



BURNSIDE

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Appendix B

Evaluation of Alternatives

Appendix B

Evaluation Table

B1

McQuesten Park AT Bridge Environmental Assessment - Evaluation of Alternative Solutions

Criteria for Evaluating Alternatives	Do Nothing	Alternative 2: Eastern Option	Alternative 3: Western Option
A. Natural Environment			
1. Trees and vegetation to be temporarily or permanently removed	No bridge will be constructed. As a result, there will be no trees temporarily or permanently removed as all existing site conditions will remain unchanged.	Some impact to vegetation and trees in the study area. Significant impact not anticipated.	Some impact to vegetation and trees in the study area. Significant impact not anticipated.
<i>Rating</i>	Most Preferred	Most Preferred	Most Preferred
2. Temporary or permanent impact on wildlife, wildlife habitat or the habitat of Species at Risk	No bridge will be constructed. As a result, there will be no temporary or permanent impact on the wildlife habitat . Habitat of Species at Risk was not observed in the study area.	No species at risk or significant wildlife habitats are present. Urban, human-influenced habitat features, used by urban-tolerant species may be present. Temporary impacts may be reduced with appropriate construction timing.	No species at risk or significant wildlife habitats are present. Urban, human-influenced habitat features, used by urban-tolerant species may be present. Temporary impacts may be reduced with appropriate construction timing.
<i>Rating</i>	Most Preferred	Most Preferred	Most Preferred
3. Impact on Climate Change (potential for greenhouse gas emissions, impact to carbon sinks, resilience or vulnerability)	No bridge will be constructed. As a result, there will be no changes to current conditions.	Minor vegetation clearing is not anticipated to significantly impact the availability of carbon sinks. Potential for greenhouse gas emissions during construction activities can be minimized with appropriate pollution controls. The project provides an opportunity for active transportation which may provide a feasible alternative to the use of motorized vehicles for short trips in the area.	Minor vegetation clearing is not anticipated to significantly impact the availability of carbon sinks. Potential for greenhouse gas emissions during construction activities can be minimized with appropriate pollution controls. The project provides an opportunity for active transportation which may provide a feasible alternative to the use of motorized vehicles for short trips in the area.
<i>Rating</i>	Somewhat Preferred	More Preferred	More Preferred
Summary A. Natural Environment	Most Preferred	More Preferred	More Preferred

McQuesten Park AT Bridge Environmental Assessment - Evaluation of Alternative Solutions

Criteria for Evaluating Alternatives	Do Nothing	Alternative 2: Eastern Option	Alternative 3: Western Option
B Social - Cultural Environment			
1. Temporary or permanent impact to built heritage resources or cultural heritage landscapes	No bridge will be constructed. As a result, there will be no changes to current conditions.	Low potential for built heritage resources or cultural heritage landscapes. Impacts are not anticipated.	Low potential for built heritage resources or cultural heritage landscapes. Impacts are not anticipated.
<i>Rating</i>	Most Preferred	Most Preferred	Most Preferred
2. Impact on archaeological resources	No bridge will be constructed. As a result, there will be no changes to current conditions.	Archaeological potential not identified in the study area. Impacts to archaeological resources not anticipated.	Archaeological potential not identified in the study area. Impacts to archaeological resources not anticipated.
<i>Rating</i>	Most Preferred	Most Preferred	Most Preferred
3. Property acquisition needs	No bridge will be constructed. As a result, there is no private property to be acquired.	Acquisition of private property will be required on the north side of the bridge.	Acquisition of private property will be required on the north side of the bridge.
<i>Rating</i>	Most Preferred	Somewhat Preferred	Somewhat Preferred
4. Impacts to adjacent land use	No bridge will be constructed. As a result, there is no impact to adjacent properties.	Property acquisition may impact future uses of the remaining property on the north side of the bridge. The City will work with the landowner to minimize impacts.	Property acquisition may limit future uses of the remaining property on the north side of the bridge. The City will work with the landowner to minimize impacts. Likely to have impact on the park uses to the south. May encroach or limit the use of the baseball diamond in McQuesten Park.
<i>Rating</i>	Most Preferred	Somewhat Preferred	Less Preferred
5. Ability to support a connected trail network	No bridge will be constructed. As a result, no additional connection to support the trail network at this location.	Located to connect to existing trail network in McQuesten Park on the south side. A new trail connection and property would be required to connect to sidewalk/multi-use trail on north side of the bridge. Provides a connection to the soon-to-be upgraded Limeridge Transit Terminal.	New trail connection required to connect to existing trail network in McQuesten Park on the south side. Located to connect to sidewalk/cycling trail on the north side. Provides a connection to the soon-to-be upgraded Limeridge Transit Terminal.
<i>Rating</i>	Least Preferred	More Preferred	More Preferred
Summary B Social - Cultural Environment	Most Preferred	More Preferred	Somewhat Preferred

McQuesten Park AT Bridge Environmental Assessment - Evaluation of Alternative Solutions

Criteria for Evaluating Alternatives	Do Nothing	Alternative 2: Eastern Option	Alternative 3: Western Option
C Financial Factors			
1. Estimated capital costs	No bridge will be constructed. As a result, there will be no capital costs associated.	Moderate cost for construction.	comparitively high cost for construction as the bridge is longer and requires a third pier.
Rating	Most Preferred	Somewhat Preferred	Least Preferred
2. Estimated property acquisition needs	No bridge will be constructed. As a result, no property acquisition is required.	Property acquisition is anticipated.	Property acquisition is anticipated. S
Rating	Most Preferred	Somewhat Preferred	Somewhat Preferred
3. Estimated operational and maintenance costs	No bridge will be constructed. As a result, there will be no operational and maintenance costs associated.	comparitively lower operational and maintenance costs as bridge is shorter and has only two piers.	comparitively higher operational and maintenance costs than Alternative 2 due to longer bridge length and additional pier. Maintenance on the central pier may be difficult and require closure of some lanes on the LINC.
Rating	Most Preferred	More Preferred	Less Preferred
Summary C Financial Factors	Most Preferred	Somewhat Preferred	Least Preferred

McQuesten Park AT Bridge Environmental Assessment - Evaluation of Alternative Solutions

Criteria for Evaluating Alternatives	Do Nothing	Alternative 2: Eastern Option	Alternative 3: Western Option
D Technical Factors			
1. Complexity of construction and maintenance	No bridge will be constructed and all existing site conditions will remain unchanged. As a result, there will be no construction-related complexity or maintenance requirements.	Single-span of approximately 80 m. Designed with two piers, one at either end of the bridge. This alternative does not impact LINC widening requirements. Short closure of the LINC may be required during construction and major maintenance activities.	Two span of 60 m and 80 m with a pier between the off ramp and the westbound lanes and piers at each end of the bridge. Increased complexity of construction with third pier. The addition of the third pier would also directly impact LINC widening requirements and constructability within the corridor. Closure of one or more lanes may be required for a greater period of time to construct central pier and during any maintenance of central pier.
<i>Rating</i>	Most Preferred	Somewhat Preferred	Less Preferred
2. Compatibility with existing utilities infrastructure	No bridge will be constructed and all existing site conditions will remain unchanged. As a result, existing utilities and infrastructure will not be impacted.	Avoids direct impacts to existing utilities. There is potential that the bridge may partially obstruct light from one light post on the roadway.	Avoids direct impacts to existing utilities. There is potential that the bridge may partially obstruct light from one light post on the roadway.
<i>Rating</i>	Most Preferred	Somewhat Preferred	Somewhat Preferred
3. Ability to achieve public safety standards	Existing conditions meet all required public safety standards. There are some safety concerns for cyclists and pedestrians on Upper Wentworth due to high volumes of traffic, multiple interchange ramps and numerous access points, resulting in complex vehicle movements.	Will have an overhead clearance above the LINC of minimum 8.0 m, consistent with local standards. Additional fencing/barriers on the bridge are anticipated to reduce risk of falling objects. Design elements can minimize safety concerns.	Will have an overhead clearance above the LINC of minimum 8.0 m, consistent with local standards. Additional fencing/barriers on the bridge are anticipated to reduce risk of falling objects. Design elements can minimize safety concerns.
<i>Rating</i>	Somewhat Preferred	Most Preferred	Most Preferred

McQuesten Park AT Bridge Environmental Assessment - Evaluation of Alternative Solutions

4. Ability to meet AODA guidelines	No bridge will be constructed and all existing site conditions will remain unchanged. As a result, no modifications will be made to meet AODA guidelines.	The bridge can be designed to meet AODA guidelines.	The bridge can be designed to meet AODA guidelines.
<i>Rating</i>	Least Preferred	Most Preferred	Most Preferred
5. Impacts on traffic movement and safety	No bridge will be constructed and all existing site conditions will remain unchanged. As a result, there are no anticipated impacts on traffic movement and safety.	Improves safety by separating active transportation from high-volume traffic on Upper Wentworth. Bridge piers (2) introduce fixed-object hazards near right-of-way. May require guide-rails or clear zones. Fencing may be required at bridge approaches to prevent unauthorized highway access. With appropriate design, no impacts to traffic movement or safety are expected.	Improves safety by separating active transportation from high-speed traffic. Bridge piers introduce fixed-object hazards near right-of-way, an additional pier is located within the right of way, may require guide-rails or clear zones. Fencing may be required at bridge approaches to prevent unauthorized highway access. With appropriate design, no impacts to traffic movement or safety are expected.
<i>Rating</i>	Most Preferred	Most Preferred	Most Preferred
Summary D Technical Factors	More Preferred	More Preferred	More Preferred

Criteria for Evaluating Alternatives	Do Nothing	Alternative 2: Eastern Option	Alternative 3: Western Option
E Problem Statement			
1. Addresses Problem Statement?	No	Yes	Yes
Summary E Problem Statement	Does not meet POS	Meets POS	Meets POS

McQuesten Park AT Bridge Environmental Assessment - Evaluation of Alternative Solutions

Criteria for Evaluating Alternatives	Do Nothing	Alternative 2: Eastern Option	Alternative 3: Western Option
Overall Summary	Not Carried Forward	Preferred	Not Preferred

Order of Preference

Most Preferred

More Preferred

Somewhat Preferred

Less Preferred

Least Preferred