



Appendix E: Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
Socio-Economic Environment							
Property and Access	Impact to properties	- No property impacts.	- Typically access management measures deal with access at the public right-of-way / private land interface. Property impacts are typically minor, if any.	- Operational improvements that involve intersection reconfigurations will likely result in property impacts. This is expected to be the case at the Tiffin Street intersections. - Other operational improvements e.g., signal timing changes, will not impact properties.	- Will result in property impacts along the length of the corridor to accommodate all of the desired future uses. However, the expanded ROW is considered in the context of surround lands being redeveloped that will redefine the property fabric. It is expected that land use changes will occur first with appropriate lands dedicated to the ROW.	- It is assumed that the existing ROW on Bradford Street would remain the same.	- Would likely result in significant property impacts in other corridors, as these corridors are not anticipated for further widening beyond planned program.
	Impact to accesses	- No access impacts.	- May result in some access changes due to consolidation or removal of multiple Bradford Street accesses to single property.	- Some operational improvements may affect access e.g., requiring right-in/right-out access where medians are introduced near intersections.	- Access could change with the possible introduction of a centre median that accommodates left turns and space for landscape planting. - Access along the corridor is expected to change as a result of land use changes, redevelopment and intensification.	- Little change to access anticipated as a result of this Alternative. - Access along the corridor is expected to change as a result of land use changes, redevelopment and intensification.	- May result in access impacts in other corridors
Community Mobility and Connectivity	Connection to existing and planned active transportation facilities.	- No opportunity to enhance connections to existing and planned	- Not applicable. This option does not address network connectivity.	- This alternative creates an important opportunity to enhance active transportation	- Excellent opportunity to enhance connections to existing and planned road and	- Some opportunity to enhance connections to existing and planned road and active	- No opportunity to enhance connections to existing and planned road and active

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
		active transportation facilities.		connections through the implementation of the current Provincial design standards for accessible and safe crossing for cyclists, pedestrian and mobility device users at intersections.	active transportation facilities because this option provides for sufficient ROW for all uses i.e., functionally accounts for adequate space for pedestrians, cyclists and transit users within same boulevard space. - In combination with Alt 3, this alternative provides significant improvements to AT network connectivity.	transportation facilities. The existing ROW will be limited in accommodating all the desired functions, which may impact connectivity.	transportation facilities on Bradford Street
Provincial and City Policies and Priorities	Consistency with Provincial planning policies • A Place to Grow (Consolidated 2020) • Provincial Policy Statement (2020)	- Not consistent with Growth Plan because the existing road will not meet future multi-modal needs of the Urban Growth Centre.	- Consistent with Provincial policies to support concentration of new mixed-use development in Urban Growth Centres through encouraging more efficient use of land i.e., reducing multiple entrances on Bradford Street and propose planning for future access to high density mixed use building recognizing need for access by residential, commercial and municipal services vehicles.	- Consistent with Provincial policies to accommodate significant population growth in Urban Growth Centres and provide transportation systems that are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address the project needs.	- Consistent with Provincial policies to accommodate significant population growth in Urban Growth Centres and provide transportation systems that are safe, energy efficient, facilitate the movement of people and goods, and are appropriate to address the project needs.	- Not considered consistent with Provincial policies since this Alternative limits how transportation needs are balanced e.g., does not provide adequate ROW to prioritize transit infrastructure (e.g., transit priority lanes, transit only lanes) and does not account for the importance of goods movement among vehicle demand.	- May be consistent with Provincial policies to revitalize Barrie City Centre but does not address needs on Bradford Street and would not be compatible with other planning initiatives in the City

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
	Consistency with City planning policies and objectives • Official Plan (2022) • Transportation Master Plan (2019)	- Not consistent with OP and TMP because the existing road will not meet future multi-modal needs of the Intensification Corridor	- Similar to above, OP policies support more efficient use of land i.e., reducing multiple entrances on Bradford Street and propose planning for future access to high density mixed use building recognizing need for access by residential, commercial and municipal services vehicles. - Consistent with OP Transportation policies recognize the need to control and manage access to arterial streets.	- Efforts to improve operations and safety are consistent with the OP and TMP in supporting the important arterial road function, providing efficient connections via improved intersections within the growth area and mobility hub. - Consistent with OP Transportation policies related to Multi-Modal Intersections and providing safety and accessibility for all users. - Consistent with the specific TMP recommendations to improve intersection operations - focused on Tiffin Street.	- Consistent with OP policies related to mobility network hierarchy that recognizes functionally different needs based on traffic volume, access, transit service, pedestrian and cycling activity and development density. - Consistent with OP Transportation policies related to prioritizing public transit and active transportation while still considering the geographic-specific restraints and functionality of other modes. - Consistent with policies and intent of arterial streets with respect to intensification, complete street, accommodating all modes, with opportunity for transit lanes or transit priority. - Consistent with the creation of a complete street with appropriate customization according to street	- Does not recognize that Bradford Street is not intended to be downtown ‘main street’ within the overall network. - Not consistent with current OP and TMP policies which recognize the importance of Bradford Street in the network and as an arterial street, functioning to move people and goods, and to relieve pressure on Lakeshore Drive. This option would result in more traffic to Lakeshore Drive. - Precludes TMP recommendations with respect to opportunities for transit priority. - Upcoming TMP Update will consider potential business case for higher order transit – this Alt would preclude higher order transit or would require additional ROW to be identified. - Significantly limits the City’s flexibility in responding to future	- Not consistent with City’s intent to have Bradford Street be the primary arterial linkage, alleviating pressure on Lakeshore Drive - Does not provide opportunity to implement TMP recommendations on Bradford Street

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
					hierarchy e.g., arterial road - Provides adequate space to protect for streetscape zones for sidewalk, cycling, vehicles, transit, utilities, landscape. - Maintaining 4-lanes 'now' does not preclude future decisions to reduce lane capacity. It provides the City with the most flexibility in planning for the next 30 years and recognizes that specific needs within the 34 m right-of-way may change (e.g., on street-parking, flexible street and public realm space, rapid transit facilities etc.)	needs on Bradford Street.	
	Compatibility with planned land use transformation and key destinations (Mobility Hub, Waterfront)	- Not supportive of planned intensification within the Urban Growth Centre because the existing roadway will not accommodate all aspects required for a Complete Community.	- Supports planned intensification through provision of more efficient access system that minimizes potential points of conflict between private property and Bradford Street.	- Supports planned land use intensification and access to/from the mobility hub and waterfront through improved intersection operations on Tiffin Street. This includes improved safety for pedestrians, cyclists and mobility devise users.	- Supports planned land use intensification and access to/from the mobility hub and waterfront by providing multi-modal / sustainable transportation options. - Provides greatest flexibility in future planning of Bradford Street by protecting	- Somewhat supportive of planned land use intensification and access to/from the mobility hub and waterfront by providing multi-modal / sustainable transportation options. - The existing ROW provides very little flexibility for future	- Not compatible with planned intensification on Bradford Street corridor

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
					adequate ROW and recognizes that specific needs within the right-of-way may change (e.g., on-street parking, flexible street and public realm space, higher-order transit, etc.)	planning of Bradford Street with limited space to adjust space allocations in future, accommodating on-street parking, higher-order transit etc.	
Streetscape	Opportunities to enhance the streetscape (furnish street with functional and aesthetic items that provide amenities and utility to users)	- No opportunity to enhance the streetscape.	- Some opportunity to enhance streetscape and public environment due to consolidation of accesses and presumably freeing up boulevard space as the number of entrances are reduced and as entrances are narrowed.	- Some operational improvements may create opportunities for streetscape enhancements e.g., intersection improvements may create opportunities for gateway features. -	- Greatest opportunity to enhance the streetscape and pedestrian environment throughout the Bradford Street corridor to support planned intensification. - Accounts for boulevard space required to accommodate landscape plantings, placemaking features such as seating, pedestrian scaled lighting, etc. This may be planned at the public/private interface.	- Limited opportunity to enhance the streetscape and pedestrian environment throughout the Bradford Street corridor. - Opportunities for bike racks, benches, landscape plantings would be limited within the existing ROW, when accounting for all other intended uses within the boulevard, including utilities.	- Opportunity to enhance the streetscape and pedestrian environment on other corridors. Does not provide opportunity to enhance streetscape on Bradford Street to support planned intensification.
Cultural Environment							
Built Cultural Heritage	Impacts to Cultural Heritage Landscapes (CHL) and Built Heritage Resources (BHR)	- No impact to CHL and BHR.	- Since improvements tend to be localized, this option is unlikely to result in direct	- Potential for substantial impacts to CHL and BHR near Tiffin Street intersections.	- Likely to results in substantial impacts to CHL and BHR along Bradford Street	- May result in some impacts to CHL and BHR along Bradford Street.	- May result in impacts to CHL and BHR in other corridors.

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
			impacts to CHL and BHR.	- Some potential for minor encroachment Allandale Station Lands.	- Impacts would also be considered in the context of surround lands being redeveloped that will redefine the property fabric. It is expected that land use changes will occur first with appropriate lands dedicated to the ROW. - All Ontario Heritage Act requirements will be met.		
Archaeology	Impacts to Archaeological Features	- No impacts to archeological features.	- Low potential to impact areas of archaeological potential along Bradford Street.	- Potential to impact areas of archaeological potential near Tiffin Street.	- Potential to impact areas of archaeological potential along the corridor.	- Some potential to impact areas of archaeological potential along the corridor.	- May result in impacts to archaeological resources in other corridors
Aboriginal interests and rights	Known impacts to areas of Aboriginal interest and rights	- No known impacts to areas of Aboriginal interest /rights.	- No known impacts to areas of Aboriginal interest /rights.	- Potential minor encroachment into Allandale Station property associated with the Tiffin Street intersection improvements will be carefully reviewed per the existing commitments with Indigenous Nations.	- No known impacts to areas of Aboriginal interest /rights.	- No known impacts to areas of Aboriginal interest /rights.	- Potentially some impacts to areas of Aboriginal interest /rights – cannot be determined at this time.
Natural Environment							
Natural Environment Features	Impacts to terrestrial and aquatic species and habitats, including Species at Risk	- No impacts to terrestrial and aquatic species and habitats.	- Unlikely to result in impacts to terrestrial and aquatic species and habitats.	- Limited impact, as there are no natural environment features in the proximity of the intersections	- Potential for minor impacts to terrestrial and aquatic species and habitats due wider right-of-way and realignment of	- Potential for minor impacts to terrestrial and aquatic species and habitats due to realignment of Bradford Street in	- May result in impacts to terrestrial and aquatic species and habitats that are in proximity to other road corridors

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
					Bradford Street to address geometric deficiencies.	localized area to address geometric deficiencies	
	Changes to watercourses and protection of surface and groundwater	- No changes to watercourses or protection of surface and groundwater.	- No changes to watercourses or protection of surface and groundwater.	- Unlikely to result in changes to watercourses and protection of surface and groundwater	- Potential for minor impacts to watercourses and protection of surface and groundwater.	- Potential for minor impacts to watercourses and protection of surface and groundwater	- May result in impacts to watercourses and protection of surface and groundwater in other corridors
Climate Change Considerations	Consistency with the City's Community Energy and Greenhouse Gas Emissions Reduction Plan	- Corridor remains as auto centric with unattractive sidewalks that do not meet accessibility requirements, and no cycling facilities. No enhancement to or provision of sustainable transport options. High reliance on vehicles and increased traffic congestion will result in increased emissions.	- Since this is an operational and safety improvement tactic, on its own, it is considered neutral.	- The intent of this option is to improve traffic flow and efficiency at intersections, to better manage congestion and therefore is expected to contribute to reduced emissions.	- Greatest opportunity to contribute to the City's "Big Move" strategies by implementing safe and accessible active travel options and complete streets, improved local options (transit connectivity, transit priority), access and encouragement to GO transit use and creating an EV ready street.	- Opportunities to contribute to the City's Big Move strategies by implementing safe and accessible active travel options. - However, the existing ROW will not accommodate all complete streets aspects and will have limited ability to enhance local transit (transit priority), access and creating an EV ready street due to limited space. The number of complete street components competing for space within the existing ROW, along with utility requirements, will lead to trade-offs.	- May reduce congestion and reliance on vehicles in other corridors which could reduce emissions and reduce effects on climate change. - Does not address opportunities on Bradford Street.
	Opportunities to improve infrastructure resiliency	- No change to existing roadway and therefore no opportunity to	- Since this is more of an operational and safety improvement tactic, on its own, this option presents	- Localized opportunities for tree planting and implementation of Low Impact Development (LID) features near Tiffin	- Opportunity to contribute to resiliency through materials, design, tree planting and implementation of	- Opportunity to contribute to resiliency through materials, design.	- May result in opportunity to improve resiliency to climate change in other corridors.

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
		improve resiliency to climate change.	limited opportunity to improve resiliency.	Street intersections may marginally improve resiliency to climate change	Low Impact Development measures throughout corridor.	- Limited space for some measures including landscape plantings and possible Low Impact Development measures.	- Does not address opportunities on Bradford Street.
Transportation							
Traffic Operations	Ability to improve traffic operations.	- No opportunity to improve traffic operations.	- Opportunity to improve traffic operations on Bradford Street by consolidating the number of accesses, improving access design and promoting unified access / circulation systems for developments. On its own, this alternative does not address all operational aspects, but will contribute to improved corridor function and safety of all users.	- This Alternative focuses on improvements to operations that include signal timing changes, turning lanes, possible two-way left-turn lane, transit priority and intersection reconfiguration.	- Together with Alts 2 and 3, this Alternative has the best opportunity to improve operations on Bradford Street by providing separated cycling facilities, accessible sidewalks, and improved transit infrastructure that encourages a modal shift. This option protects for continued arterial street function but also provides the most flexibility for future decision-making about space allocation within the ROW.	- Will not meet operational requirements of an arterial street in an Urban Growth Centre / intensification area. This is related to having automobiles, goods movement and transit vehicles all operating within one lane, in an area planned for a higher density mixed-use community. - Limited opportunity for loading zones, bus lay-bys and other refuge areas considering the other demands for space in the boulevard. - Ridership may be deterred if transit efficiency is reduced. - Will impact operations on other parts of the network including Lakeshore Drive – traffic will be	- May result in improved traffic operations on other corridors. - Adjacent corridors do not have intended function to operate at arterial road. - Does not address traffic operations on Bradford Street or at Tiffin Street intersections.

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
						redirected to other corridors and increase infiltration through local roads.	
Safety	Ability to improve safety	- Does not improve road safety.	- Improves safety by reducing the number of potential points of conflict between vehicles and other road users (pedestrians, cyclists etc.)	- The operational improvements proposed with this Alternative will improve safety for all users by reducing conflicts at intersections/entrances and among different modes.	- Improves safety by addressing geometric deficiencies on Bradford Street and providing separated cycling facilities for all ages and ability, as well as accessible sidewalks.	- Improves safety by providing separated cycling facilities for all ages and ability, as well as accessible sidewalks. - Uncertain whether geometric deficiencies could be addressed within the existing ROW.	- May result in safety improvements in other corridors. Does not address geometric deficiencies on Bradford Street.
Active Transportation	Ability to provide accessible and safe facilities and connections that accommodate users of all ages and abilities (pedestrians, cyclists, mobility device users)	- Does not address multi-modal needs on Bradford Street. Existing sidewalks do not meet accessibility requirements. No cycling facilities.	- On its own, this option does not address multi-modal needs however, when applied in combination with Alternative 4, this option is expected to improve. - safety for pedestrians and cyclists because it reduces the number of potential conflict points with vehicles at access/driveways.	- Intersection improvements will provide enhanced safety for crossing by pedestrians, cyclists and mobility device users, when combined with Alt 4 that seeks to provide AT facilities on the entire corridor.	- Best opportunity to provide accessible sidewalks for pedestrians and mobility device users. Provides enough ROW to include a physically separated cycling facility with a buffer between vehicles and pedestrians to better accommodate users of all ages and abilities. - Represents the only opportunity to provide all desired aspects of active transportation, when considering all other desired enhancements (streetscape, transit).	- Opportunity to improve sidewalks, however it may be challenging to provide separated cycling facilities on both sides of the road when considering all other desired improvements including space for improved transit facilities, landscape plantings along with utilities requirements.	- Lakeshore Drive already has AT facilities. Does not address multi-modal needs on Bradford Street

City of Barrie
Bradford Street MCEA Study
Detailed Assessment of Alternative Solutions

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
Transit	Ability to accommodate planned transit improvements and improve efficiency	- No improvements to transit.	- With a reduction in the number of individual access points along the corridor, some improvements to transit operations and efficiency are anticipated.	- Opportunity to provide for improved transit efficiency where transit priority lanes are incorporated into intersection design.	- Greatest opportunity to accommodate improved transit infrastructure and amenities when considering all other desired enhancements (streetscape, transit). - Provides the most flexibility to accommodate future transit priority lanes or higher-order transit.	- Limited opportunity to accommodate improved transit infrastructure and amenities due to constrained ROW, especially when considered along with all other desired improvements including accessible sidewalks, separated cycling lanes, landscape plantings. - Transit efficiency would be reduced since transit would operate and stop in the only travel lane. Existing ROW may not provide enough space for lay-bys when considering all other components competing for space. - Reduction to 2-lanes precludes any opportunity for future transit priority lanes.	- May be able to accommodate improved transit amenities in other corridors; however, some of these corridors would be further away from the Allandale GO station and would be of lesser connection priorities in the overall transit network
Cost							
Cost	High-Level Cost Comparison	-- No capital costs. Continued costs for operation and maintenance.	\$ Costs associated with planning to implement through development applications. Nominal capital costs.	\$\$ to \$\$\$ Costs associated with construction of intersection reconfiguration	\$\$\$ Costs associated with reconstruction of the roadway, sidewalks, new cycling facilities, and streetscape	\$\$ to \$\$\$ Costs associated with road reconstruction, sidewalks and potential for some type of cycling facility on one side of the road. Limited opportunity, for	\$\$\$\$ Costs associated with construction and implementation of upgrades to other corridors to provide arterial capacity and multi-modal function.

Factors	Criteria	Alternative 1 Do Nothing	Alternative 2 Bradford Street Access Management	Alternative 3 Operational Improvements	Alternative 4 Bradford Street Corridor Improvements within Expanded ROW	Alternative 5 Reduce Travel Lanes on Bradford Street and Maintain Existing ROW	Alternative 6 Improve Other Corridors
					enhancements throughout the corridor.	streetscape/landscape plantings.	This is expected to be costly as this would require improvements of the road corridors beyond planned program.
Result		Not Recommended	Recommended	Recommended	Recommended	Not Recommended	Not Recommended