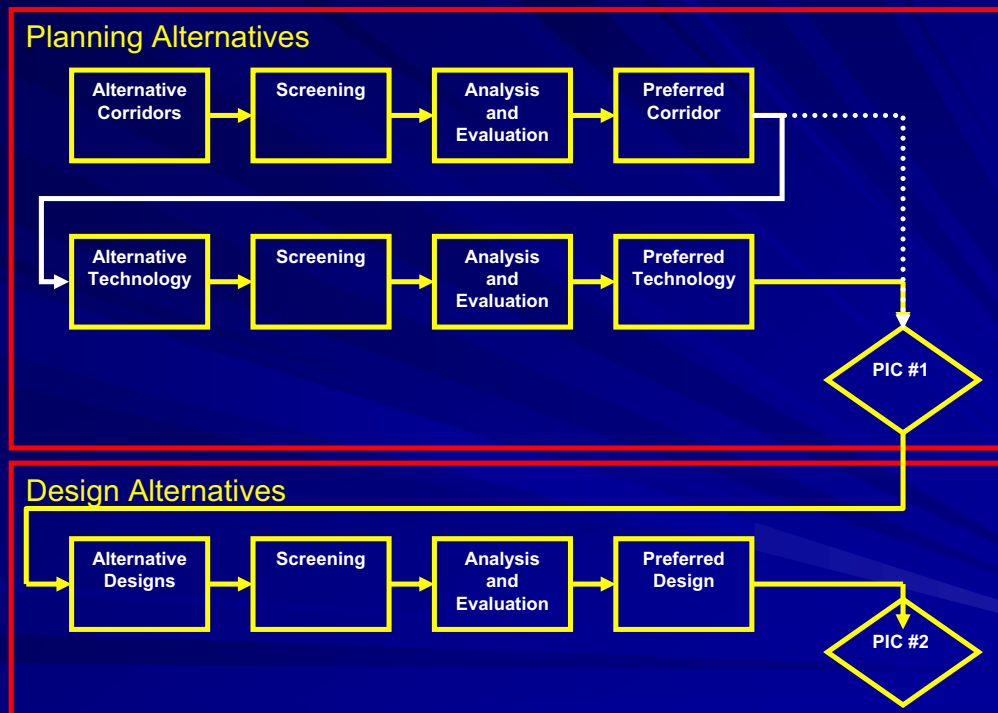


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Decision Making Process from ToR



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Screening Criteria

Required Minimums from ToR

- Accommodate travel demand
- City's Official Plan policies
- Promotes transit mode splits
- Provides service to future inhabitants
- Connect to other Waterfront Precincts
- Accommodate people with mobility difficulties



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Analysis Criteria

- Land Use
- Transportation
- Socio-Economic Environment
- Natural Environment
- Cultural Environment
- Cost



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Setting Measures

Objectives	Criteria	Indicators	Measure
A) Land Use	A1) Local population / employment growth in the study area	A1.1) Supports future road and transit capacity requirements for forecasted development.	ROW width able to accommodate required infrastructure
	A2) City, TWRC, and Provincial Policies	A 2.1) Supports the City's Secondary Plan and EA Master Plan objectives.	New streetcar and some bus routes will operate in exclusive rights-of way on existing and proposed streets (SP Policy P4); Provision of new rapid transit lines outside and within the EBF precinct area (MP pg104)
		A 2.2) Supports the TWRC's Precinct Plan and Sustainability Framework.	An LRT service in the centre median of Queens Quay linking the existing city through East Bayfront to the Port Lands (Pg 36 of the EBF Precinct Plan).
		A 2.3) Supports Provincial growth management plans, policies, and objectives.	Ability to reduce reliance on cars and promotes transit, cycling, and walking (Section 3.2.2(1)(b)); potential to offer multi-modal access to jobs, housing, schools, cultural, recreational opportunities, and goods & services (Section 3.2.2(1)(d)) (Places to Grow)

From the Term of Reference....

With input from CLC



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Selection of Planning Alternatives



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Environmental Assessment Process from the ToR

- Selection of Planning Alternatives: (This Evening)
 - Corridors
 - Queens Quay East & North to Union station
 - Queens Quay East (Local) + Lake Shore (Express through)
 - Technologies
 - Vehicle Type – Buses or Streetcars
 - Right of Way Treatments – mixed traffic or transit only
- Design Alternatives: (Next Phase)- platform locations, sidewalks, bike lanes, urban design / landscape features, on street parking, general purpose traffic lanes, operational needs, etc.



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Corridor Option #1 - Queens Quay Only



Description – Queens Quay

- Queens Quay Only
 - Transit facility along Queens Quay and north to connect with Union Station
 - Accommodates transit ridership to and from East Bayfront
 - Serves Port Lands ridership destined west and to subway
 - Opportunity to connect east-west along waterfront and north into West Don Lands



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Corridor Option #2 - Lake Shore Express plus Queens Quay Local



Description – Queens Quay Local + Lake Shore Express

- Queens Quay
 - Transit facility along Queens Quay and north to connect with Union Station
- Lake Shore Express
 - Exclusive bus lanes from Port Lands north and along Lake Shore corridor to Union station
 - Union Station connection has buses in exclusive lanes up York Street across Front Street and back down Bay Street to Lake Shore Boulevard

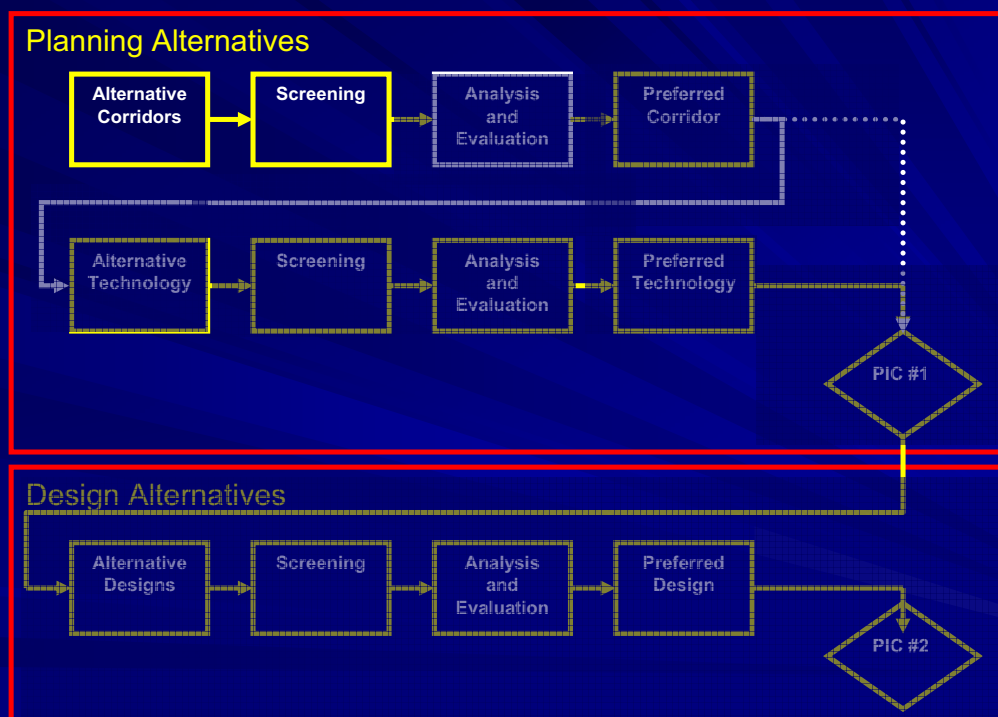


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Step #1 – Screening of Corridors



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Screening Criteria

Required Minimums from ToR

- Accommodate travel demand
- City's Official Plan policies
- Promotes transit mode splits
- Provides Service to future inhabitants
- Connect to other Waterfront Precincts
- Accommodate people with mobility difficulties



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Screening Results

- Both corridor options meet minimum requirements
- Carried to next stage of assessment

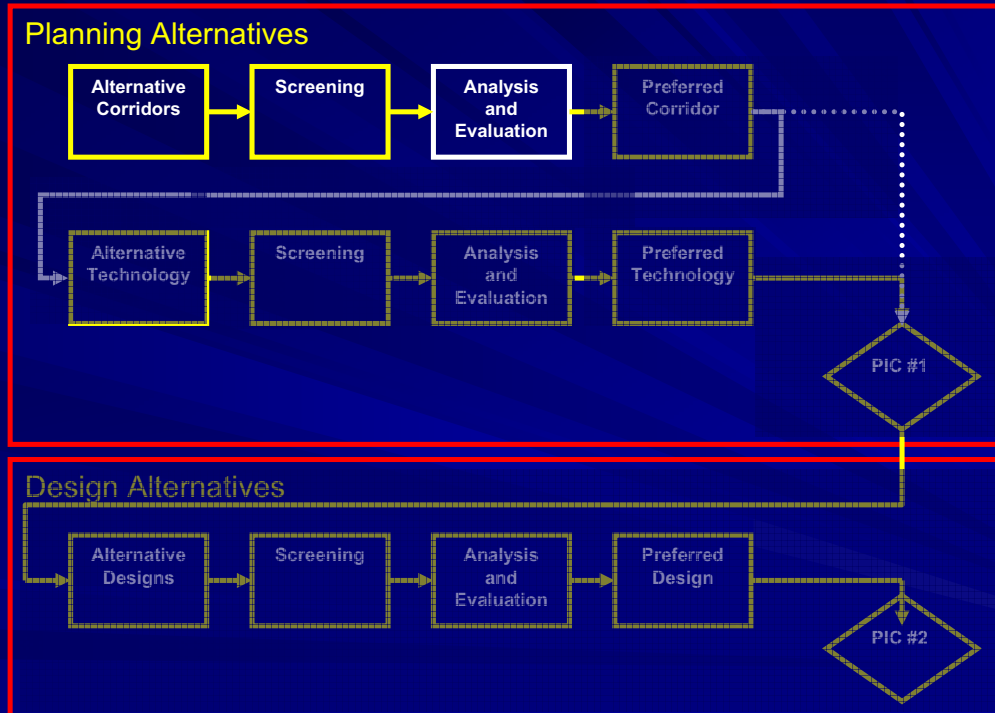


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Step #2 – Corridor Analysis and Evaluation



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Analysis of Corridor Alternatives

**TABLE 1
ASSESSMENT OF EAST BAYFRONT PLANNING ALTERNATIVES
CORRIDORS**

Objectives	Criteria	Indicators	Measure	OPTION 1: Queens Quay Only	OPTION 2: Queens Quay Local plus Lake Shore Express	Discussion
A) Land Use	A1) Local population / employment growth in the study area	A1.1) Supports future road and transit capacity requirements for forecast development.	ROW width must be able to accommodate the required infrastructure for pedestrians/transit users, cyclists, and transit vehicles	Yes	Yes	Queens Quay: the proposed ROWs in the East Bayfront Precinct Plan are capable of accommodating the required infrastructure for pedestrians/transit users, cyclists, transit vehicles, and cars. Lake Shore Express: a 'surface transit' scheme would require conversion of traffic lanes in existing streets into transit-only lanes.
			Supports future road capacity requirements for forecast development	Yes	Less	Lake Shore Express 'surface transit' scheme would result in a reduction of road capacity for forecast development requirements. There would be a capacity reduction in westbound Lake Shore Boulevard (800 vehicles/hr), northbound York Street (500 vehicles/hr), and southbound Bay Street (400 vehicles/hr) during the peak hour.
	A2) City, TWRC, and Provincial Policies	A2.1) Supports the City's Central Waterfront Secondary Plan (SP) and East Bayfront Class EA Master Plan objectives.	Waterfront streets will be remade as "places" with distinct identities. Streets will act as lively urban connectors as well as traffic arteries. The needs of motorists will be balanced with efficient transit service and high-quality amenities for pedestrians and cyclists (SP P6). See also SP sections A2, C19, and policies P4, P18, and P20.	Yes	Less	Option 2 is considered a less attractive transit service for the EBF because (a) Lake Shore Express would not serve demands to/from the EBF, and (b) Queens Quay Local would require approx. 4-min headways compared to 2 minutes for Queens Quay Only.
			Establish Queens Quay as an active, beautiful east-west urban boulevard that provides for pedestrian amenity, commuter bike lanes, and mass transit, thereby creating the 'main street' for East Bayfront (Pg 18 of the EBF Precinct Plan).	Yes	Yes	Both options would help achieve the transportation and urban design objectives set out in the TWRC EBF Precinct Plan.
	A2.3) Supports Provincial growth management plans (PGP), policies, and objectives.		All residences within 350 m of a Light Rapid Transit (LRT), streetcar or bus stop (SF pg 3-17); create bike paths and pedestrian linkages with and between waterfront neighbourhoods and the rest of the City (SF pg 3-17).	Yes	Yes	Both options would help accomplish the transportation objectives/actions set out in the TWRC Sustainability Framework.
			Ability to reduce reliance on cars and promote transit, cycling, and walking - PGP Section 3.2.2(1)(b)	Yes	Less	Queens Quay Only would offer a more attractive service compared to Queens Quay Local, see discussion A2.4 - Transportation & Urban Design.
			Exception transit service to areas that have			



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Evaluation of Corridor Alternatives

TABLE 3
EVALUATION OF EAST BAYFRONT PLANNING ALTERNATIVES
CORRIDORS

Objectives	Criteria	Indicators	Measure	OPTION 1: Queens Quay Only	OPTION 2: Queens Quay Local plus Lake Shore Express	Discussion
A) Land Use	A1) Local population / employment growth in the study area	A1.1) Supports future road and transit capacity requirements for forecast development.	ROW width must be able to accommodate the required infrastructure for pedestrians/transit users, cyclists, and transit vehicles	●	●	Queens Quay: the proposed ROWs in the East Bayfront Precinct Plan are capable of accommodating the required infrastructure for pedestrians/transit users, cyclists, transit vehicles, and cars. Lake Shore Express: a 'surface transit' scheme would require conversion of traffic lanes in existing streets into transit-only lanes.
			Supports future road capacity requirements for forecast development	●	◐	Lake Shore Express 'surface transit' scheme would result in a reduction of road capacity for forecast development requirements. There would be a capacity reduction in westbound Lake Shore Boulevard (800 vehicles/hr), northbound York Street (500 vehicles/hr), and southbound Bay Street (400 vehicles/hr) during the peak hour.
	A2) City, TWRC, and Provincial Policies	A2.1) Supports the City's Central Waterfront Secondary Plan (SP) and East Bayfront Class EA Master Plan objectives.	Waterfront streets will be remade 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 (SP P6). See also SP sections A2, C19, and policies P4, P18, and P20.	●	◐	Option 2 is considered a less attractive transit service for the EBF because (a) Lake Shore Express would not serve demands to/from the EBF, and (b) Queens Quay Local would require approx. 4-min headways compared to 2 minutes for Queens Quay Only.
		A2.2) Supports the TWRC's Precinct Plan and Sustainability Framework (SF)	Establish Queens Quay as an active, beautiful east-west urban boulevard that provides for pedestrian amenity, commuter bike lanes, and mass transit, thereby creating the "main street" for East Bayfront (Pg 18 of the EBF Precinct Plan).	●	●	Both options would help achieve the transportation and urban design objectives set out in the TWRC EBF Precinct Plan.
		A2.3) Supports Provincial growth management plans (PGP), policies, and objectives.	All residences within 350 m of a Light Rapid Transit (LRT), streetcar or bus stop (SF pg 3-17); create bike paths and pedestrian linkages with and between waterfront neighbourhoods and the rest of the City (SF pg 3-17).	●	●	Both options would help achieve the transportation objectives/actions set out in the TWRC Sustainability Framework.
			Ability to reduce reliance on cars and promote transit, cycling, and walking - PGP Section 3.2.2(1)(b)	●	◐	Queens Quay Only would offer a more attractive service for the EBF compared to "Queens Quay Local" - see discussion A.2.1. Therefore Option 1 has a higher potential to attract users. Both options have the same potential to promote cycling and walking in the EBF.
			Expanding transit service to areas that have achieved, or will be planned so as to achieve, transit-supportive residential and employment densities, together with a mix of residential, office, institutional and commercial development wherever possible - Section 3.2.3(2)(c)	●	◐	



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Accommodation of Future Ridership Demand

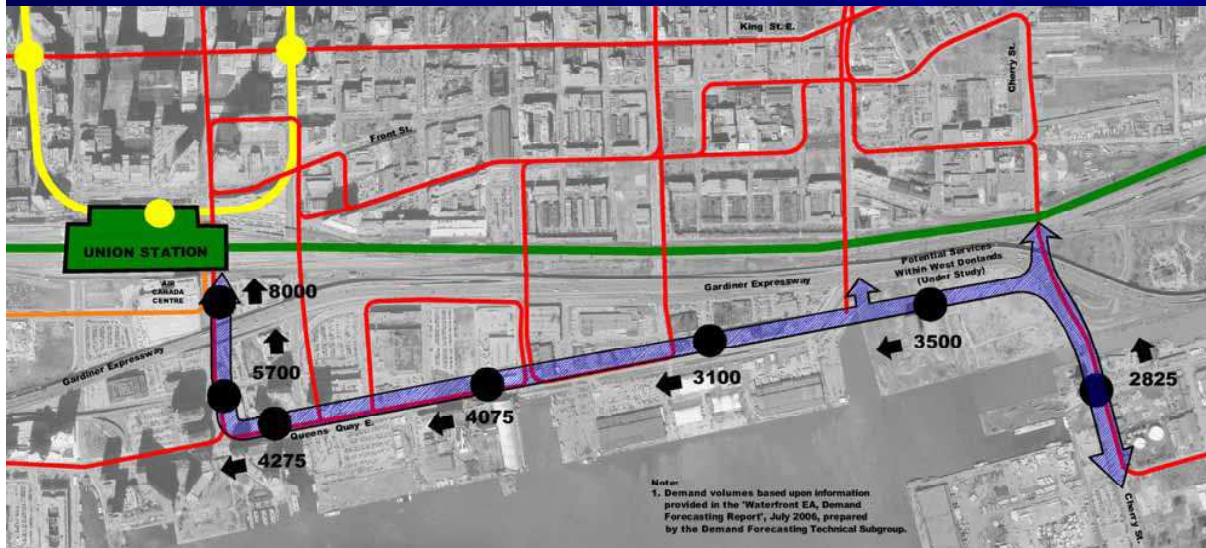


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Forecast Ridership – Queens Quay Only



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Queens Quay Only Riders

- Numbers shown are peak hour Mon. – Fri.
- Over 4,000 passenger per hour in peak
- Requires approx. 35 streetcars or 54 articulated (18m) buses per hour
- Summer weekend events will result in similar demand or even higher for peak events

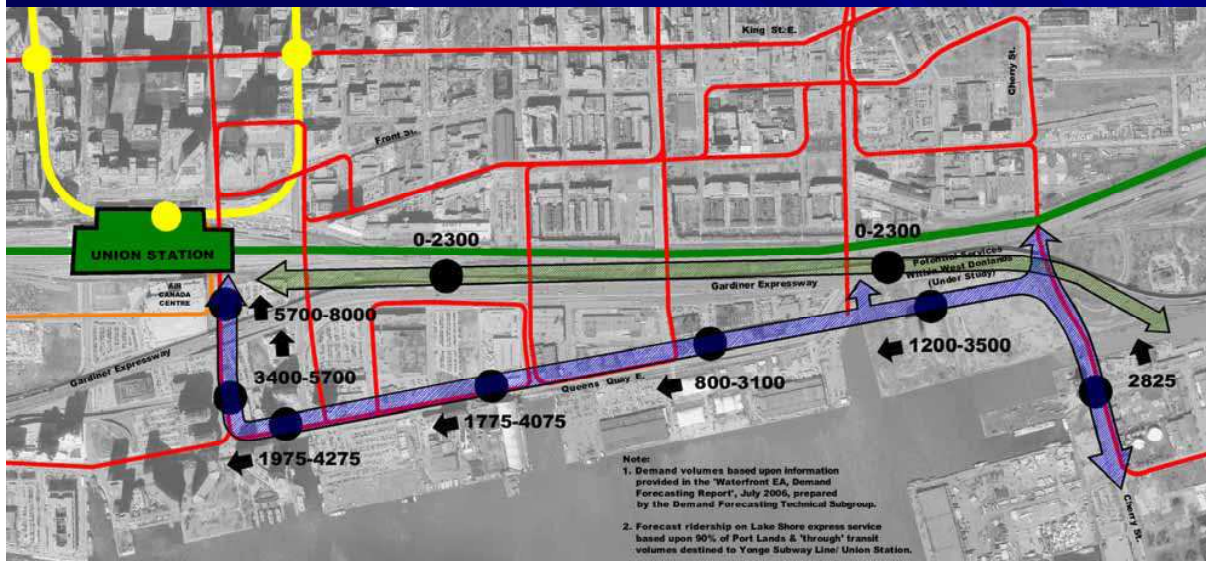


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Forecast Ridership Queens Quay (Local) + Lake Shore Express



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Lake Shore Express Ridership

- A range of peak hour ridership is shown depending on speed, reliability and comfort of Lake Shore Express (LE)
- Projected high LE ridership will only occur if:
 - Trip time is faster than along Queens Quay
 - Trip is consistently reliable
- If trip time is same or slower on Lake Shore, riders will use Queens Quay
- The only way to achieve required capacity, speed and service reliability is to attempt to develop "transit only" lanes



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Development of Lake Shore Express Surface Option including a Surface Connection to Union Station



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Union Station Connection

- A Lake Shore express option connecting to Union station has been developed as a surface option as the most feasible possibility
- However, the concept does have a number of challenges



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- Two existing car lanes in each direction on north south access streets to Union Sta.
- Exclusive transit lane can only be achieved by taking over one traffic lane on two streets (1 NB & 1 SB)



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- Similarly, in Lake Shore corridor:
 - Minimal room to construct new exclusive lanes
- To achieve express option, the study team has assumed that one existing Lake Shore lane, in each direction, would be reserved for the express service
- Still require significant transit infrastructure on Queens Quay to serve EBF demand



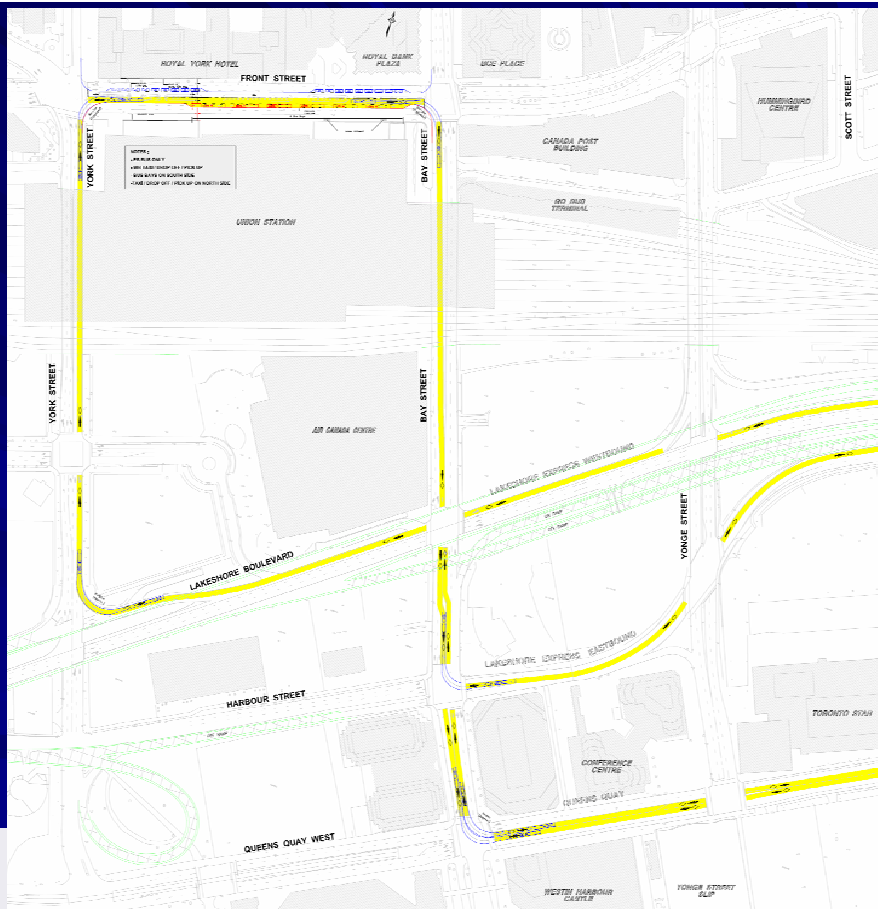
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Lakeshore Express + Queens Quay

(Surface Bus in Exclusive Lanes)



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Union Station District Plan



Traffic Option - Narrow

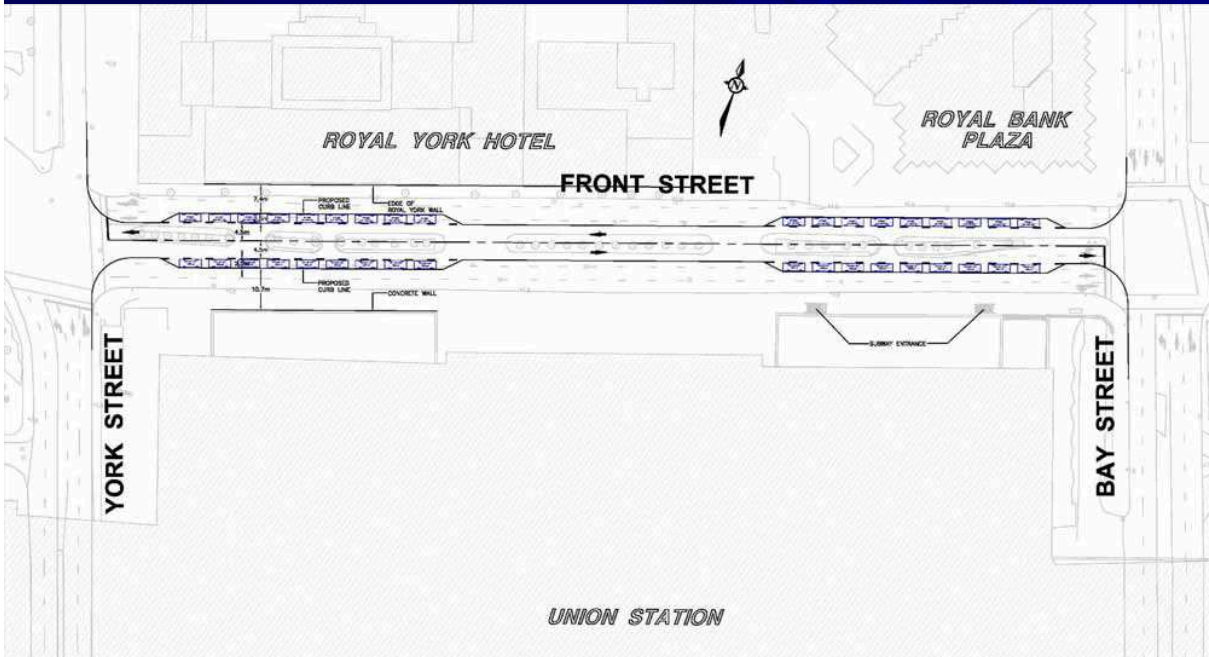


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Proposed Future Street Plan

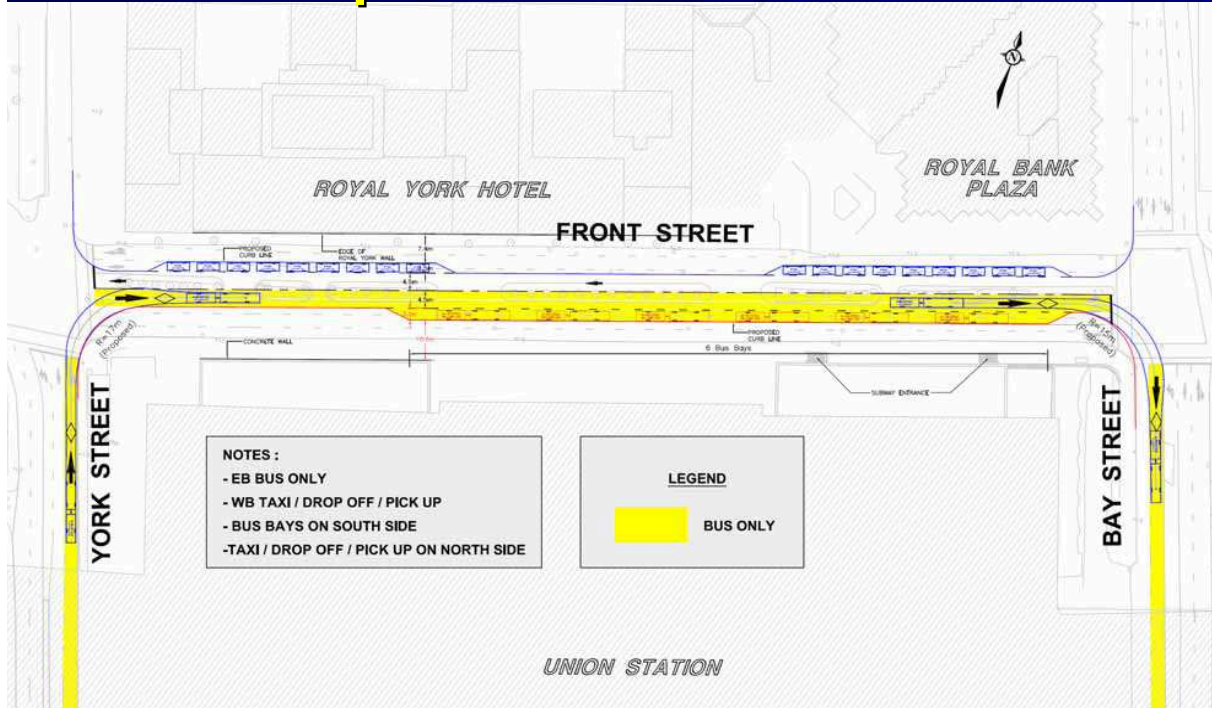


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Drop-Off at Union Station



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Impact on Front Street

- Pedestrian space from precinct plan maintained
- No taxi or drop-off space on south side
- No eastbound car traffic



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Pedestrian Impact on Bus Operation

- Major pedestrian flows will conflict with bus turning movements causing some delays and reduced reliability



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Traffic Impact on York and Bay

- One traffic lane NB on York and one traffic lane SB on Bay removed
- Roads are at capacity today
- A large number of vehicles must find another way to get to their destination (500 in the peak hour on NB York, 400 in the peak hour on SB Bay)



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Impact on Lake Shore

- 800 peak hour vehicles (WB) must go elsewhere
- Lake Shore will be congested and over capacity
- Many of these vehicles will try to divert to Gardiner and Queens Quay



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Alternate Loop via Adelaide

- Requires bus bays, similar to Front Street, in at least 3 locations
- All buses must stop
- Riders wanting to access Yonge Subway north will walk along Front to Union rather than stay on bus
- Congestion increased on University, Adelaide and Yonge
- Poorer service for most riders
- Not a viable option



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Corridor Evaluation

Objectives	Queens Quay Only	Lakeshore Express + Queens Quay
Land Use	●	◐
Transportation	●	◐
Socio-Economic	●	◐
Natural	NDF	NDF
Cultural	●	●
Cost	●	◐
OVERALL	●	◐



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Corridor Summary Assessment

- A transit facility is required on Queens Quay for either corridor option
- Corridor option #1 -Queens Quay only
 - Fully serves development in EBF study area and Port Lands
 - Higher frequency service, attracts more transit riders
 - Lowest cost (one facility instead of two)



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Corridor Summary Assessment (cont'd)

- Corridor Option #2 - Queens Quay plus Lake Shore Corridor
 - Reduces service frequency on Queens Quay
 - Inconsistent with proposed Union Station District Plan
 - Front street closed to traffic eastbound
 - No pick up and drop off on south side of Front for GO Transit, VIA and TTC
 - Public realm aspect compromised
 - More expensive
 - Major traffic delays on York, Bay and Lake Shore serving CBD
 - Infiltration of some cars to Queens Quay and other local streets



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Corridor Summary Assessment (cont'd)

- Disbenefits and transportation disruption of Lake Shore option outweigh perceived benefits
- However, Lake Shore should not be precluded as a future east-west (e.g. Beaches to Etobicoke) transit option if required in the future



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Corridor Recommendation

- Select Option 1 (Queens Quay only) as the “preferred corridor” option
- Carry forward to “Design Alternatives” phase



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Alternative Technologies – Buses in Mixed Traffic



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Alternative Technologies – Buses in Dedicated Right of Way



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Alternative Technologies – Streetcars with Platforms in Mixed Traffic



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Alternative Technologies – Streetcars in Dedicated Right of Way

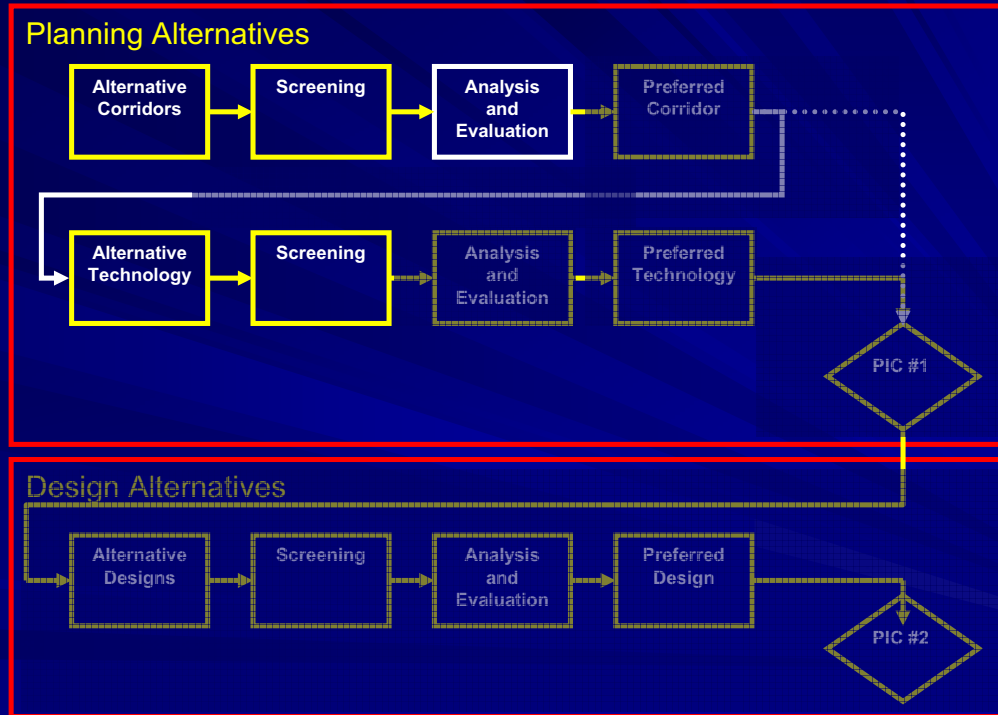


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Step #3 – Screening of Technologies

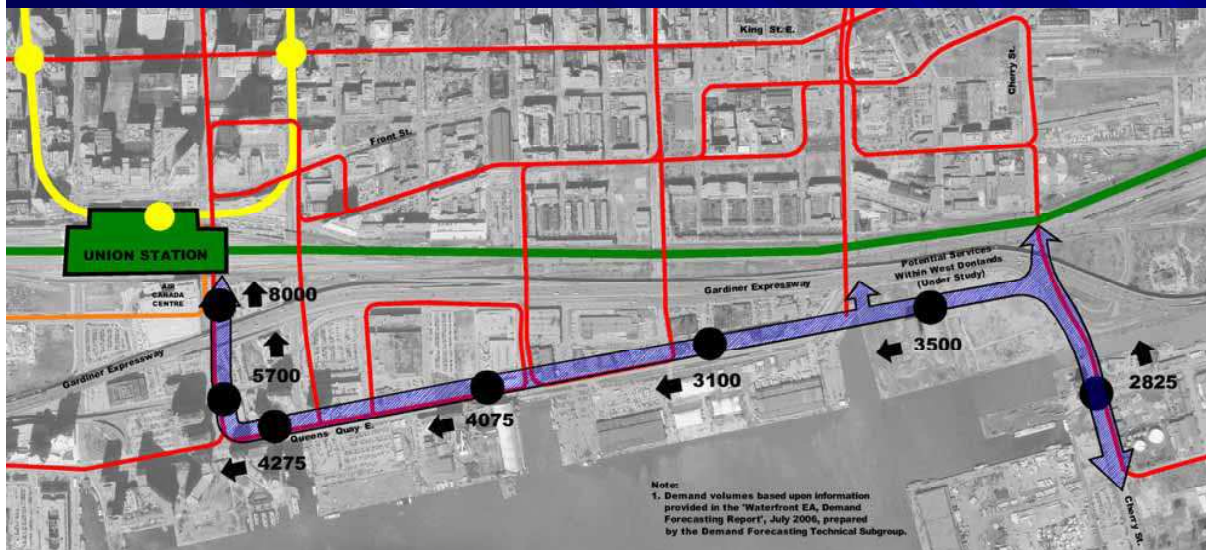


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Forecast Ridership – Queens Quay Only



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Vehicle Requirements

- Streetcars – Approximately 35 streetcars per hour
- Buses (clean diesel, hybrid or fuel-cell) - Approximately 54 (18m) buses or 75 (12m) buses per hour
- Either alternative (bus or streetcar) must be in a separate right-of-way in order to provide required capacity (4000 riders/ hour) and service reliability



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Minimum Requirements ("Technology Musts")

Technology Considered / Minimum Requirement	"Do Nothing"	Streetcar, with platforms in Mixed Traffic	Streetcar, in Dedicated Lanes	Buses in Dedicated Lanes
The alternative must be capable of accommodating travel demand from forecast development.	No	No	Yes	Yes
Must meet City's Official Plan Policies and Principles.	No	Yes	Yes	Yes
Must promote transit modal splits at least as good as comparable communities (such as the St. Lawrence neighbourhood).	No	No	Yes	Yes
Must provide transit service to majority of future inhabitants within 500 m of transit.	No	Yes	Yes	Yes
Must accommodate people with mobility difficulties.	No	Yes	Yes	Yes
Recommendation:	Not Carried	Not Carried	Carried	Carried



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Technology Conclusions

- Buses and Streetcars in their own right-of-way recommended to be carried forward to the design alternatives stage



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Next Steps

- Comments from TAC members
- Public meetings and workshops
 - West Don Lands, March 21, 2007
 - East Bayfront, March 28, 2007
- Make adjustments based on comments
- Develop “design alternatives”
- Next public meetings in June



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Some Issues to be Considered in Development of Design Alternatives

- Right of Way Components
 - Transitway location, stop locations, sidewalks, bike lanes, urban design / landscape features, on-street parking, emergency services, general purpose traffic lanes, operational needs, etc.



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