

Summary of Keating Channel Bridge Design Alternatives in Keating Channel Precinct

Evaluation Criteria	Alternative 1 Moveable Bridges (includes lift or swing bridges).	Alternative 2 Fixed Bridges (includes standard slab-on-girder bridges or arch bridges).
Natural Environment ▪ Don Mouth Naturalization ▪ New Natural Area – (Wetlands)	No difference between design alternatives.	
Social Environment ▪ Vibrant, mixed use community ▪ Access to water	- Moveable bridges restrict pedestrian access under bridge and limit/interrupt pedestrian flow along Keating Channel, which is critical to the vibrancy of the proposed mixed use community. + Moveable bridges maximize vertical navigational clearance for ship navigation in the Keating Channel.	+ Fixed bridges will be designed to permit pedestrian passage along the Keating Channel, which is important to the vibrancy of the proposed mixed use community adjacent to the channel. - Fixed bridges have limited vertical navigational clearance but will provide access for recreational vessels, tour boats and water taxis in the Keating Channel.
Economic Environment ▪ Economically viable blocks ▪ Cost-effective to build	- Moveable bridges are more costly because they require an operator. - Moveable bridges have higher levels of operation and maintenance costs because they are prone to failure.	+ Fixed bridges have lower operational and maintenance costs.
Cultural Environment ▪ Aboriginal people ▪ Heritage structures ▪ Archaeology	+ Moveable bridges are consistent with the cultural heritage of existing Cherry Street bridge.	- Fixed bridges are not consistent with existing Cherry Street Bridge.
Sustainability ▪ WT Sustainability Framework ▪ City sustainability standards ▪ Impervious surfaces	No difference between design alternatives	
Land Use and Property ▪ New land uses ▪ Public realm goals ▪ Property	No difference between design alternatives	
Transportation ▪ Walkability ▪ Transit priority ▪ Zero-growth traffic ▪ Parking	- Moveable bridges cause delay to vehicle, pedestrian/cyclist and transit traffic when bridges are in “up” position. - Moveable bridges also cause potential delays for emergency service providers when bridges are in “up” position.	+ Fixed bridges accommodate continuous and uninterrupted passage for pedestrian/cyclists, vehicles and transit. + Fixed bridges will not restrict access for emergency services.
Municipal Services Utilities	- Moveable bridges prevent utilities from being combined with bridge structure.	+ Fixed bridges provide potential to combine utilities with road on structure.
Summary	NOT PREFERRED	PREFERRED

Alternative 2 is the Preferred Keating Channel Bridge Design because fixed bridges reduce travel delay through the Precinct, are more compatible with providing efficient transit service through the area, are pedestrian and bicycle friendly, and are at a scale that is appropriate for future land uses adjacent to the channel. Although navigational clearances will be reduced, the proposed fixed bridges will continue to provide access for recreational vessels, tour boats, dredge barges and water taxis in the Keating Channel.

Legend
+ Advantage
- Disadvantage

Summary of Lake Shore Boulevard Bridge and Harbour Lead Rail Bridge Design Alternatives in Keating Channel Precinct

Evaluation Criteria	Alternative 1 Modify and extend the existing bridges.	Alternative 2 Reconstruct and extend the existing bridges.
Natural Environment <ul style="list-style-type: none"> ▪ Don Mouth Naturalization ▪ New Natural Area – (Wetlands) 	No difference between design alternatives – both designs improve hydraulic capacity.	
Social Environment <ul style="list-style-type: none"> ▪ Vibrant, mixed use community ▪ Access to water 	No difference between design alternatives.	
Economic Environment <ul style="list-style-type: none"> ▪ Economically viable blocks ▪ Cost-effective to build 	+ Less costly to modify and extend the existing structures.	- More costly to reconstruct entire bridges.
Cultural Environment <ul style="list-style-type: none"> ▪ Aboriginal people ▪ Heritage structures ▪ Archaeology 	No difference between alternatives – there are no impacts to heritage structures, and both have the potential for minor impacts to archaeological resources.	
Sustainability <ul style="list-style-type: none"> ▪ WT Sustainability Framework ▪ City sustainability standards ▪ Impervious surfaces 	No difference between design alternatives – impervious surface areas are the same.	
Land Use and Property <ul style="list-style-type: none"> ▪ New land uses ▪ Public realm goals ▪ Property 	No difference between design alternatives – Neither bridge improvement will require property.	
Transportation <ul style="list-style-type: none"> ▪ Walkability ▪ Transit priority ▪ Zero-growth traffic ▪ Parking 	+ Modifying and extending the existing bridges will have a shorter construction period, resulting in less impact to the pedestrian/cyclist, road and rail traffic.	- Reconstructing and extending the existing bridges will have a longer duration of construction because of the requirement to remove and reconstruct the existing bridge substructure components, and as such will have a greater impact to the pedestrian/cyclist, road and rail traffic.
Municipal Services Utilities	No difference between design alternatives	
Summary	PREFERRED	NOT PREFERRED

Alternative 1 is the preferred Lake Shore Boulevard Bridge and Harbour Lead Rail Bridge Design because it takes advantage of the fact that the bridges are in relatively good condition and can be modified to provide the required hydraulic capacity and roadway/rail geometrics.

Legend + Advantage - Disadvantage

Summary of Cherry Street Design Alternatives at Rail Berm

Evaluation Criteria	Alternative 1 Replace existing bridge with a new structure accommodating both a widened road cross-section and new LRT span.	Alternative 2 Keep the existing bridge and build a second underpass for the LRT (east of the existing bridge).	Alternative 3 Replace existing bridge with a new structure accommodating a widened road cross-section and add a second underpass for the LRT.
Natural Environment ▪ Don Mouth Naturalization ▪ New Natural Area – (Wetlands)	No difference between design alternatives		
Social Environment ▪ Vibrant, mixed use community ▪ Access to water	No difference between design alternatives		
Economic Environment ▪ Economically viable blocks ▪ Cost-effective to build	+ Maximizes viability of development blocks by “bundling” transit with roadway. + Combining roadway and LRT into a single structure reduces overall costs.	+ Less costly to maintain existing structure and build separate underpass for the LRT.	- Constructing separate structures for roadway and LRT increase costs.
Cultural Environment ▪ Aboriginal people ▪ Heritage structures ▪ Archaeology	No difference between design alternatives		
Sustainability ▪ WT Sustainability Framework ▪ City sustainability standards ▪ Impervious surfaces	No difference between design alternatives		
Land Use and Property ▪ New land uses ▪ Public realm goals ▪ Property	+ Maximizes areas available for new land uses with “bundled” transit and roadway through rail berm. + Requires least amount of property.	- Reduces area available for new land uses - Requires larger amount of property due to LRT alignment.	- Reduces area available for new land uses - Requires largest amount of property due to separate structures and LRT alignment.
Transportation ▪ Walkability ▪ Transit priority ▪ Zero-growth traffic ▪ Parking	+ Provides improved transit and roadway geometry because it keeps transit together with roadway through rail berm. + Provides best intersection configuration at Cherry Street and Lake Shore Boulevard. + Maximizes feeling of openness in portal when pedestrians share space with road and transit through rail berm.	- LRT alignment and intersection configuration at Cherry Street and Lake Shore Boulevard is not desirable. - Condition and geometric deficiencies of existing bridge are not addressed. - Reduces openness for pedestrians in narrower portal through rail berm.	- Separation of roadway and transit results in undesirable horizontal alignments and intersection configuration of Cherry Street and Lake Shore Boulevard. + Maximizes feeling of openness in portal when pedestrians share space with road and transit through rail berm.
Municipal Services Utilities	No significant difference		
Summary	PREFERRED	NOT PREFERRED	NOT PREFERRED

Alternative 1 is the Preferred Cherry Street Portal Design because it addresses the geometric deficiencies of the existing bridge. Keeping Cherry Street and the LRT together through the rail berm facilitates improved connections and provides preferred alignment geometrics at the intersection of Cherry Street and Lake Shore Boulevard. This alternative also minimizes impacts in West Don Lands., to the north

<p>Legend + Advantage - Disadvantage</p>
