TABLE 1
ASSESSMENT OF PORTAL LOCATIONS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Bay Street B1 Between Lakeshore and Queens Quay	Queens Quay QQ1 Between Bay and Yonge	Queens Quay QQ2 Between Yonge and Freeland	Queens Quay QQ3 Between Freeland and Cooper	Discussion
A) Planning Policies	A1) Local population / employment growth in the study area	A1.1) Supports future transit and road capacity requirements for forecast development.		See Section C2) Transit and C3) Vehicles				Attractive transit service is a prerequisite for achieving planned land use objectives and attracting development to the Eastern Waterfront.
	A2) City, TWRC, and Provincial Policies	A 2.1) Supports the City's Central Waterfront Secondary Plan, East Bayfront Class EA Master Plan, and standards for transportation planning and design	Provides all ROW amenities as per Master Plan	All alternatives yield similar results				
		A 2.2) Supports Goals and Intentions of Central Waterfront Design Competition	Compatible with streetcar ROW on the south side of Queens Quay?	Yes	No - portal will be located in the centre of the road; will require streetcar tracks to transition from centre of road to south side of road	Yes	Yes	
		A 2.3) Supports Waterfront Toronto's East Bayfront Precinct Plan and Sustainability Framework.	Minimize car use, increase walking, cycling, and public transit use	All alternatives yield similar results				
			Vibrant, diverse, and economically strong community (qualitative)	All alternatives yield similar results				
B) Urban Design	B1) Streetscaping	B1.1) Supports sustainable landscaping/urban forestry	Supports a minimum tree planting volume on south side of Queens Quay (30 cubic metres per tree)?	Yes - all alternatives yield similar results				City of Toronto Urban Forestry target for healthy tree growth
			Approximate tree spacing based on available soil volume.	All alternatives yield similar results (30m on the north sidewalk, 12m on the south sidewalk)				Based on requirements of Deeproot Silva Cell system
		B1.2) How well does it allow existing buildings to retain a gracious and functional sense of address?	Generous ped. space in front; clear drop-off zone	Affects Bay buildings north of Harbour; improves QQ west of Bay; satisfactory at Westin	Reduces street image at Westin	Improves Westin street image, satisfactory at Toronto Star	Improves Westin and Toronto Star street image	
		B1.3) Number of portals on Queens Quay - potential to enhance public spaces by providing a continuous boulevard across the width of the roadway along the entire Queens Quay corridor	Number/impact of portals	One portal on Bay Street	Two portals on Queen's Quay	Two portals on Queen's Quay	Two portals on Queen's Quay	
		B1.4) Portal Integrates with streetscape and adjacent use	Complication/simplicity; need increase; able to increase	Fits within ROW; limits potential sidewalk dimensions on Bay	Restricted area; convoluted access	Fits within ROW; extra width available	Redevelopment area; full ability to expand	
	B2) Width of transportation facilities	B 2.1) Minimizes right-of-way width		Not a decision-relevant factor - not related to decision on portal location				
	B3) Public spaces and the pedestrian realm	B 3.1) Maximizes potential to enhance public spaces and cultural opportunities including public art	Min. width on the south side of Queens Quay (m) available for public realm enhancement - from curb to building face/edge of water	Sufficient space available for public realm enhancement	Limited potential	Extra space Bay to Yonge above underground track	Extra space Bay to Freedland above underground track	
		B 3.2) Supports potential for sidewalk enhancement / improvements		Section B 3.1				
		B 3.3) Martin Goodman Trail - how effectively does it permit or interfere with a continuous tree-lined trail?	Continuous alignment from south curb to bldg. face	May limit trail width at Westin	Obstruction at Westin	Fits full width of trail	Fits full width of trail	
		B 3.4) Minimizes distance from transit stops to centres of interest		Relates to streetcar stop placement - see Section B 3.5				
		B 3.5) Transit Stops - how well does the portal accommodate convenient stop locations?	Can provide a station at the following locations?	Good flexibility in stop locations relative to destinations	Good flexibility in stop locations relative to destinations	Medium flexibility in stop locations relative to destinations	Medium flexibility in stop locations relative to destinations (However, requires additional underground station)	
			At Bay Street	yes	yes	yes	yes	
			At Yonge Street	yes	yes	no	yes	
			At Freeland Street	yes	yes	yes	no	
	B4) Streetcar Alignment flexibility	B4.1) How well can the location adjust to both Centre and South track alignments?	Description	Works for both centre and south track alignments	Does not work with south track alignment as the portal will block access to Westin Harbour and Ferry Docks	Works for both centre and south track alignments	Works somewhat with south track alignment as the portal will be partially in conflict with Redpath Sugar's main driveway. Driveway modification required for south side alignment.	
C) Transportation	C1) Auto Dependence	C1.1) Maximizes non-auto (transit, pedestrian, and cycling) modal split for trips to, and within, the study area		Not a decision-relevant factor - not related to decision on portal location				
		C1.2) Maximizes non-auto (transit, pedestrian, and cycling) modal splits for trips through the study area		Not a decision-relevant factor - not related to decision on portal location				
	C2) Transit	C 2.1) Provides attractive transit service (reliability, speed, few transfers)	Number of intersections between Union Station and Jarvis Street where streetcars are held by signals (effects on travel time and service reliability)	6	4	3	2	Preliminary average travel time between Union Station and Cherry Street = 5.5 (base) to 8.5 minutes (max.), depending on availability of TSP measures and the number of signalized intersections
				Bay/Harbour				
				Bay/QQ				
				QQ/Yonge	QQ/Yonge			
				QQ/Freeland	QQ/Freeland	QQ/Freeland		
				QQ/Redpath Main	QQ/Redpath Main	QQ/Redpath Main	QQ/Redpath Main	
				QQ/Redpath 2	QQ/Redpath 2	QQ/Redpath 2	QQ/Redpath 2	
			Average intersection delay per vehicle-trip west of Jarvis **(preliminary estimates)**	Up to 170 seconds	Up to 80 seconds	Up to 40 seconds	Up to 15 seconds	Preliminary average travel time between Union Station and Cherry Street = 5.5 (base) to 8.5 minutes (max.), depending on availability of TSP measures and the number of signalized intersections
			Bay @ Harbour	Up to 34 seconds				
			Queens Quay @ Bay	Up to 60 seconds				
			Queens Quay @ Yonge	Up to 40 seconds	Up to 40 seconds	None	None	
			Queens Quay @ Freeland	Up to 22 seconds	Up to 22 seconds	Up to 22 seconds	None	
			Queens Quay @ Redpath/Cooper	Up to 15 seconds	Up to 15 seconds	Up to 15 seconds	Up to 15 seconds	
			Quality of operation at the QQ/Bay intersection	Poorer - transit mixed with surface traffic	Better - transit grade-separated from traffics on the surface	Better - transit grade-separated from traffics on the surface	Better - transit grade-separated from traffics on the surface	
		C 2.2) Maximizes population and employment within 300m of transit		Not a decision-relevant factor - not related to decision on portal location				
		C 2.3) Provides flexibility and adaptability for staging and expansion by preserving opportunities for		Not a decision-relevant factor - not related to decision on portal location				
		C 2.4) Provides feasible transit operations at connecting points (i.e. Cherry Street, Union Station loop, etc.)		Not a decision-relevant factor - not related to decision on portal location				

TABLE 1
ASSESSMENT OF PORTAL LOCATIONS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Bay Street B1 Between Lakeshore and Queens Quay	Queens Quay QQ1 Between Bay and Yonge	Queens Quay QQ2 Between Yonge and Freeland	Queens Quay QQ3 Between Freeland and Cooper	Discussion
		C 2.5) Provides for **transit** travellers wishing to travel though the study area but who are not destined for locations in the study area.		Not a decision-relevant factor - not related to decision on portal location				
		C 2.6) Maximizes safety	Passenger safety	All alternatives yield similar results				
	C3) Vehicles	C 3.1) Connects to other planned Waterfront Precincts at boundaries of study area	Portal location affects vehicular access to Central Waterfront, West Don Lands, and Port Lands?	None - all alternatives maintain existing vehicular access to the Central Waterfront and the Eastern Waterfront				
		C 3.2) Provides access to blocks at identified intersections in precinct plans	Provision for vehicular access to future development in the East Bayfront precinct	Yes				
		C 3.3) Maximizes safety	Driver safety	All alternatives yield similar results				
		C 3.4) Provides for auto travellers needing to travel in and around the study area	Impacts roadway capacity due to portal location? (lane reductions)	Bay Street - 2 lanes eliminated (1NB, 1 SB) b/w Lake Shore and Harbour; 3 lanes eliminated (2NB, 1SB) b/w Harbour and Queens Quay	None attributed to portal location			
			Intersection turning movements prohibited?	No northbound left turn at Bay/Lake Shore	Southbound left at Queens Quay/Yonge may be affected (depends on the ability and effectiveness of preventing SB LT traffic from entering the streetcar ROW)	No eastbound right turn at Queens Quay/Freeland	None attributed to portal location	
			Impact on intersection operations	Storage capacity reduced for SB left turn at Bay/Harbour; reduced intersection capacity at Bay/Queens Quay	Requires eastbound through traffic to weave across streetcar tracks from west of Yonge Street to east of Yonge Street May cause driver confusion at QQ/Bay as EB traffic is channelized around the portal at Bay Street - may create unpredictable movements (eastbound left turn -vs- eastbound through)	None attributed to portal location	None attributed to portal location	
	C4) Barrier Free Design	C 4.1) Provides barrier free access (Part of Design Standards)	Provisions for barrier free access	All alternatives yield similar results				
	C5) Cyclists	C 5.1) Provides connections to future cycling networks		See Section B) Urban Design				
		C 5.2) Provides for on-street and off-street cycling facilities as identified in the Secondary Plans and Precinct Plans		See Section B) Urban Design				
		C 5.3) Maximizes safety	Cyclist safety	All alternatives yield similar results				
	C6) Pedestrians	C 6.1) Minimizes intersection waiting and crossing times		Not a decision-relevant factor - not related to decision on portal location				Relates to streetcar alignment (southside versus centre)
		C 6.2) Maximizes cross-street access by minimizing crossing distance		Not a decision-relevant factor - not related to decision on portal location				Relates to streetcar alignment (southside versus centre)
		C 6.3) Minimizes distance from transit stops to centres of interest		See Section B) Urban Design				
		C 6.4) Accommodates safe and pleasant pedestrian sidewalks of a sufficient width as identified in the Precinct Plans	Sidewalk width on the south side of Queens Quay - east of Jarvis	All alternatives yield similar results				Minimum sidewalk width of 4.25 m along the south side of Queens Quay east of Jarvis Street
			Sidewalk width on the south side of Queens Quay - Bay to Jarvis	See Section B) Urban Design				
		C 6.5) Provides Waterfront and Don Valley trail connections		See Section B) Urban Design				
		C 6.6) Maximizes safety	Pedestrian safety	All alternatives yield similar results				
	C7) Emergency Vehicle Operations	C 7.1) Minimizes emergency response time	Impact of portal location on EMS operation on Bay Street and Queens Quay	All alternatives yield similar results				EMS operation needs to be addressed as part of roadway functional design
D) Socio-Economic Environment	D1) Automobile Use in and Through Area	D 1.1) Minimizes through auto travel on local roads		Not a decision-relevant factor - not related to decision on portal location				
	D2) Tourism and Waterfront Access	D 2.1) Provides transit stop access to attractions		See Section B) Urban Design				
	D3) Effects on Existing and Future Commercial Properties	D 3.1) Effects on vehicular access to commercial properties	Number of existing commercial properties with main entrance affected by portal	Potential future redevelopment site on west side of Bay Street (b/w Lake Shore and Harbour) - access limited to SB right-in/right-out only	Westin Harbour Castle Hotel - access limited to eastbound right-in/right-out only	None	Redpath Sugar - end of streetcar ramp in conflict with main driveway	
			Number of existing commercial properties with main entrance crossed by streetcar ROW	Westin Harbour Castle Hotel and Redpath Sugar	Redpath Sugar	Redpath Sugar	None	
		D 3.2) Affects parking for existing businesses	Affects taxi stand at Westin Harbour Castle Hotel?	Yes	Yes	No	No	
		D 3.3) Provides delivery and loading access	Affects access to Westin Harbour Castle Hotel loading dock?	Yes	Yes	No	No	
			Affects vehicular/pedestrian access to the east Ferry Docks driveway/entrance?	Yes	Yes	No	No	
			Precludes on-street pick-up/drop-off at 20 Bay Street?	Yes	No	No	No	
			Maintains access to LCBO entrances on Freeland Street and Cooper Street?	Not a decision-relevant factor - not related to decision on portal location				Related to Queens Quay roadway functional design
		D 3.4) Minimizes adverse effects to Redpath freight rail spur		Not a decision-relevant factor - rail spur abandoned by Redpath				
		D 3.5) Minimizes interference with rail service on CN operations at the Cherry Street crossing		Not a decision-relevant factor - not applicable to the East Bayfront Transit EA				
		D 3.6) Minimizes EMI adverse effects (after construction)	Number of EMI sensitive uses in proximity that are adversely affected	All alternatives yield similar results - none of the alternatives is expected to produce any adverse effect on EMI sensitive uses in proximity				
		D 3.7) Minimizes noise and vibration adverse effects (after construction) on **existing** businesses		see Section D4.2				

TABLE 1
ASSESSMENT OF PORTAL LOCATIONS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Bay Street B1 Between Lakeshore and Queens Quay	Queens Quay QQ1 Between Bay and Yonge	 QQ2 Between Yonge and Freeland	 QQ3 Between Freeland and Cooper	Discussion
		D 3.7) Minimizes noise and vibration adverse effects (after construction) on **future** businesses		see Section D4.3				
	D4) Effects on Existing and Future Residential Properties	D 4.1) Effects on vehicular access to residential properties	Number of existing residential properties with main entrance affected by portal	None	World Trade Centre Condominium - access on QQ reduced to right-in/right-out only	None	None	
			Number of existing residential properties with main entrance affected by dedicated streetcar	Harbour Square Condominium - driveway modification	None	None	None	
			Number of future residential properties with access affected by portal location and/or dedicated transit ROW	None	None	Portal will be located just west of Freeland Street - main access to future MT 27 residential development; however, it is anticipated that full access to the development can be maintained	None	
		D 4.2) Noise and vibration effects (after construction) on **existing** residents	Potential to minimize perceived noise effects on **existing** residents	Lowest	Lower	Higher	Higher	
			Bay Street between Lakeshore and Queens Quay	Will create noticeable effects as a result of portal and streetcar tracks on Bay Street	Minimal impact as streetcars will be underground	Minimal impact as streetcars will be underground	Minimal impact as streetcars will be underground	
			Bay / Queens Quay intersection	Large impact as a result of large volume of at-grade streetcar movements at this location	Minimal impact as streetcars will be underground at this location	Minimal impact as streetcars will be underground at this location	Minimal impact as streetcars will be underground at this location	
			Queens Quay between Bay and Yonge	Streetcars would operate at-grade through this section	Portal would be located in this section	Minimal impact as streetcars will be underground at this location	Minimal impact as streetcars will be underground at this location	
		D 4.3) Noise and vibration effects (after construction) on **future** residents		All alternatives yield similar results				
	D5) Effects on Contaminated Soils	D 5.1) Minimizes impacts on/of contaminated soils	Potential for affecting potential contaminants	Not a decision-relevant factor				**Bay Street options:** construction would take place within existing disturbed area; low potential for affecting archaeological features **Queens Quay options:** require additional tunneling which may potentially come in contact with potential archaeological features
				Low (existing disturbed soils)	Medium (short tunnel+portal)	High (medium tunnel+portal)	Highest (longest tunnel+portal)	
E) Natural Environment	E1) Air Quality	E 1.1) Minimizes adverse effects to air quality	Relative impact to local air quality for each alternative (qualitative)	All alternatives yield similar results				
		E 1.2) Maximizes opportunities to improve air quality	Unique design elements that will improve air quality	All alternatives yield similar results				
		E 1.3) Minimizes emission of greenhouse gases		Not a decision-relevant factor - not related to decision on portal location				
	E2) Aquatic Habitats	E 2.1) Minimizes adverse effects to aquatic habitats	Area of existing aquatic habitat impacted (ha)	All alternatives yield similar results				
		E 2.2) Maximizes opportunity to enhance aquatic habitat	Ability to provide enhanced water quality treatment	All alternatives yield similar results				
	E3) Vegetation	E 3.1) Minimizes adverse effects to vegetation	Area of existing vegetation removed (ha)	All alternatives yield similar results				
		E 3.2) Maximizes opportunity to enhance vegetation	Area of green space provided	All alternatives yield similar results				
	E4) Water Quality	E 4.1) Maximizes potential for stormwater quality control	Need for supplemental treatment	All alternatives yield similar results - none anticipated				
		E 4.2) Minimizes adverse effects to existing stormwater facilities	Area of impervious surface	All alternatives yield similar results				
F) Cultural Environment	F1) Built Heritage Features	F 1.1) Minimizes built heritage features affected	Distance from edge of pavement to built heritage features (m)	All alternatives yield similar results - none of the portal alternatives affects built heritage features in the area.				
		F 1.2) Maximizes opportunities to enhance built heritage features	Number of built heritage feature enhancement opportunities	Not a decision-relevant factor - not related to decision on portal location				
	F2) Cultural Landscapes	F 2.1) Minimizes cultural landscapes affected	Proximity to cultural landscapes within the study area	All alternatives yield similar results - none of the portal alternatives is anticipated to cause adverse effects on cultural landscape features.				
		F 2.2) Maximizes opportunities to enhance cultural landscapes	Number of cultural landscape enhancement opportunities	Not a decision-relevant factor - not related to decision on portal location				
	F3) Archaeological Features	F 3.1) Minimizes archaeological features affected	Effect on potential archaeological features	Not a decision-relevant factor				**Bay Street options:** construction would take place within existing disturbed area; low potential for affecting archaeological features **Queens Quay options:** require additional tunneling which may potentially come in contact with potential archaeological features
				Low (existing disturbed soils)	Medium (short tunnel+portal)	High (medium tunnel+portal)	Highest (longest tunnel+portal)	
	F4) First Nations Peoples and Activities	F 4.1) Minimizes adverse effects to land and resources used for traditional purposes	Area of land used for traditional purposes (ha)	All alternatives yield similar results - no impacts as alternatives are fully within existing disturbed urban area.				
G) Cost	G1) Capital Costs	G 1.1) Minimizes construction and transit vehicle acquisition costs	Approximate **PRELIMINARY INCREMENTAL** cost associated with the portal (in addition to costs associated with the Base Case)	$30M to $40M	$10M to $20M	$40M to $50M	$60M to $70M	**Base Case** = roadway construction, track construction, traction power, and other infrastructures on Queens Quay between Bay and Cherry. Preliminary costs only. Includes 20% contingency and 10% engineering.
			Potential to minimize transit vehicle acquisition costs	Lower	Higher			**B1:** Longer streetcar travel time will increase round trip time which may increase # of vehicles required
	G2) Property Acquisition	G 2.1) Minimizes property acquisitions (qualitative)	Potential to minimize property acquisition required to accommodate portal	Potentially costly measure for mitigating access issues at Westin Harbour Castle Hotel	Potentially costly measure for mitigating access issues at Westin Harbour Castle Hotel	No major property acquisition anticipated	No major property acquisition anticipated	Possible solution to address Westin Harbour access issues: reclaimation of the Yonge Street Slip and major structural modification of the Westin Harbour Castle Hotel to create a new entrance on the east side of the hotel structure.
	G3) Transit operating Costs	G 3.1) Minimize the net operating cost (qualitative)	Potential to minimize operating cost incurred DURING CONSTRUCTION	Lower	Higher			**B1:** Requires shutting down services in the Bay Street tunnel and replacing streetcars with buses on Queens Quay east of Spadina
			Potential to minimize operating cost incurred AFTER CONSTRUCTION	Lower	Higher			**B1:** Longer streetcar travel time and lower service reliability may result in an increase in operating cost

TABLE 2
EVALUATION OF PORTAL LOCATIONS - KEY FACTORS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Bay Street	Queens Quay			Discussion
				B1 Between Lakeshore and Queens Quay	QQ1 Between Bay and Yonge	QQ2 Between Yonge and Freeland	QQ3 Between Freeland and Cooper	
A) Planning Policies	A2) City, TWRC, and Provincial Policies	A 2.2) Supports Goals and Intentions of Central Waterfront Design Competition	Compatible with streetcar ROW on the south side of Queens Quay?	Yes	No - portal will be located in the centre of the road; will require streetcar tracks to transition from centre of road to south side of road	Yes	Yes	
	SUMMARY			●	◑	●	●	
B) Urban Design	B1) Streetscaping	B1.2) How well does it allow existing buildings to retain a gracious and functional sense of address?	Generous ped. space in front; clear drop-off zone	Affects Bay buildings north of Harbour; improves QQ west of Bay; satisfactory at Westin	Reduces street image at Westin	Improves Westin street image, satisfactory at Toronto Star	Improves Westin and Toronto Star street image	
		B1.3) Number of portals on Queens Quay - potential to enhance public spaces by providing a continuous boulevard across the width of the roadway along the entire Queens Quay corridor	Number/impact of portals	One portal on Bay Street	Two portals on Queen's Quay	Two portals on Queen's Quay	Two portals on Queen's Quay	
		B1.4) Portal Integrates with streetscape and adjacent use	Complication/simplicity; need increase; able to increase	Fits within ROW; limits potential sidewalk dimensions on Bay	Restricted area; convoluted access	Fits within ROW; extra width available	Redevelopment area; full ability to expand	
	SUMMARY			◕	◔	◕	◕	
	B3) Public spaces and the pedestrian realm	B 3.1) Maximizes potential to enhance public spaces and cultural opportunities including public art opportunities	Min. width on the south side of Queens Quay (m) available for public realm enhancement - from curb to building face/edge of water	Sufficient space available for public realm enhancement	Limited potential	Extra space Bay to Yonge above underground track	Extra space Bay to Freedland above underground track	
		B 3.3) Martin Goodman Trail - how effectively does it permit or interfere with a continuous tree-lined trail?	Continuous alignment from south curb to bldg. face	May limit trail width at Westin	Obstruction at Westin	Fits full width of trail	Fits full width of trail	
		B 3.4) Minimizes distance from transit stops to centres of interest	To future public park at the foot of Yonge Street	Relates to streetcar stop placement - see Section B 3.5				
		B 3.5) Transit Stops - how well does the portal accommodate convenient stop locations?	Can provide a station at the following locations?	Good flexibility in stop locations relative to destinations	Good flexibility in stop locations relative to destinations	Medium flexibility in stop locations relative to destinations	Medium flexibility in stop locations relative to destinations (However, requires additional underground station)	
			At Bay Street	yes	yes	yes	yes	
			At Yonge Street	yes	yes	no	yes	
			At Freeland Street	yes	yes	yes	no	
	SUMMARY			◕	◔	◕	◕	
	B4) Streetcar Alignment flexibility	B4.1) How well can the location adjust to both Centre and South track alignments?	Description	Works for both centre and south track alignments	Does not work with south track alignment as the portal will block access to Westin Harbour and Ferry Docks	Works for both centre and south track alignments	Works somewhat with south track alignment as the portal will be partially in conflict with Redpath Sugar's main driveway. Driveway modification required for south side alignment.	
	SUMMARY			●	◑	●	●	
C) Transportation	C2) Transit	C 2.1) Provides attractive transit service (reliability, speed, few transfers)	Number of intersections between Union Station and Jarvis Street where streetcars are held by signals (effects on travel time and service reliability)	6	4	3	2	Preliminary average travel time between Union Station and Cherry Street = 5.5 (base) to 8.5 minutes (max.), depending on availability of TSP measures and the number of signalized intersections
				Bay/Harbour				
				Bay/QQ				
				QQ/Yonge	QQ/Yonge			
				QQ/Freeland	QQ/Freeland	QQ/Freeland		
				QQ/Redpath Main	QQ/Redpath Main	QQ/Redpath Main	QQ/Redpath Main	
				QQ/Redpath 2	QQ/Redpath 2	QQ/Redpath 2	QQ/Redpath 2	
			Average intersection delay per vehicle-trip west of Jarvis **(preliminary estimates)**	Up to 170 seconds	Up to 80 seconds	Up to 40 seconds	Up to 15 seconds	Preliminary average travel time between Union Station and Cherry Street = 5.5 (base) to 8.5 minutes (max.), depending on availability of TSP measures and the number of signalized intersections
			Bay @ Harbour	Up to 34 seconds				
			Queens Quay @ Bay	Up to 60 seconds				
			Queens Quay @ Yonge	Up to 40 seconds	Up to 40 seconds	None	None	
			Queens Quay @ Freeland	Up to 22 seconds	Up to 22 seconds	Up to 22 seconds	None	
			Queens Quay @ Redpath/Cooper	Up to 15 seconds	Up to 15 seconds	Up to 15 seconds	Up to 15 seconds	
			Quality of operation at the QQ/Bay intersection	Poorer - transit mixed with surface traffic	Better - transit grade-separated from traffics on the surface	Better - transit grade-separated from traffics on the surface	Better - transit grade-separated from traffics on the surface	
	SUMMARY			○	◔	◕	●	
	C3) Vehicles	C 3.4) Provides for auto travellers needing to travel in and around the study area	Impacts roadway capacity due to portal location? (lane reductions)	Bay Street - 2 lanes eliminated (1NB, 1 SB) b/w Lake Shore and Harbour; 3 lanes eliminated (2NB, 1SB) b/w Harbour and Queens Quay	None attributed to portal location			
			Intersection turning movements prohibited?	No northbound left turn at Bay/Lake Shore	Southbound left at Queens Quay/Yonge may be affected (depends on the ability and effectiveness of preventing SB LT traffic from entering the streetcar ROW)	No eastbound right turn at Queens Quay/Freeland	None attributed to portal location	
			Impact on intersection operations	Storage capacity reduced for SB left turn at Bay/Harbour; reduced intersection capacity at Bay/Queens Quay	Requires eastbound through traffic to weave across streetcar tracks from west of Yonge Street to east of Yonge Street	None attributed to portal location	None attributed to portal location	
					May cause driver confusion at QQ/Bay as EB traffic is channelized around the portal at Bay Street - may create unpredictable movements (eastbound left turn -vs- eastbound through)			
	SUMMARY			○	○	◕	●	
D) Socio-Economic Environment	D3) Effects on Existing and Future Commercial Properties	D 3.1) Effects on vehicular access to commercial properties	Number of existing commercial properties with main entrance affected by portal	Potential future redevelopment site on west side of Bay Street (b/w Lake Shore and Harbour) - access limited to SB right-in/right-out only	Westin Harbour Castle Hotel - access limited to eastbound right-in/right-out only	None	Redpath Sugar - end of streetcar ramp in conflict with main driveway; likely requires closure	
			Number of existing commercial properties with main entrance crossed by streetcar ROW	Westin Harbour Castle Hotel and Redpath Sugar	Redpath Sugar	Redpath Sugar	None	
		D 3.2) Affects parking for existing businesses	Affects taxi stand at Westin Harbour Castle Hotel?	Yes	Yes	No	No	
		D 3.3) Provides delivery and loading access	Affects access to Westin Harbour Castle Hotel loading dock?	Yes	Yes	No	No	

TABLE 2
EVALUATION OF PORTAL LOCATIONS - KEY FACTORS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Bay Street B1 Between Lakeshore and Queens Quay	Queens Quay QQ1 Between Bay and Yonge	Queens Quay QQ2 Between Yonge and Freeland	Queens Quay QQ3 Between Freeland and Cooper	Discussion
			Affects vehicular/pedestrian access to the east Ferry Docks driveway/entrance?	Yes	Yes	No	No	
			Precludes on-street pick-up/drop-off at 20 Bay Street?	Yes	No	No	No	
	SUMMARY			○	○	◕	○	
	D4) Effects on Existing and Future Residential Properties	D 4.1) Effects on vehicular access to residential properties	Number of existing residential properties with main entrance affected by portal	None	World Trade Centre Condominium - access on QQ reduced to right-in/right-out only	None	None	
			Number of existing residential properties with main entrance affected by dedicated streetcar ROW	Harbour Square Condominium - driveway modification	None	None	None	
			Number of future residential properties with access affected by portal location and/or dedicated transit ROW	None	None	Portal will be located just west of Freeland Street - main access to future MT 27 residential development; however, it is anticipated that full access to the development can be maintained	None	
		D 4.2) Noise and vibration effects (after construction) on **existing** residents	Potential to minimize perceived noise effects on **existing** residents	Lowest	Lower	Higher	Higher	
			Bay Street between Lakeshore and Queens Quay	Will create noticeable effects as a result of portal and streetcar tracks on Bay Street	Minimal impact as streetcars will be underground	Minimal impact as streetcars will be underground	Minimal impact as streetcars will be underground	
			Bay / Queens Quay intersection	Large impact as a result of large volume of at-grade streetcar movements at this location	Minimal impact as streetcars will be underground at this location	Minimal impact as streetcars will be underground at this location	Minimal impact as streetcars will be underground at this location	
			Queens Quay between Bay and Yonge	Streetcars would operate at-grade through this section	Portal would be located in this section	Minimal impact as streetcars will be underground at this location	Minimal impact as streetcars will be underground at this location	
	SUMMARY			○	○	◕	●	
G) Cost	G1) Capital Costs	G 1.1) Minimizes construction and transit vehicle acquisition costs	Approximate **PRELIMINARY INCREMENTAL** cost associated with the portal (in addition to costs associated with the Base Case)	$30M to $40M	$10M to $20M	$40M to $50M	$60M to $70M	**Base Case** = roadway construction, track construction, traction power, and other infrastructures on Queens Quay between Bay and Cherry. Preliminary costs only. Includes 20% contingency and 10% engineering.
			Potential to minimize transit vehicle acquisition costs	Lower	Higher			**B1:** Longer streetcar travel time will increase round trip time which may increase # of vehicles required
	SUMMARY			◕	●	◑	◔	
	G2) Property Acquisition	G 2.1) Minimizes property acquisitions (qualitative)	Potential to minimize property acquisition required to accommodate portal	Potentially costly measure for mitigating access issues at Westin Harbour Castle Hotel	Potentially costly measure for mitigating access issues at Westin Harbour Castle Hotel	No major property acquisition anticipated	No major property acquisition anticipated	Possible solution to address Westin Harbour access issues: reclaimation of the Yonge Street Slip and major structural modification of the Westin Harbour Castle Hotel to create a new entrance on the east side of the hotel structure.
	SUMMARY			○	○	●	●	
	G3) Operating Costs	G 3.1) Minimize the net operating cost	Potential to minimize operating cost incurred DURING CONSTRUCTION	Lower	Higher			**B1:** Requires shutting down services in the Bay Street tunnel and replacing streetcars with buses on Queens Quay east of Spadina
			Potential to minimize operating cost incurred AFTER CONSTRUCTION	Lower	Higher			**B1:** Longer streetcar travel time and lower service reliability may result in an increase in operating cost
	SUMMARY			◑	●	●	●	
				○	◔	◑	◕	●
				Least Preferred				**Most Preferred**

TABLE 1
ASSESSMENT OF STREETCAR ALIGNMENTS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Option 1 Centre Transit with On-Street Bike Lanes	Option 2 South Side Transit with Off-Street Martin Goodman Trail	Notes
A) Planning Policies	A1) Local population / employment growth in the study area	A1.1) Supports future transit and road capacity requirements for forecast development.	Measures that support future transit and road capacity requirements	Alternatives yield similar results (Design accommodates local development traffic)	Alternatives yield similar results (Design accommodates local development traffic)	
	A2) City, TWRC, and Provincial Policies	A 2.1) Supports the City's Central Waterfront Secondary Plan, East Bayfront Class EA Master Plan, and standards for transportation planning and design	Improved connections	North south/east west conditions improved. Satsifies Policy.	Greater improvement of north sout/east west connections. Best satisfies Policy.	
			Scenic waterfront drive	Improved street design will satisfy Policy	Unique street design will provide best opportunity to satsify Policy	
			Martin Goodman Trail	No opportunity to satisfy Policy	Provides best opportunity to satisfy Policy.	
			Network of parks and open spaces	Improved pedestrian environment will help connect parks and other public space improvements. Satisfies Policy.	Linear park street design will connect parks and public spaces improvements along corridor. Best satsifies Policy.	
			Transit First policy	Alternatives yield similar results (Improved transit will satisfy Policy)	Alternatives yield similar results (Improved transit will satisfy Policy)	
		A 2.2) Supports Goals and Intentions of Central Waterfront Design Competition	Compatible with streetcar ROW on the south side of Queens Quay?	Less compatible with goals and intentions of Central Waterfront Design Competition	More compatible with goals and intentions of Central Waterfront Design Competition	
		A 2.3) Supports Waterfront Toronto's East Bayfront Precinct Plan and Sustainability Framework.	Minimize car use, increase walking, cycling, and public transit use	Improved transit, with provision of on-street bike lanes and adequate sidewalk widths, has good potential to minimize car use and increase walking, cycling, and public transit use	Improved street design for pedestrians and cyclists, in addition to improved transit, has higher potential to minimize car use and increase walking, cycling, and public transit use	
B) Urban Design	B1) Streetscaping	B1.1) Enhances public spaces by providing a continuous boulevard across the width of the roadway along the entire Queens Quay corridor	Accommodates consistent street elements	Consistent: - Single row of trees both sides of street - on-street bike lanes - paving opportunities - tramway material opportunities	Consistent: - Double row of trees south/Single row north - off-street bike lanes - paving opportunities - limited tramway material opportunities	
		B1.2) Allows existing buildings to retain a gracious and functional sense of address	Accommodates context-specific street design	Yes However, available non-auto space provides limited opportunities.	Yes Additional non-auto space provides greatest opportunity.	
		B1.3) Supports sustainable landscaping/urban forestry	Measures to improve wind amelioration	Increased tree canopy	Greatest increase in tree canopy	
			Measures to improve summer shade	Increased tree canopy	Greatest increase in tree canopy	
	B2) Width of transportation facilities	B 2.1) Minimizes right-of-way width	Proposed right-of-way width	Alternatives yield similar results (38m)	Alternatives yield similar results (38m)	
	B3) Public spaces and the pedestrian realm	B 3.1) Maximizes potential to enhance public spaces and cultural opportunities including public art opportunities	Accommodates unique civic experience	No Configuration's non-auto space provides limited opportunity.	Yes Additional non-auto space provides greatest opportunity.	
			Accommodates a grand yet comfortably scaled public realm	No Non-auto space is disproportionate to pedestrian volumes	Yes Public realm is rebalanced to better serve all users	
		B 3.2) Accommodates special events	Potential to accommodate special events / minimizes impact of traffic operations	Lower Increased space for tents and kiosks due to widened southside pedestrian boulevard. Other special events such as parades and runs--cannot be accommodated without affecting roadway operations.	Higher Most space available for tents and kiosks without affecting roadway operations. Other special events such as parades and runs can be accomodated without closing all lanes of travel if Martin Goodman Trail is sufficient.	
			Accommodates variety of activities (passive / active)	Strolling, jogging (on sidewalk), biking (on-street)	Strolling, jogging and biking off-street, separated from pedestrian boulevard	
		B 3.3) Supports potential for sidewalk enhancement / improvements	Accommodates accessible and interesting street-side experience	No Configuration's non-auto space provides limited opportunity	Yes Additional non-auto space provides greatest opportunity	
		B 3.4) Maximizes visual connectivity	Connectivity along waterfront and between attractions	Medium Increased non-auto space	High Additional non-auto space provides greatest opportunity for landscaping (visual connections) and to connect the waterfront for all modes	
C) Transportation	C1) Auto Dependence	C1.1) Maximizes non-auto (transit, pedestrian, and cycling) modal split for trips to, and within, the study area	Measures to improve non-auto modal split	Improved pedestrian facilities, transit service and cycling facilities will help reduce auto use and increase non-auto modal split	Greatest improvement to pedestrian facilities, transit service and cycling facilities will encourage more non-auto use and result in larger increase in non-auto modal split	
		C1.2) Maximizes non-auto (transit, pedestrian, and cycling) modal splits for trips through the study area	Measures to improve non-auto modal split	Improved pedestrian facilities, transit service and cycling facilities will help reduce auto use and increase non-auto modal split	Greatest improvement to pedestrian facilities, transit service and cycling facilities will encourage more non-auto use and result in larger increase in non-auto modal split	
	C2) Transit	C 2.1) Provides attractive transit service (reliability, speed, few transfers)	Number of intersections between Union Station and Parliament Street where streetcars may be slowed by traffic signal	Alternatives yield similar results (4 intersections: Freeland, Lower Jarvis, Lower Sherbourne, Aitken Place)	Alternatives yield similar results (4 intersections: Freeland/Redpath Driveway, Richardson, Lower Sherbourne, Aitken Place)	Effect on travel time and service reliability
			Number of streetcar stops provided	Alternatives yield similar results (4 stops)	Alternatives yield similar results (4 stops)	
		C 2.2) Maximizes population and employment within 300m of transit	Measures that attract population and employment	Alternatives yield similar results (Provision of higher order transit with attractive and reliable service can attract population and employment)	Alternatives yield similar results (Provision of higher order transit with attractive and reliable service can attract population and employment)	
		C 2.3) Provides flexibility and adaptability for staging and expansion by preserving opportunities for existing and future connections	Connection opportunities with existing and future transit services	Alternatives yield similar results (Union Station, Bay, Lower Jarvis, Parliament, Cherry)	Alternatives yield similar results (Union Station, Bay, Lower Jarvis, Parliament, Cherry)	
		C 2.4) Provides feasible transit operations at connecting points (i.e. Cherry Street, Union Station loop, etc.)	Provisions for feasible transit operations at connecting points	Alternatives yield similar results (Similar to Option 2)	Alternatives yield similar results (Similar to Option 1)	
		C 2.5) Provides for **transit** travellers wishing to travel though the study area but who are not destined for locations in the study area	Connection with the West Don Lands and the Port Lands	Alternatives yield similar results (Future connection with Cherry Street provides for transit users heading to/from the West Don Lands and the Portlands)	Alternatives yield similar results (Future connection with Cherry Street provides for transit users heading to/from the West Don Lands and the Portlands)	
		C 2.6) Maximizes safety	Measures to improve separation between transit and autos - above and beyond current practice	Standard design similar to Spadina Avenue or Queens Quay West - no additional measures	Transit ROW fully integrated with public realm on the south side. Transit users heading to/from the south side are fully protected from auto traffic.	
	C3) Vehicles	C 3.1) Connects to other planned Waterfront Precincts at boundaries of study area	Provision for connection to other planned Waterfront Precincts	Alternatives yield similar results (Design accommodates future extension of Queens Quay to Cherry Street which will provide connection to the West Don Lands and the Port Lands)	Alternatives yield similar results (Design accommodates future extension of Queens Quay to Cherry Street which will provide connection to the West Don Lands and the Port Lands)	
		C 3.2) Provides access to blocks at identified intersections in precinct plans	Number of signalized intersections east of Yonge Street	4 (Freeland, Lower Jarvis, Lower Sherbourne, Aitken Place)	5 (Freeland, Lower Jarvis, Richardson, Lower Sherbourne, Aitken Place)	Not including Redpath driveways
			Number of unsignalized vehicular access to future development blocks north of Queens Quay East	2.5 Cooper (westbound only), Richardson (westbound only), Street 'A' (westbound only), Bonnycastle (westbound only), Small (westbound only)	4 Cooper, Street 'A', Bonnycastle, Small	1 = two directions, 0.5 = one direction only; not including Redpath driveways
			Number of unsignalized vehicular access to future development blocks south of Queens Quay East	0.5 Richardson (eastbound only)	0	1 = two directions, 0.5 = one direction only; not including Redpath driveways
		C 3.3) Maximizes safety	Measures for controlling transit / auto traffic conflicts **(LEFT TURNS)**	East-West: protected turn phase and exclusive turn lane provided at 4 signalized intersections.	Westbound: protected turn phase and exclusive turn lane provided at 4 signalized intersections.	
			Measures for controlling transit / auto traffic conflicts **(RIGHT TURNS)**	None	Eastbound: protected turn phase and exclusive turn lane provided at 3 signalized intersections; Northbound: requires right-turn-on-red prohibition	
		C 3.4) Provides for auto travellers needing to travel in and around the study area	Impact on roadway capacity	Alternatives yield similar results (Similar roadway capacity: one lane per direction with dedicated turn lanes)	Alternatives yield similar results (Similar roadway capacity: one lane per direction with dedicated turn lanes)	
			Number of turning movements between Yonge Street and Parliament Street that can be accommodated **(EASTBOUND)**	Left-turns: 3 (Lower Jarvis, Lower Sherbourne, Aitken Place)	Left-turns: 9 (Freeland, Cooper, Lower Jarvis, Richardson, Street 'A', Lower Sherbourne, Bonnycastle, Aitken Place, Small)	
				Alternatives yield similar results (4 right-turns at Freeland, Richardson, Lower Sherbourne, and Aitken Place)	Alternatives yield similar results (4 right-turns at Freeland, Richardson, Lower Sherbourne, and Aitken Place)	Not including Redpath driveways
			Number of turning movements between Yonge Street and Parliament Street that can be accommodated **(WESTBOUND)**	Alternative yield similar results (3 left-turns at Freeland, Lower Sherbourne, and Aitken Place)	Alternative yield similar results (3 left-turns at Freeland, Lower Sherbourne, and Aitken Place)	Not including Redpath driveways
				Alternatives yield similar results (9 right-turns at Freeland, Cooper, Lower Jarvis, Richardson, Street 'A', Lower Sherbourne, Bonnycastle, Aitken Place, and Small)	Alternatives yield similar results (9 right-turns at Freeland, Cooper, Lower Jarvis, Richardson, Street 'A', Lower Sherbourne, Bonnycastle, Aitken Place, and Small)	
	C4) Barrier Free Design	C 4.1) Provides barrier free access (Part of Design Standards)	Provisions for barrier free access	Appropriate design guidelines/standards for barrier free access will be applied during Detailed Design	In addition to application of appropriate design guidelines/standards for barrier free access, transit ROW will be fully integrated with public realm on the south side (transit users heading to/from the south side are fully protected from auto traffic)	
	C5) Cyclists	C 5.1) Provides connections to future cycling networks	Design provides connection with other bike routes in vicinity	Alternatives yield similar results (Yes)	Alternatives yield similar results (Yes)	
		C 5.2) Provides for on-street and off-street cycling facilities as identified in the Secondary Plans and Precinct Plans	Design accommodates an off-road Martin Goodman Trail along the entire length of the corridor - continuation from Central Waterfront	No	Yes	
		C 5.3) Maximizes safety	Measures to improve separation from autos	Meets bicycle standards for on-street bike lanes	Meets bicycle standards for off-road bike trail. Off-road trail minimizes conflict with other modes.	
			Measures to improve separation from pedestrians	Grade separation: roadway, curb, sidewalk	Combination of row of trees, surface treatments, bollards	
	C6) Pedestrians	C 6.1) Pedestrian crossing frequency	Number of controlled north-south pedestrian crossings	4 (Freeland, Lower Jarvis, Lower Sherbourne, Aitken Place)	5 (Freeland, Lower Jarvis, Richardson, Lower Sherbourne, Aitken Place)	Not including Redpath driveways
		C 6.2) Maximizes cross-street access by minimizing crossing distance	Typical north-south crossing distance from curb to curb (m)	23 (From north curb line to south curb line)	10 (From north curb line to centre median)	
		C 6.3) Minimizes distance from transit stops to centres of interest	Average distance from transit stops to centres of interest	Alternatives yield similar results (Similar placement of stops)	Alternatives yield similar results (Similar placement of stops)	

TABLE 1
ASSESSMENT OF STREETCAR ALIGNMENTS

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Option 1 Centre Transit with On-Street Bike Lanes	Option 2 South Side Transit with Off-Street Martin Goodman Trail	Notes
		C 6.4) Accommodates safe and pleasant pedestrian sidewalks of a sufficient width as identified in the Precinct Plans	Typical Sidewalk width on the north side of Queens Quay East (m)	Alternatives yield similar results (4.5)	Alternatives yield similar results (4.5)	
			Typical Sidewalk width on the south side of Queens Quay East (m)	5.5	6	
		C 6.5) Provides Waterfront and Don Valley trail connections	Provision for connection	Alternatives yield similar results (Connection can be accommodated in both alternatives)	Alternatives yield similar results (Connection can be accommodated in both alternatives)	
		C 6.6) Maximizes safety	Measures to minimize pedestrian conflicts	Provision of centre medians at intersections as refuge for north-south pedestrian crossing activities. 3 additional signalized crossings.	Reduced road width reduces crossing distance. Provision of a 2-stage pedestrian crossing strategy at Lower Jarvis Street. Provision of centre medians at intersections as refuge for north-south pedestrian crossing activities. 5 additional signalized crossings.	
	C7) Emergency Vehicle Operations	C 7.1) Emergency response	Compatible with Fire, Police, and EMS practices / requirements	Alternatives yield similar results (Yes)	Alternatives yield similar results (Yes)	
D) Socio-Economic Environment	D1) Automobile Use in and Through Area	D 1.1) Minimizes through auto travel on local roads		Alternatives yield similar results (accommodates local development traffic but has minimal capacity for through traffic)	Alternatives yield similar results (accommodates local development traffic but has minimal capacity for through traffic)	
	D2) Tourism and Waterfront Access	D 2.1) Provides transit stop access to attractions	Number of transit stops provided east of Yonge Street	Alternatives yield similar results (4 stops)	Alternatives yield similar results (4 stops)	
		D 2.2) Tourism competitiveness	Sightseeing potential	Water view and improved public realm	Water view with improved public realm, making destination street	
		D 2.3) Ability to provide a "Main Street" environment	Window shopping-friendly and outdoor dining opportunities (Yes/No)	Yes Limited non-auto space limits opportunities	Yes Additional non-auto space provides greatest opportunity	
	D3) Effects on Existing and Future Commercial Properties	D 3.1) Effects on vehicular access to commercial properties	Westin Harbour Castle Hotel	Alternatives yield similar results (None)	Alternatives yield similar results (None)	
			LCBO Store	Eastbound access eliminated	Similar to existing condition	
			Redpath Sugar	Westbound access eliminated	Similar to existing condition though less flexible than today's operation	
			Loblaws	Eastbound access eliminated	Similar to existing condition	
		D 3.2) Affects parking for existing businesses	Taxi stand at Westin Harbour Castle Hotel	Alternatives yield similar results (None)	Alternatives yield similar results (None)	
		D 3.3) Provides delivery and loading access	Westin Harbour Castle Hotel	See D 3.1	See D 3.1	
			LCBO Store	See D 3.1	See D 3.1	
			Redpath Sugar	See D 3.1	See D 3.1	
			Loblaws	See D 3.1	See D 3.1	
		D 3.4) Minimizes adverse effects to Redpath freight rail spur		Alternatives yield similar results (No impact - Redpath will terminate use of rail spur)	Alternatives yield similar results (No impact - Redpath will terminate use of rail spur)	
		D 3.5) Minimizes EMI adverse effects (after construction)	Number of EMI sensitive uses in proximity that are adversely affected	Alternatives yield similar results (None identified)	Alternatives yield similar results (None identified)	
		D 3.7) Minimizes noise and vibration adverse effects (after construction) on **existing** businesses	Potential to minimize perceived noise effects on **existing** businesses	Alternatives yield similar results (Predicted noise and vibration levels beyond the road ROW likely to be below the guideline limits)	Alternatives yield similar results (Although streetcar tracks will be closer to existing uses on the south side of Queens Quay East, predicted noise levels are below the guideline limits while predicted vibration levels beyond the road ROW are also below the guideline limits.)	
		D 3.7) Minimizes noise and vibration adverse effects (after construction) on **future** businesses	Potential to minimize perceived noise effects on **future** businesses	Alternatives yield similar results (Predicted noise and vibration levels beyond the road ROW likely to be below the guideline limits)	Alternatives yield similar results (Although streetcar tracks will be closer to future uses on the south side of Queens Quay East, predicted noise levels are below the guideline limits while predicted vibration levels beyond the road ROW are also below the guideline limits.)	
	D4) Effects on Existing and Future Residential Properties	D 4.1) Effects on existing vehicular access to residential properties	Existing residential properties with main entrance affected	Alternatives yield similar results (MT 27)	Alternatives yield similar results (MT 27)	
		D 4.2) Noise and vibration effects (after construction) on **existing** residents	Potential to minimize perceived noise effects on **existing** residents	Alternatives yield similar results (Predicted noise and vibration levels beyond the road ROW likely to be below the guideline limits)	Alternatives yield similar results (Although streetcar tracks will be closer to existing uses on the south side of Queens Quay East, predicted noise levels are below the guideline limits while predicted vibration levels beyond the road ROW are also below the guideline limits.)	
		D 4.3) Noise and vibration effects (after construction) on **future** residents	Potential to minimize perceived noise effects on **future** residents	Alternatives yield similar results (Predicted noise and vibration levels beyond the road ROW likely to be below the guideline limits)	Alternatives yield similar results (Although streetcar tracks will be closer to future uses on the south side of Queens Quay East, predicted noise levels are below the guideline limits while predicted vibration levels beyond the road ROW are also below the guideline limits.)	
	D5) Effects on Contaminated Soils	D 5.1) Minimizes impacts on/of contaminated soils	Potential for affecting potential contaminants	Alternatives yield similar results (Potential contaminants are likely to be outside of road ROW)	Alternatives yield similar results (Potential contaminants are likely to be outside of road ROW)	
E) Natural Environment	E1) Air Quality	E 1.1) Minimizes adverse effects to air quality	Relative impact to local air quality for each alternative (qualitative)	Improved pedestrian facilities, transit service and cycling facilities will reduce auto use and reduce vehicle emissions relative to future growth	Greatest improvement to pedestrian facilities, transit service and cycling facilities will reduce more auto use and reduce more vehicle emissions relative to future growth	
		E 1.2) Maximizes opportunities to improve air quality	Promote alternative modes of travel	Improves pedestrian facilities, transit service and cycling facilities	Greatest improvements to pedestrian facilities, transit service and cycling facilities	
		E 1.3) Minimizes emission of greenhouse gases	Potential to reduce CO2 and particulates	Good opportunity to increase non-auto trips and improve tree canopy will reduce CO2 and particulates	Greatest opportunity to increase non-auto trips and improve tree canopy will best reduce CO2 and particulates	
	E2) Aquatic Habitats	E 2.1) Minimizes adverse effects to aquatic habitats	Area of existing aquatic habitat impacted (ha)	Alternatives yield similar results (Minimal effects anticipated)	Alternatives yield similar results (Minimal effects anticipated)	
		E 2.2) Maximizes opportunity to enhance aquatic habitat	Potential to enhance aquatic habitat	Alternatives yield similar results (Minimal effects anticipated)	Alternatives yield similar results (Minimal effects anticipated)	
	E3) Vegetation	E 3.1) Maximizes opportunity to enhance vegetation	Approximate number of trees added	200	300	
			Growing conditions / soil volume	Improved growing environment meeting City guidelines of min. 30 cubic metres per tree. Restricted to one row of trees on south side.	Improved growing environment meeting City guidelines of min. 30 cubic metres per tree. Continuous root zone between two rows of trees on south side.	
			Density of tree canopy	25%	35%	
	E4) Water Quality	E 4.1) Maximizes potential for stormwater quality control	Need for supplemental collection and treatment	Minimum soil volume for treatment	Maximum soil volume for treatment	
		E 4.2) Minimizes adverse effects to existing stormwater facilities	Area of impervious surface	Larger as a result of wider pavement width	Smaller as a result of narrower pavement width	
F) Cultural Environment	F1) Built Heritage Features	F 1.1) Minimizes built heritage features affected	Number of built heritage features directly impacted	Alternatives yield similar results (No direct impact on built heritage features anticipated)	Alternatives yield similar results (No direct impact on built heritage features anticipated)	
		F 1.2) Maximizes opportunities to enhance built heritage features	Number of built heritage feature enhancement opportunities	Alternatives yield similar results (None identified)	Alternatives yield similar results (None identified)	
	F2) Cultural Landscapes	F 2.1) Minimizes cultural landscapes affected	Preservation of cultural landscapes within the study area	Alternatives yield similar results (Minimal effects anticipated)	Alternatives yield similar results (Minimal effects anticipated)	
		F 2.2) Maximizes opportunities to enhance cultural landscapes	Number of cultural landscape enhancement opportunities	Alternatives yield similar results (None identified)	Alternatives yield similar results (None identified)	
	F3) Archaeological Features	F 3.1) Minimizes archaeological features affected	Effect on potential archaeological features	Alternatives yield similar results (Minimal effects anticipated)	Alternatives yield similar results (Minimal effects anticipated)	
	F4) First Nations Peoples and Activities	F 4.1) Minimizes adverse effects to land and resources used for traditional purposes	Area of land used for traditional purposes (ha)	Alternatives yield similar results (None identified)	Alternatives yield similar results (None identified)	
G) Cost	G1) Capital Costs	G 1.1) Minimizes construction and transit vehicle acquisition costs	Potential to minimize infrastructure construction costs	Alternatives yield similar results	Alternatives yield similar results	
			Potential to minimize transit vehicle acquisition costs	Alternatives yield similar results	Alternatives yield similar results	
	G2) Property Acquisition	G 2.1) Minimizes property acquisitions (qualitative)	Potential to minimize property acquisition required	Alternatives yield similar results	Alternatives yield similar results	
	G3) Transit operating Costs	G 3.1) Minimize the net operating cost (qualitative)	Potential to minimize operating cost incurred DURING CONSTRUCTION	Alternatives yield similar results	Alternatives yield similar results	
			Potential to minimize operating cost incurred AFTER CONSTRUCTION	Alternatives yield similar results	Alternatives yield similar results	

TABLE 2
EVALUATION OF STREETCAR ALIGNMENTS
(Key Decision-Relevant Factors)

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Option 1 Centre Transit with On-Street Bike Lanes	Option 2 South Side Transit with Off-Street Martin Goodman Trail	Notes
A) Planning Policies	A2) City, TWRC, and Provincial Policies	A 2.1) Supports the City's Central Waterfront Secondary Plan, East Bayfront Class EA Master Plan, and standards for transportation planning and design	Improved connections	North south/east west conditions improved. Satsifies Policy.	Greater improvement of north sout/east west connections. Best satisfies Policy.	
			Scenic waterfront drive	Improved street design will satisfy Policy	Unique street design will provide best opportunity to satsify Policy	
			Martin Goodman Trail	No opportunity to satisfy Policy	Provides best opportunity to satisfy Policy.	
			Network of parks and open spaces	Improved pedestrian environment will help connect parks and other public space improvements. Satisfies Policy.	Linear park street design will connect parks and public spaces improvements along corridor. Best satsifies Policy.	
		A 2.2) Supports Goals and Intentions of Central Waterfront Design Competition	Compatible with streetcar ROW on the south side of Queens Quay?	Less compatible with goals and intentions of Central Waterfront Design Competition	More compatible with goals and intentions of Central Waterfront Design Competition	
		A 2.3) Supports Waterfront Toronto's East Bayfront Precinct Plan and Sustainability Framework.	Minimize car use, increase walking, cycling, and public transit use	Improved transit, with provision of on-street bike lanes and adequate sidewalk widths, has good potential to minimize car use and increase walking, cycling, and public transit use	Improved street design for pedestrians and cyclists, in addition to improved transit, has higher potential to minimize car use and increase walking, cycling, and public transit use	
	EVALUATION			◑	●	
SUMMARY				◑	●	
B) Urban Design	B1) Streetscaping	B1.1) Enhances public spaces by providing a continuous boulevard across the width of the roadway along the entire Queens Quay corridor	Accommodates consistent street elements	Consistent: - Single row of trees both sides of street - on-street bike lanes - paving opportunities - tramway material opportunities	Consistent: - Double row of trees south/Single row north - off-street bike lanes - paving opportunities - limited tramway material opportunities	
		B1.2) Allows existing buildings to retain a gracious and functional sense of address	Accommodates context-specific street design	Yes However, available non-auto space provides limited opportunities.	Yes Additional non-auto space provides greatest opportunity.	
		B1.3) Supports sustainable landscaping/urban forestry	Measures to improve wind amelioration	Increased tree canopy	Greatest increase in tree canopy	
			Measures to improve summer shade	Increased tree canopy	Greatest increase in tree canopy	
	EVALUATION			◑	●	
	B3) Public spaces and the pedestrian realm	B 3.1) Maximizes potential to enhance public spaces and cultural opportunities including public art opportunities	Accommodates unique civic experience	No Configuration's non-auto space provides limited opportunity.	Yes Additional non-auto space provides greatest opportunity.	
			Accommodates a grand yet comfortably scaled public realm	No Non-auto space is disproportionate to pedestrian volumes	Yes Public realm is rebalanced to better serve all users	
		B 3.2) Accommodates special events	Potential to accommodate special events / minimizes impact of traffic operations	Lower Increased space for tents and kiosks due to widened southside pedestrian boulevard. Other special events such as parades and runs--cannot be accommodated without affecting roadway operations.	Higher Most space available for tents and kiosks without affecting roadway operations. Other special events such as parades and runs can be accomodated without closing all lanes of travel if Martin Goodman Trail is sufficient.	
			Accommodates variety of activities (passive / active)	Strolling, jogging (on sidewalk), biking (on-street)	Strolling, jogging and biking off-street, separated from pedestrian boulevard	
		B 3.3) Supports potential for sidewalk enhancement / improvements	Accommodates accessible and interesting street-side experience	No Configuration's non-auto space provides limited opportunity	Yes Additional non-auto space provides greatest opportunity	
		B 3.4) Maximizes visual connectivity	Connectivity along waterfront and between attractions	Medium Increased non-auto space	High Additional non-auto space provides greatest opportunity for landscaping (visual connections) and to connect the waterfront for all modes	
	EVALUATION			◑	●	
SUMMARY				◑	●	
C) Transportation	C1) Auto Dependence	C1.1) Maximizes non-auto (transit, pedestrian, and cycling) modal split for trips to, and within, the study area	Measures to improve non-auto modal split	Improved pedestrian facilities, transit service and cycling facilities will help reduce auto use and increase non-auto modal split	Greatest improvement to pedestrian facilities, transit service and cycling facilities will encourage more non-auto use and result in larger increase in non-auto modal split	
		C1.2) Maximizes non-auto (transit, pedestrian, and cycling) modal splits for trips through the study area	Measures to improve non-auto modal split	Improved pedestrian facilities, transit service and cycling facilities will help reduce auto use and increase non-auto modal split	Greatest improvement to pedestrian facilities, transit service and cycling facilities will encourage more non-auto use and result in larger increase in non-auto modal split	
	EVALUATION			◕	●	
	C2) Transit	C 2.6) Maximizes safety	Measures to improve separation between transit and autos - above and beyond current practice	Standard design similar to Spadina Avenue or Queens Quay West - no additional measures	Transit ROW fully integrated with public realm on the south side. Transit users heading to/from the south side are fully protected from auto traffic.	
	EVALUATION			◑	●	
	C3) Vehicles	C 3.2) Provides access to blocks at identified intersections in precinct plans	Number of signalized intersections east of Yonge Street	4 (Freeland, Lower Jarvis, Lower Sherbourne, Aitken Place)	5 (Freeland, Lower Jarvis, Richardson, Lower Sherbourne, Aitken Place)	Not including Redpath driveways
			Number of unsignalized vehicular access to future development blocks north of Queens Quay East	2.5 Cooper (westbound only), Richardson (westbound only), Street 'A' (westbound only), Bonnycastle (westbound only), Small (westbound only)	4 Cooper, Street 'A', Bonnycastle, Small	1 = two directions, 0.5 = one direction only; not including Redpath driveways
			Number of unsignalized vehicular access to future development blocks south of Queens Quay East	0.5 Richardson (eastbound only)	0	1 = two directions, 0.5 = one direction only; not including Redpath driveways
		C 3.3) Maximizes safety	Measures for controlling transit / auto traffic conflicts **(LEFT TURNS)**	East-West: protected turn phase and exclusive turn lane provided at 4 signalized intersections.	Westbound: protected turn phase and exclusive turn lane provided at 4 signalized intersections.	
			Measures for controlling transit / auto traffic conflicts **(RIGHT TURNS)**	None	Eastbound: protected turn phase and exclusive turn lane provided at 3 signalized intersections; Northbound: requires right-turn-on-red prohibition	
		C 3.4) Provides for auto travellers needing to travel in and around the study area	Number of turning movements between Yonge Street and Parliament Street that can be accommodated **(EASTBOUND)**	Left-turns: 3 (Lower Jarvis, Lower Sherbourne, Aitken Place)	Left-turns: 9 (Freeland, Cooper, Lower Jarvis, Richardson, Street 'A', Lower Sherbourne, Bonnycastle, Aitken Place, Small)	
	EVALUATION			◔	●	
	C4) Barrier Free Design	C 4.1) Provides barrier free access (Part of Design Standards)	Provisions for barrier free access	Appropriate design guidelines/standards for barrier free access will be applied during Detailed Design	In addition to application of appropriate design guidelines/standards for barrier free access, transit ROW will be fully integrated with public realm on the south side (transit users heading to/from the south side are fully protected from auto traffic)	
	EVALUATION			◑	●	
	C5) Cyclists	C 5.2) Provides for on-street and off-street cycling facilities as identified in the Secondary Plans and Precinct Plans	Design accommodates an off-road Martin Goodman Trail along the entire length of the corridor - continuation from Central Waterfront	No	Yes	
		C 5.3) Maximizes safety	Measures to improve separation from autos	Meets bicycle standards for on-street bike lanes	Meets bicycle standards for off-road bike trail. Off-road trail minimizes conflict with other modes.	
			Measures to improve separation from pedestrians	Grade separation: roadway, curb, sidewalk	Combination of row of trees, surface treatments, bollards	
	EVALUATION			◑	●	
	C6) Pedestrians	C 6.1) Pedestrian crossing frequency	Number of controlled north-south pedestrian crossings	4 (Freeland, Lower Jarvis, Lower Sherbourne, Aitken Place)	5 (Freeland, Lower Jarvis, Richardson, Lower Sherbourne, Aitken Place)	Not including Redpath driveways
		C 6.2) Maximizes cross-street access by minimizing crossing distance	Typical north-south crossing distance from curb to curb (m)	23 (From north curb line to south curb line)	10 (From north curb line to centre median)	
		C 6.4) Accommodates safe and pleasant pedestrian sidewalks of a sufficient width as identified in the Precinct Plans	Typical Sidewalk width on the south side of Queens Quay East (m)	5.5	6	
		C 6.6) Maximizes safety	Measures to minimize pedestrian conflicts	Provision of centre medians at intersections as refuge for north-south pedestrian crossing activities. 3 additional signalized crossings.	Reduced road width reduces crossing distance. Provision of a 2-stage pedestrian crossing strategy at Lower Jarvis Street. Provision of centre medians at intersections as refuge for north-south pedestrian crossing activities. 5 additional signalized crossings.	
	EVALUATION			◔	◔	
SUMMARY				◑	◑	
D) Socio-Economic Environment	D2) Tourism and Waterfront Access	D 2.2) Tourism competitiveness	Sightseeing potential	Water view and improved public realm	Water view with improved public realm, making destination street	
		D 2.3) Ability to provide a "Main Street" environment	Window shopping-friendly and outdoor dining opportunities (Yes/No)	Yes Limited non-auto space limits opportunities	Yes Additional non-auto space provides greatest opportunity	
	EVALUATION			◕	●	

TABLE 2
EVALUATION OF STREETCAR ALIGNMENTS
(Key Decision-Relevant Factors)

Objectives	Criteria	Indicators (The degree to which the alternative…)	Measure	Option 1 Centre Transit with On-Street Bike Lanes	Option 2 South Side Transit with Off-Street Martin Goodman Trail	Notes
	D3) Effects on Existing and Future Commercial Properties	D 3.1) Effects on vehicular access to commercial properties	LCBO Store	Eastbound access eliminated	Similar to existing condition	
			Redpath Sugar	Westbound access eliminated	Similar to existing condition though less flexible than today's operation	
			Loblaws	Eastbound access eliminated	Similar to existing condition	
	EVALUATION			◔	●	
SUMMARY				◔	●	
E) Natural Environment	E1) Air Quality	E 1.1) Minimizes adverse effects to air quality	Relative impact to local air quality for each alternative (qualitative)	Improved pedestrian facilities, transit service and cycling facilities will reduce auto use and reduce vehicle emissions relative to future growth	Greatest improvement to pedestrian facilities, transit service and cycling facilities will reduce more auto use and reduce more vehicle emissions relative to future growth	
		E 1.2) Maximizes opportunities to improve air quality	Promote alternative modes of travel	Improves pedestrian facilities, transit service and cycling facilities	Greatest improvements to pedestrian facilities, transit service and cycling facilities	
		E 1.3) Minimizes emission of greenhouse gases	Potential to reduce CO2 and particulates	Good opportunity to increase non-auto trips and improve tree canopy will reduce CO2 and particulates	Greatest opportunity to increase non-auto trips and improve tree canopy will best reduce CO2 and particulates	
	EVALUATION			◕	●	
	E3) Vegetation	E 3.1) Maximizes opportunity to enhance vegetation	Approximate number of trees added	200	300	
			Growing conditions / soil volume	Improved growing environment meeting City guidelines of min. 30 cubic metres per tree. Restricted to one row of trees on south side.	Improved growing environment meeting City guidelines of min. 30 cubic metres per tree. Continuous root zone between two rows of trees on south side.	
			Density of tree canopy	25%	35%	
	EVALUATION			◕	●	
	E4) Water Quality	E 4.1) Maximizes potential for stormwater quality control	Need for supplemental collection and treatment	Minimum soil volume for treatment	Maximum soil volume for treatment	
		E 4.2) Minimizes adverse effects to existing stormwater facilities	Area of impervious surface	Larger as a result of wider pavement width	Smaller as a result of narrower pavement width	
	EVALUATION			◕	●	
SUMMARY				◕	●	