

# APPENDIX F

## Evaluation of Network Modifications



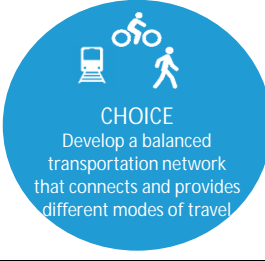







Evaluation of Network Changes

1. Bushby Drive Extension

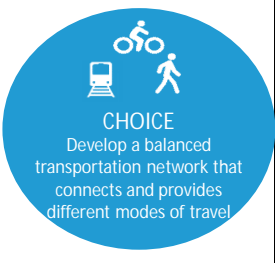







Principle	Question	Measure	Option 1 Extension to Progress Avenue	Option 2 Extension to Bellamy Road	Option 3 Extension to Markham Road
	Does it promote a shift towards sustainable modes of transportation?	Pedestrian and cycling routes	<ul style="list-style-type: none"> <li>provides sidewalk and separated cycling facility to encourage walking and cycling to/from the proposed public open space at 705 Progress Ave</li> <li>connects Bushby Dr Promenade to facilities on Progress Avenue</li> </ul>	<ul style="list-style-type: none"> <li>enhances accessibility of the street network</li> <li>shares some of the traffic load of Ellesmere Road and Progress Ave</li> <li>pedestrian and cycling routes extended to Bellamy along with reduction in traffic load on parallel Ellesmere Rd and Progress Ave would encourage pedestrians and cyclists on these streets.</li> </ul>	<ul style="list-style-type: none"> <li>enhances the accessibility within the street network but attracts more cars on Bushby Drive extension up to Bellamy Rd and on Markham Rd</li> <li>more cars on Bushby Drive do not align with its intended development into a promenade</li> </ul>
	Does it provide an efficient and integrated transportation network for all users?	Transfers between modes; available bus routes; access to Scarborough Centre subway station and bus terminal	<ul style="list-style-type: none"> <li>provides opportunity to transfer from active modes to transit stops on Consilium Place and Progress Avenue or to the Scarborough Centre subway station and bus terminal</li> <li>no bus routes on Bushby Dr are envisioned; access to transit facilities through integrated network of walking and cycling routes</li> </ul>	<ul style="list-style-type: none"> <li>provides to area west of Bellamy Rd, increased connectivity to transit routes on Ellesmere Rd and Bellamy Rd</li> <li>reduced VDT over option 1 with no increase in delay is an indicator of an efficient network providing shorter routes to all modes</li> </ul>	<ul style="list-style-type: none"> <li>connectivity across ravine integrates the geographically north-south divided area giving easy pedestrian and cycling access to transit routes on Markham Rd, Ellesmere Rd, Progress Ave and Bellamy Rd</li> <li>provides the most direct and shortest route to transit connections at subway station</li> </ul>
	Does it support an attractive and vibrant public realm and sense of place?	Complete Streets Guidelines	<ul style="list-style-type: none"> <li>supports and complements parks and open spaces by integrating elements from Complete Streets Guidelines for Park Streets</li> <li>improves public realm to Progress Avenue through emphasis on pedestrian and cycling amenities, street design, and landscaping</li> </ul>	<ul style="list-style-type: none"> <li>extends the benefits of Bushby promenade to Bellamy Rd</li> <li>provides a continuous stretch of an urban, vibrant, mixed use main street across the centre terminating at transit routes on three arterials namely McCowan Rd, Progress Ave and Bellamy Rd.</li> </ul>	<ul style="list-style-type: none"> <li>extension to Markham Rd would act as an alternate east-west route parallel to Ellesmere Rd attracting more traffic</li> <li>traffic distributing from Ellesmere Rd to Bushby Dr would not provide relief to the network as it adds traffic congestion to the already congested Markham Rd</li> <li>more traffic negatively influences the public realm and sense of place desired for Bushby Dr beyond Bellamy Rd</li> </ul>
	Does it allow for the convenient and safe movement of users of all modes of transportation?	Way-finding signage to enhance key origin-destination connections, speeds, LOS, safety	<ul style="list-style-type: none"> <li>provides multiple, direct and legible travel routes with short walking distances (less than 500 meters) and bicycle facilities integrated into street design.</li> <li>street designed to accommodate lower traffic speeds (reduction proposed from 50 km/hr to 40 km/hr) while maintaining flow enhances safety</li> </ul>	<ul style="list-style-type: none"> <li>connects Bellamy Rd to Bushby Dr promenade enhancing walkability and cycling facilities of McCowan Precinct</li> <li>Helps create small blocks maximizing circulation thus affording more convenient accessibility</li> </ul>	<ul style="list-style-type: none"> <li>potential to be used by small to medium sized trucks accessing warehouses limits the safety of pedestrians and cyclists</li> <li>convenient for car users, so adverse impact on the intended benefits from extension of Bushby Dr to Bellamy Rd</li> </ul>
	Does it provide for opportunities to improve connectivity to work, school and other destinations?	Connections to key destinations	<ul style="list-style-type: none"> <li>improves pedestrian, cyclist and car connectivity to school/park site at 705 Progress Ave.</li> <li>acts as a spine connecting proposed bus terminal, subway station, Albert Campbell Square and 705 Progress Ave; all destinations within easy walkable reach</li> </ul>	<ul style="list-style-type: none"> <li>provides 705 Progress Ave connectivity to East Highland Creek and Bellamy Rd</li> <li>provides additional frontage for 705 Progress Ave west of Bellamy Rd</li> </ul>	<ul style="list-style-type: none"> <li>extension to Markham Rd will establish new connections to employment uses north of Ellesmere Rd</li> <li>potentially limited use by general public to access public space at 705 Progress Ave and beyond to west because of goods movement activity</li> </ul>
	Does it accommodate all users, including vulnerable street users?	AODA Compliance	<ul style="list-style-type: none"> <li>extension to Progress Ave will comply with AODA design requirements</li> </ul>	<ul style="list-style-type: none"> <li>extension to Bellamy Rd will comply with AODA design requirements</li> </ul>	<ul style="list-style-type: none"> <li>extension to Markham Rd will comply with AODA design requirements</li> </ul>
	Does it support the mixed-use and transit-oriented vision of the Secondary Plan?	Compliance with Secondary Plan and other planning documents	<ul style="list-style-type: none"> <li>proposed within walking distance of subway station (rapid transit) and also served by multiple bus routes</li> <li>connects internal cycling facilities and pedestrian routes to proposed walking and Cycling network on McCowan Rd, Ellesmere Rd and Progress Ave and to transit stations and stops</li> <li>large trees, building canopies and seating areas on both sides of the street provide weather protection and pedestrian level comfort</li> <li>reduced speed limit discourages car use</li> </ul>	<ul style="list-style-type: none"> <li>extension towards Bellamy Rd provides a frontage to 705 Progress Ave on Bellamy rd as envisioned in McCowan Precinct Plan.</li> <li>provides access to transit just at the entrance to park/school site at 705 Progress Ave.</li> </ul>	<ul style="list-style-type: none"> <li>provides added transit connectivity to areas east of Scarborough Centre up to Markham Rd as envisioned in Schedule 2 of Official Plan</li> </ul>
	Does it create a transportation network and block plan that supports a vibrant urban centre?	Block size	<ul style="list-style-type: none"> <li>divides large block between Progress Ave and Ellesmere Rd into smaller development blocks, which improves the active transportation network and supports mixed-use and transit-oriented development</li> </ul>	<ul style="list-style-type: none"> <li>complements and adds to the effect of option 1 on the block size by providing additional access to Bellamy Rd to the east.</li> <li>creates a balance between square and rectangular blocks maximizing circulation and developable area</li> </ul>	<ul style="list-style-type: none"> <li>divides large block between Progress Ave and Ellesmere Rd into two elongated rectangular blocks</li> <li>resulting blocks do not have intersecting streets to create balanced composition of rectangular and square blocks</li> <li>results in a higher VDT of 35,029 than extension to Progress Avenue or Bellamy Road</li> </ul>
	Does it improve connectivity and access within the Centre and to/from surrounding communities?	Vehicle Distance Travelled (VDT)	<ul style="list-style-type: none"> <li>base network VDT is 34,476 km; results in increased accessibility from "Do Nothing" option having 37,447 km VDT</li> </ul>	<ul style="list-style-type: none"> <li>this change independently results in VDT of 34,427 km, reducing total distance travelled</li> </ul>	
	Does it encourage and support active and sustainable modes of transportation?	Transportation Demand Management Objectives	<ul style="list-style-type: none"> <li>provides connection for cyclists and pedestrians to access potential bike share location in proposed public open space at 705 Progress Ave</li> </ul>	<ul style="list-style-type: none"> <li>provides additional access for cyclists and pedestrians off Bellamy Rd to access potential bike share location in proposed public open space at 705 Progress Ave</li> </ul>	<ul style="list-style-type: none"> <li>provides connection from east of Bellamy Rd to potential bike share location at 705 Progress Ave</li> </ul>
	Does it minimize the impact on the natural environment and cultural heritage?	Impact to Archaeological and Natural Features	<ul style="list-style-type: none"> <li>may impact area of archaeological potential at southeast corner of Bushby Dr and Progress Ave</li> <li>little to no impact on the natural environment</li> </ul>	<ul style="list-style-type: none"> <li>may impact areas of archaeological potential identified in unoccupied lands northeast of TTC's McCowan Yard</li> <li>may impact the Markham Branch of the Highland Creek to Bellamy Rd</li> </ul>	<ul style="list-style-type: none"> <li>may impact areas of archaeological potential in unoccupied lands northeast of TTC's McCowan Yard and along the Highland Creek</li> <li>will impact the Highland Creek from Bellamy Rd to Markham Rd requiring the construction of bridges and may require a realignment of the creek meander</li> </ul>
	Does it support and enhance the open space network?	Impact to open spaces	<ul style="list-style-type: none"> <li>provides connection to proposed public open space at 705 Progress Avenue</li> </ul>	<ul style="list-style-type: none"> <li>will enhance park and recreational uses of the proposed public open space at 705 Progress Ave</li> </ul>	<ul style="list-style-type: none"> <li>will require crossings and minor realignments of the Highland Creek meandering between Bellamy Rd and Markham Rd</li> </ul>
	Is it economically feasible to implement (considering full life cycle costs, impact to utilities, durability and future expansion opportunities)?	Construction, operating, maintenance, life-cycle costs	<ul style="list-style-type: none"> <li>\$ 5-7.5 Million will be required to construct 4 lane new road (Costs do not include ROW acquisition)</li> </ul>	<ul style="list-style-type: none"> <li>\$ 9-13 Million will be needed (Costs do not include ROW acquisition)</li> </ul>	<ul style="list-style-type: none"> <li>\$ 18-27 Million will be needed (Costs do not include ROW acquisition)</li> </ul>
	Does it encourage public and private investments?	Property impacts and connection to public transit investment	<ul style="list-style-type: none"> <li>property impacts to lands at 675 Progress Ave; impacts to existing parking lot and one building</li> <li>supports transit investments through increased connectivity to proposed subway station and bus terminal</li> </ul>	<ul style="list-style-type: none"> <li>property impacts to lands at 705 Progress Ave</li> <li>supports transit investments through east-west connection to proposed subway station and bus terminal</li> </ul>	<ul style="list-style-type: none"> <li>greatest property impacts, depending on alignment, will impact a significant number of buildings along Ellesmere Rd</li> <li>alignment north of Highland Creek will impact 1145 Bellamy Rd, 60/52/70 Production Dr, and parking lots</li> <li>alignment south of Highland Creek will impact numerous industrial buildings</li> <li>supports transit investments through additional east-west connection to proposed subway station and bus terminal</li> </ul>
	Does it allow for the safe and efficient movement of goods?	Goods movement and access to commercial developments	<ul style="list-style-type: none"> <li>connects McCowan Precinct to the Civic and Commercial Precincts through a network of pedestrian, cycling and vehicular connections.</li> <li>high quality streetscape elements such as benches, special paving treatments, grouping of shade trees, spaces for outdoor cafes and restaurants support viable commercial activity</li> </ul>	<ul style="list-style-type: none"> <li>supports commercial activity along Bushby Drive Promenade providing direct easterly connection off Bellamy Road</li> </ul>	<ul style="list-style-type: none"> <li>potential to be used by small to medium sized trucks accessing warehouses on both sides as alternate to Ellesmere and Progress Avenue.</li> </ul>
Overall Assessment			More Preferred	Most Preferred	Least Preferred



## 2. Bellamy Road Extension

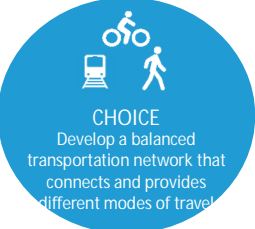







Principle	Question	Measure	Option 1 Ends at Corporate Drive	Option 2 Extension to Milner Avenue
 <p><b>CHOICE</b> Develop a balanced transportation network that connects and provides different modes of travel</p>	Does it promote a shift towards sustainable modes of transportation?	Pedestrian and cycling routes	<ul style="list-style-type: none"> <li>provides sidewalk and separated cycling facility on Bellamy Road and Corporate Drive</li> <li>connects cyclists to potential bike share facility on Corporate Drive</li> </ul>	<ul style="list-style-type: none"> <li>provides north-south pedestrian and cyclist connection to/from communities north of the study area via Highway 401 overpass</li> </ul>
	Does it provide an efficient and integrated transportation network for all users?	Transfers between modes; available bus routes; access to Scarborough Centre subway station and bus terminal	<ul style="list-style-type: none"> <li>provides opportunity to transfer from active modes to transit stops on Bellamy Rd and Corporate Dr</li> </ul>	<ul style="list-style-type: none"> <li>provides additional opportunity to transfer from active modes to transit stops on Milner Ave</li> </ul>
 <p><b>EXPERIENCE</b> Ensure safe and comfortable travel across all modes of transportation</p>	Does it support an attractive and vibrant public realm and sense of place?	Complete Streets Guidelines	<ul style="list-style-type: none"> <li>supports industrial and commercial uses as well as mixed-use activity, accommodating cyclists, pedestrians, cars, trucks, and transit</li> <li>acts as a north-south connector street within the Centre and to/from communities south of Ellesmere Rd</li> </ul>	<ul style="list-style-type: none"> <li>supports industrial and commercial uses as well as mixed-use activity, accommodating cyclists, pedestrians, cars, trucks, and transit</li> <li>acts as an important north-south connector street within the Centre and to/from communities south of Ellesmere Road and north of Highway 401</li> </ul>
	Does it allow for the convenient and safe movement of users of all modes of transportation?	Way-finding signage to enhance key origin-destination connections, speeds, LOS, safety	<ul style="list-style-type: none"> <li>Speed reduction on Bellamy Rd from 60 km/hr to 50 km/hr improves safety for active transportation users</li> </ul>	<ul style="list-style-type: none"> <li>provides alternate north-south connection and relieves traffic load of McCowan Rd and Markham Rd, making them relatively safe for pedestrians and cyclists</li> <li>direct route to the Centre adds convenience for community around Milner Ave</li> <li>Speed reduction on Bellamy Rd from 60 km/hr to 50 km/hr improves safety for active transportation users</li> </ul>
 <p><b>SOCIAL EQUITY</b> Do not favour any group over others. Allow everyone equal and good access to work, school and other activities</p>	Does it provide for opportunities to improve connectivity to work, school and other destinations?	Connections to key destinations	<ul style="list-style-type: none"> <li>no improvement to existing connectivity to/from work, school, and other destinations</li> </ul>	<ul style="list-style-type: none"> <li>improves north-south connections to/from work, school, and other destinations north of Highway 401 (e.g. industrial and employment buildings)</li> </ul>
	Does it accommodate all users, including vulnerable street users?	AODA Compliance	<ul style="list-style-type: none"> <li>may not fully comply with AODA design guidelines (narrow sidewalks)</li> </ul>	<ul style="list-style-type: none"> <li>extension to Milner Ave will comply with AODA design requirements</li> </ul>
 <p><b>SHAPING THE CITY</b> Use the transportation network to encourage mixed-use and sustainable developments in the Scarborough Centre</p>	Does it support the mixed-use and transit-oriented vision of the Secondary Plan?	Compliance with Secondary Plan and other planning documents	<ul style="list-style-type: none"> <li>Bellamy Rd is a mixed-use street, with a variety of land uses and building types</li> <li>provides the opportunity for transit-oriented development along transit corridors</li> </ul>	<ul style="list-style-type: none"> <li>Bellamy Rd is a mixed-use street, with a variety of land uses and building types</li> <li>extension to Milner Ave is proposed in the Scarborough Centre Secondary Plan</li> </ul>
	Does it create a transportation network and block plan that supports a vibrant urban centre?	Block size	<ul style="list-style-type: none"> <li>provides large development blocks for industrial land uses immediately north of Highway 401</li> </ul>	<ul style="list-style-type: none"> <li>replaces Toyota Place with Bellamy Rd extension that divides land across to north of Highway 401</li> </ul>
 <p><b>HEALTHY NEIGHBOURHOODS</b> Building connections with existing neighbourhoods via the promotion of safe walking and cycling</p>	Does it improve connectivity and access within the Centre and to/from surrounding communities?	Vehicle Distance Travelled (VDT)	<ul style="list-style-type: none"> <li>Base network VDT is 34,476 km; results in increased accessibility from "Do Nothing" option having 37,447 km VDT</li> </ul>	<ul style="list-style-type: none"> <li>VDT has increased from option 1, resulting in a VDT of 34,628 km</li> </ul>
	Does it encourage and support active and sustainable modes of transportation?	Transportation Demand Management Objectives	<ul style="list-style-type: none"> <li>provides pedestrian and cyclist connection to proposed bike share station on Corporate Drive</li> </ul>	<ul style="list-style-type: none"> <li>provides additional north-south pedestrian and cycling connection to/from the neighbourhoods located north of Highway 401</li> </ul>
 <p><b>PUBLIC HEALTH &amp; ENVIRONMENT</b> Support and enhance natural areas, encourage people to rely less on their cars</p>	Does it minimize the impact on the natural environment and cultural heritage?	Impact to Archaeological and Natural Features	<ul style="list-style-type: none"> <li>no impact to areas of archaeological potential</li> <li>no impact on the natural environment</li> </ul>	<ul style="list-style-type: none"> <li>may impact areas of archaeological potential identified east of Bellamy Rd extension (existing Toyota Place)</li> <li>will impact trees and the natural environment north of Highway 401</li> </ul>
	Does it support and enhance the open space network?	Impact to open spaces	<ul style="list-style-type: none"> <li>no impact to the open space network</li> </ul>	<ul style="list-style-type: none"> <li>will improve connections to/from the open space network outside the study area (i.e. north of Highway 401)</li> </ul>
 <p><b>AFFORDABILITY</b> Improvements to the transportation system should be affordable to build, maintain, and operate</p>	Is it economically feasible to implement (considering full life cycle costs, impact to utilities, durability and future expansion opportunities)?	Construction, operating, maintenance, life-cycle costs	<ul style="list-style-type: none"> <li>no significant investment required</li> <li>\$ 0.4-0.5 Million will be required for active transportation and public realm improvements (Costs do not include ROW acquisition)</li> </ul>	<ul style="list-style-type: none"> <li>requires significant investment (\$58-88 Million) for Bellamy overpass over Highway 401 to Milner Ave</li> <li>Recurring bridge maintenance costs (Costs do not include ROW acquisition)</li> </ul>
 <p><b>SUPPORTING GROWTH</b> Encourage economic growth through improvements in transit, pedestrian and cycling infrastructure. Allow goods to get to market more efficiently</p>	Does it encourage public and private investments?	Property impacts and connection to public transit investment	<ul style="list-style-type: none"> <li>no property impacts</li> </ul>	<ul style="list-style-type: none"> <li>potential property impacts on industrial lands north of Highway 401 (115 to 135 Milner Ave)</li> </ul>
	Does it allow for the safe and efficient movement of goods?	Goods movement and access to commercial developments	<ul style="list-style-type: none"> <li>no change in truck routes or access to retail developments</li> </ul>	<ul style="list-style-type: none"> <li>provides a north-south connection to industrial developments north of Highway 401, which will improve goods movement</li> </ul>
<b>Overall Assessment</b>			Least Preferred	Most Preferred

### 3. McCowan Road & Progress Avenue Intersection









Principle	Question	Measure	Option 1 McCowan Road and Progress Avenue Overpass	Option 2 McCowan Road and Progress Avenue At-grade intersection
	Does it promote a shift towards sustainable modes of transportation?	Pedestrian and cycling routes	<ul style="list-style-type: none"> <li>provides sidewalk and separated cycling facility on McCowan Rd and on Progress Ave, but do not connect.</li> </ul>	<ul style="list-style-type: none"> <li>provides pedestrian and cyclist crossing opportunities and connection at intersection</li> <li>provides sidewalk and separated cycling facility on McCowan Rd and on Progress Ave</li> </ul>
	Does it provide an efficient and integrated transportation network for all users?	Transfers between modes; available bus routes; access to Scarborough Centre subway station and bus terminal	<ul style="list-style-type: none"> <li>does not provide direct pedestrian and cycling connections to McCowan Rd rapid transit corridor from Progress Ave.</li> </ul>	<ul style="list-style-type: none"> <li>provides transfer opportunity between transit routes on McCowan Rd and Progress Ave.</li> <li>facilitates integration of cycling and pedestrian paths on McCowan Rd and Progress Ave as well as access to the proposed subway station and bus terminal</li> </ul>
	Does it support an attractive and vibrant public realm and sense of place?	Complete Streets Guidelines	<ul style="list-style-type: none"> <li>does not encourage gathering and social interaction</li> <li>lacks green infrastructure to create aesthetically pleasing environment</li> </ul>	<ul style="list-style-type: none"> <li>applies elements from Complete Streets Guidelines for Downtown &amp; Centres Main Street and Mixed-Use Connector Street to McCowan Rd and Progress Ave</li> <li>provides greater opportunity to improve public realm along McCowan corridor</li> </ul>
	Does it allow for the convenient and safe movement of users of all modes of transportation?	Way-finding, signage to enhance key origin-destination connections, speeds, LOS, safety	<ul style="list-style-type: none"> <li>provides safety and limited convenience for users of all modes due to grade separated streets</li> <li>limits accessibility causing inconvenience to travellers intending to transfer from McCowan Rd to Progress Ave or vice versa</li> </ul>	<ul style="list-style-type: none"> <li>facilitates mutual transfers between McCowan Rd to Progress Ave for all transport modes affording convenience</li> <li>concentrates pedestrian crossings, cyclist and vehicle turning and crossing movements at four-leg at-grade intersection, creating a higher number of conflicting movements and potential safety concerns than grade separation</li> </ul>
	Does it provide for opportunities to improve connectivity to work, school and other destinations?	Connections to key destinations	<ul style="list-style-type: none"> <li>limits connectivity between Progress Ave and McCowan Rd owing to overpass</li> </ul>	<ul style="list-style-type: none"> <li>provides pedestrian and cyclist crossing opportunities, improving connectivity to/from key destinations (e.g. Scarborough Town Centre shopping mall)</li> </ul>
	Does it accommodate all users, including vulnerable street users?	AODA Compliance	<ul style="list-style-type: none"> <li>may not fully comply with AODA design guidelines</li> <li>grade separation may pose barriers to vulnerable street users</li> </ul>	<ul style="list-style-type: none"> <li>will comply with AODA design guidelines and provide a safer crossing environment for vulnerable street users</li> </ul>
	Does it support the mixed-use and transit-oriented vision of the Secondary Plan?	Compliance with Secondary Plan and other planning documents	<ul style="list-style-type: none"> <li>the overpass limits the development opportunities that can be located near the proposed subway station and bus terminal</li> </ul>	<ul style="list-style-type: none"> <li>will improve active transportation connections to/from transit-oriented development around the proposed subway station and bus terminal</li> </ul>
	Does it create a transportation network and block plan that supports a vibrant urban centre?	Block size	<ul style="list-style-type: none"> <li>ramp configuration limits the development potential near the intersection</li> </ul>	<ul style="list-style-type: none"> <li>provides regular blocks promoting walkability and cycling opportunities as well as development opportunities near the intersection</li> </ul>
	Does it improve connectivity and access within the Centre and to/from surrounding communities?	Vehicle Distance Travelled (VDT)	<ul style="list-style-type: none"> <li>Base network VDT is 34,476 km; results in increased accessibility from "Do Nothing" option having 37,447 km VDT</li> </ul>	<ul style="list-style-type: none"> <li>VDT has markedly reduced from option 1, resulting in a VDT of 34,375 km</li> </ul>
	Does it encourage and support active and sustainable modes of transportation?	Transportation Demand Management Objectives	<ul style="list-style-type: none"> <li>restricts direct/accessible and interconnected pedestrian and cyclist routes to proposed bike share location at Borough Dr and Progress Ave, as well as the proposed subway station and bus terminal</li> </ul>	<ul style="list-style-type: none"> <li>provides direct and shorter pedestrian and cyclist connections to proposed bike share location at Borough Dr and Progress Ave, and transit connections at the proposed subway station and bus terminal</li> </ul>
	Does it minimize the impact on the natural environment and cultural heritage?	Impact to Archaeological and Natural Features	<ul style="list-style-type: none"> <li>does not impact area of archaeological potential identified in northwest corner of McCowan Rd and Progress Ave</li> <li>impacts to the natural environment through removal of mature trees due to reconfiguration of Progress Ave and Borough Dr Intersection</li> </ul>	<ul style="list-style-type: none"> <li>may impact area of archaeological potential identified in northwest corner of McCowan Rd and Progress Ave</li> <li>impacts to the natural environment through removal of mature trees</li> </ul>
	Does it support and enhance the open space network?	Impact to open spaces	<ul style="list-style-type: none"> <li>no impact to the open space network</li> </ul>	<ul style="list-style-type: none"> <li>encourages active transportation modes by providing integrated walking and cycling network</li> </ul>
	Is it economically feasible to implement (considering full life cycle costs, impact to utilities, durability and future expansion opportunities)?	Construction, operating, maintenance, life-cycle costs	<ul style="list-style-type: none"> <li>capital costs (\$ 2 - 3 Million) required to connect Progress Ave overpass to new reconfigured Borough Dr East as per Scarborough Subway Extension (SSE) concept (Costs do not include ROW acquisition)</li> </ul>	<ul style="list-style-type: none"> <li>greater investment needed (\$ 18-27 Million) to normalize Progress Ave and McCowan Rd intersection</li> <li>saves future maintenance and life-cycle cost of bridge infrastructure (Costs do not include ROW acquisition)</li> </ul>
	Does it encourage public and private investments?	Property impacts and connection to public transit investment	<ul style="list-style-type: none"> <li>impact to existing Scarborough Town Centre movie theatre parking lot; Progress Ave overpass connection to new reconfigured Borough Dr East as per SSE concept</li> <li>does not provide direct/accessible and convenient connections to proposed subway station and bus terminal</li> </ul>	<ul style="list-style-type: none"> <li>impact to existing Scarborough Town Centre movie theatre parking lot; Progress Ave connection to new reconfigured Borough Dr East as per SSE concept</li> <li>supports transit investments through more convenient and safer connections to proposed subway station and bus terminal for all modes</li> </ul>
	Does it allow for the safe and efficient movement of goods?	Goods movement and access to commercial developments	<ul style="list-style-type: none"> <li>will not act as a truck route for heavy trucks</li> <li>limits access to retail and commercial activity at Scarborough Town Centre for pedestrians and cyclists</li> </ul>	<ul style="list-style-type: none"> <li>will not act as a truck route for heavy trucks; will slightly improve traffic conditions for small trucks</li> <li>improves access to retail and commercial activity at Scarborough Town Centre for pedestrians and cyclists</li> </ul>
Overall Assessment			Least Preferred	Most Preferred



## 4. Borough Drive Lane Reduction

Principle	Question	Measure	Option 1 Four lanes	Option 2 Two lanes
 <p><b>CHOICE</b> Develop a balanced transportation network that connects and provides different modes of travel</p>	Does it promote a shift towards sustainable modes of transportation?	Pedestrian and cycling routes	<ul style="list-style-type: none"> <li>provides sidewalk on both sides of the street and a cycling lane shared with automobile users</li> </ul>	<ul style="list-style-type: none"> <li>Discourages car traffic owing to reduced number of lanes</li> <li>provides same length of pedestrian and cycling routes as in option 1, but the cycling facility is separate from vehicle traffic</li> </ul>
	Does it provide an efficient and integrated transportation network for all users?	Transfers between modes; available bus routes; access to Scarborough Centre subway station and bus terminal	<ul style="list-style-type: none"> <li>provides sidewalks and pedestrian amenities that connect to proposed subway station and bus terminal</li> <li>bus stops available on Borough Drive allow easy transfers between transit and non-transit modes</li> </ul>	<ul style="list-style-type: none"> <li>improves cycling environment through separated cycling lanes</li> <li>cycling lanes create a buffer for pedestrians from auto traffic</li> <li>bus stops available on Borough Drive allow easy transfers between transit and non-transit modes</li> </ul>
 <p><b>EXPERIENCE</b> Ensure safe and comfortable travel across all modes of transportation</p>	Does it support an attractive and vibrant public realm and sense of place?	Complete Streets Guidelines	<ul style="list-style-type: none"> <li>applies elements from Complete Streets Guidelines for Civic Streets</li> <li>supports an attractive public realm through focus on public landmarks, wide pedestrian walkways, and active transportation amenities</li> <li>wider road encourages higher vehicle speeds reducing comfort and safety for pedestrians and cyclists</li> </ul>	<ul style="list-style-type: none"> <li>applies elements from Complete Streets Guidelines for Civic Streets</li> <li>supports an attractive public realm through focus on public landmarks, wide pedestrian walkways, and active transportation amenities</li> <li>fewer lanes result in lower vehicle speeds creating opportunities for expanded boulevard and public realm improvement</li> </ul>
	Does it allow for the convenient and safe movement of users of all modes of transportation?	Way-finding signage to enhance key origin-destination connections, speeds, LOS, safety	<ul style="list-style-type: none"> <li>affords convenience to auto and transit modes by providing additional lane for passing creates inconvenient conditions for cyclists sharing space with car and transit modes</li> <li>proposed speed reduction on Borough Dr from 50 km/hr to 40 km/hr improves safety for active transportation users</li> </ul>	<ul style="list-style-type: none"> <li>rebalances right-of-way and street elements focusing on improving active modes of transportation</li> <li>reduces level of service, discourages car use, creating safer and more convenient environment for transit and active transportation modes.</li> <li>proposed speed reduction on Borough Dr from 50 km/hr to 40 km/hr further improves safety for active transportation users</li> </ul>
 <p><b>SOCIAL EQUITY</b> Do not favour any group over others. Allow everyone equal and good access to work, school and other activities</p>	Does it provide for opportunities to improve connectivity to work, school and other destinations?	Connections to key destinations	<ul style="list-style-type: none"> <li>provides connectivity to/from key government, institutional, civic, and commercial destinations (e.g. Albert Campbell Square, Scarborough Civic Centre, library, Scarborough Town Centre shopping mall, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>improves connectivity to/from key government, institutional, civic, and commercial destinations for pedestrians and cyclists through separated cycling facility and a more comfortable pedestrian environment (e.g. Albert Campbell Square, Scarborough Civic Centre, library, Scarborough Town Centre shopping mall, etc.)</li> </ul>
	Does it accommodate all users, including vulnerable street users?	AODA Compliance	<ul style="list-style-type: none"> <li>existing conditions have locations that do not comply with AODA design guidelines</li> </ul>	<ul style="list-style-type: none"> <li>improvements to Borough Dr will comply with AODA design guidelines</li> </ul>
 <p><b>HEALTHY NEIGHBOURHOODS</b> Building connections with existing neighbourhoods via the promotion of safe walking and cycling</p>	Does it support the mixed-use and transit-oriented vision of the Secondary Plan?	Compliance with Secondary Plan and other planning documents	<ul style="list-style-type: none"> <li>does not provide sufficient right-of-way to implement separated cycling routes as recommended in the Complete Street Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>provides separated cycling routes as recommended in the Complete Street Guidelines</li> <li>reduces carrying capacity to enhance the park function between Borough Approach East and West as recommended in the Secondary Plan</li> </ul>
	Does it create a transportation network and block plan that supports a vibrant urban centre?	Block size	<ul style="list-style-type: none"> <li>no change in block size from "Do Nothing" scenario</li> </ul>	<ul style="list-style-type: none"> <li>no change in block size "Do Nothing" scenario</li> </ul>
 <p><b>SHAPING THE CITY</b> Use the transportation network to encourage mixed-use and sustainable developments in the Scarborough Centre</p>	Does it improve connectivity and access within the Centre and to/from surrounding communities?	Vehicle Distance Travelled (VDT)	<ul style="list-style-type: none"> <li>Base network VDT is 34,476 km; results in increased accessibility from "Do Nothing" option having 37,447 km VDT</li> </ul>	<ul style="list-style-type: none"> <li>increase in system connectivity; results in VDT of 34,325 km</li> </ul>
	Does it encourage and support active and sustainable modes of transportation?	Transpiration Demand Management Objectives	<ul style="list-style-type: none"> <li>does not provide separated cycling facility to access potential bike share stations outside of Scarborough Civic Centre library, proposed subway station and Scarborough Town Centre shopping mall</li> <li>establishes Borough Dr as a ring road, facilitating the implementation of a flexible demand-responsive transit system that can be requested via a mobile app</li> <li>parking fees are applied to on-street parking spaces to discourage the use of single occupancy vehicles</li> </ul>	<ul style="list-style-type: none"> <li>provides separated cycling facility to connect cyclists to potential bike share stations outside of Scarborough Civic Centre library, proposed subway station and Scarborough Town Centre shopping mall</li> <li>establishes Borough Dr as a ring road, facilitating the implementation of a flexible demand-responsive transit system that can be requested via a mobile app</li> <li>reduces vehicle speeds and encourages active modes of transportation</li> <li>potential to remove on-street parking from one or both sides of the street, discouraging automobile use</li> </ul>
 <p><b>PUBLIC HEALTH &amp; ENVIRONMENT</b> Support and enhance natural areas, encourage people to rely less on their cars</p>	Does it minimize the impact on the natural environment and cultural heritage?	Impact to Archaeological and Natural Features	<ul style="list-style-type: none"> <li>no impact to areas of archaeological potential or to the natural environment</li> </ul>	<ul style="list-style-type: none"> <li>no impact to areas of archaeological potential or to the natural environment</li> </ul>
	Does it support and enhance the open space network?	Impact to open spaces	<ul style="list-style-type: none"> <li>enhances the open space network by providing a shared cycling facility to connect to adjacent public open spaces</li> </ul>	<ul style="list-style-type: none"> <li>provides improved pedestrian and cycling connections to adjacent public open spaces</li> </ul>
 <p><b>AFFORDABILITY</b> Improvements to the transportation system should be affordable to build, maintain, and operate</p>	Is it economically feasible to implement (considering full life cycle costs, impact to utilities, durability and future expansion opportunities)?	Construction, operating, maintenance, life-cycle costs	<ul style="list-style-type: none"> <li>\$ 3-4.5 Million required for active transportation improvements (Costs do not include ROW acquisition)</li> </ul>	<ul style="list-style-type: none"> <li>\$ 7-10.5 Million will be required for active transportation and public realm improvements (Costs do not include ROW acquisition)</li> </ul>
 <p><b>SUPPORTING GROWTH</b> Encourage economic growth through improvements in transit, pedestrian and cycling infrastructure. Allow goods to get to market more efficiently</p>	Does it encourage public and private investments?	Property impacts and connection to public transit investment	<ul style="list-style-type: none"> <li>no property impacts</li> <li>supports transit investments through connections to subway station and bus terminal</li> </ul>	<ul style="list-style-type: none"> <li>no property impacts</li> <li>supports transit investments through connections to subway station and bus terminal</li> </ul>
	Does it allow for the safe and efficient movement of goods?	Goods movement and access to commercial developments	<ul style="list-style-type: none"> <li>does not provide separation between cyclists and trucks</li> </ul>	<ul style="list-style-type: none"> <li>reduces the capacity for trucks along Borough Dr and provides separation between cyclists and trucks</li> </ul>
<b>Overall Assessment</b>			Least Preferred	Most Preferred

5. Borough Approaches

Principle	Question	Measure	Option 1 Maintain Borough Approach East and West	Option 2 Maintain Borough Approach West	Option 3 Maintain Borough Approach East
	Does it promote a shift towards sustainable modes of transportation?	Pedestrian and cycling routes	<ul style="list-style-type: none"> <li>provides sidewalk on both sides of the street on both Borough Approaches</li> </ul>	<ul style="list-style-type: none"> <li>provides sidewalk on both sides of the street on Borough Approach West, and replaces the existing east approach with a multi-use path, providing a separated active transportation connection</li> <li>provides options for cyclist to use on-street cycling facility on Borough Approach West or separated path on the existing Borough Approach East</li> <li>provides north-south crossing opportunity for cyclists from Borough Approach West to Packard Boulevard, subsequently providing greater connectivity to the Gatineau Hydro Corridor</li> </ul>	<ul style="list-style-type: none"> <li>provides sidewalk on both sides of the street on Borough Approach East, and replaces the existing west approach with a multi-use path, providing a separated active transportation connection</li> <li>provides options for cyclist to use on-street cycling facility on Borough Approach East or separated path on the existing Borough Approach West</li> </ul>
	Does it provide an efficient and integrated transportation network for all users?	Transfers between modes; available bus routes; access to Scarborough Centre subway station and bus terminal	<ul style="list-style-type: none"> <li>provides transfer opportunities between active modes and transit, particularly due to the number of north-south crossing opportunities at signals on Ellesmere (Frequent Transit Corridor)</li> <li>traffic signals at both approaches may create delays for cars and transit vehicles, particularly for through movements on Ellesmere Road, but provides the closest intersection spacing and increased walkability</li> </ul>	<ul style="list-style-type: none"> <li>pedestrian access to the future Scarborough Centre Subway Station from the communities south of Ellesmere Road is provided at the Borough Approach West signal only</li> </ul>	<ul style="list-style-type: none"> <li>pedestrian access to the future Scarborough Centre Subway Station from the communities south of Ellesmere Road is provided at the Borough Approach East signal</li> <li>transferring from active modes (i.e. walking or cycling to the subway station) is made more difficult for the communities south of Ellesmere Road</li> </ul>
	Does it support an attractive and vibrant public realm and sense of place?	Complete Streets Guidelines	<ul style="list-style-type: none"> <li>provides a more "complete street" on both approaches, with infrastructure for pedestrians, cyclists, and vehicles</li> <li>prioritizes movement of vehicles compared to Options 2 and 3</li> <li>applies elements from the Complete Streets Guidelines for Park Streets</li> <li>supports an attractive public realm through provision of active transportation amenities</li> </ul>	<ul style="list-style-type: none"> <li>prioritizes active transportation modes on Borough Approach East and separates pedestrians from vehicular traffic</li> <li>applies elements from the Complete Streets Guidelines for Park Streets</li> <li>directs vehicular traffic to parking lots on Brian Harrison Way, and creates a vibrant public realm on Borough Approach East for pedestrians to enter the Centre</li> </ul>	<ul style="list-style-type: none"> <li>prioritizes active transportation modes on Borough Approach West and separates pedestrians from vehicular traffic</li> <li>applies elements from the Complete Streets Guidelines for Park Streets</li> <li>provides a Complete Street on Borough Approach East, allowing all modal users entering the Centre to be met with a vibrant public realm north of Borough Drive</li> </ul>
	Does it allow for the convenient and safe movement of users of all modes of transportation?	Way-finding signage to enhance key origin-destination connections, speeds, LOS, safety	<ul style="list-style-type: none"> <li>removes channelized turns and normalizes intersections to provide safer and more convenient routes for pedestrians and cyclists</li> <li>provides convenience of multiple options for all users</li> <li>does not provide separated active transportation facilities, creating potential conflicts between active modes and vehicles</li> <li>added traffic signal will increase the level of delay experienced along Ellesmere Road</li> </ul>	<ul style="list-style-type: none"> <li>removes channelized turns and normalizes intersections to provide safer and more convenient routes for pedestrians and cyclists</li> <li>separates pedestrians from vehicular traffic on one approach, increasing safety</li> <li>traffic accessing Town Centre Court will be required to use the west approach, creating higher volumes of traffic along Borough Drive (at Scarborough Civic Centre Library) than Option 3</li> </ul>	<ul style="list-style-type: none"> <li>removes channelized turns and normalizes intersections to provide safer and more convenient routes for pedestrians and cyclists</li> <li>separates pedestrians from vehicular traffic on one approach, increasing safety</li> <li>provides convenience for all modes due to regular intersection spacing, which provides greater distribution of traffic across the network</li> <li>traffic accessing Town Centre Court from Ellesmere Road will have a more direct route than Option 2</li> </ul>
	Does it provide for opportunities to improve connectivity to work, school and other destinations?	Connections to key destinations	<ul style="list-style-type: none"> <li>provides indirect connectivity to the Centre from the community south of Ellesmere</li> </ul>	<ul style="list-style-type: none"> <li>provides north-south vehicle and cyclist connectivity between key destinations north of Ellesmere Road and communities south of Ellesmere Road (north-south connection from Brian Harrison Way to Borough Approach West to Packard Boulevard)</li> <li>prioritizes pedestrian connections to key destinations in the Centre (e.g. Scarborough Civic Centre Library, future SSE, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>provides least connectivity for pedestrians, vehicles, and cyclists accessing the Centre from Ellesmere Road</li> </ul>
	Does it accommodate all users, including vulnerable street users?	AODA Compliance	<ul style="list-style-type: none"> <li>normalization/signalization of approaches will comply with AODA design requirements</li> </ul>	<ul style="list-style-type: none"> <li>normalization/signalization of Borough Approach West and pedestrianization of Borough Approach East will comply with AODA design requirements</li> </ul>	<ul style="list-style-type: none"> <li>normalization/signalization of Borough approach East and pedestrianization of Borough Approach West will comply with AODA design requirements</li> </ul>
	Does it support the mixed-use and transit-oriented vision of the Secondary Plan?	Compliance with Secondary Plan and other planning documents	<ul style="list-style-type: none"> <li>does not reflect planning objectives to reduce the automobile-oriented nature of the Centre and enhance the pedestrian experience compared to Option 2 and 3</li> <li>provides full moves intersections at Ellesmere Road and Borough Approach East and West, as specified in the Secondary Plan</li> </ul>	<ul style="list-style-type: none"> <li>reflects planning policies due to an enhanced public realm and Complete Street on Borough Approach West</li> <li>emphasizes pedestrian activity on Borough Approach East and reduction of automobile dependency</li> <li>introduces the risk of traffic infiltration into surrounding communities</li> <li>does not fully comply with Secondary Plan as this option provides a full moves intersection at Ellesmere Road and Borough Approach West only</li> </ul>	<ul style="list-style-type: none"> <li>reflects planning policies due to an enhanced public realm and contributes to a distinct character for the Centre with Borough Approach East as a Complete Street and entryway into the Centre</li> <li>emphasizes pedestrian activity on Borough Approach East and reduction of automobile dependency</li> <li>does not fully comply with Secondary Plan as this option provides a full moves intersection at Ellesmere Road and Borough Approach East only</li> </ul>
	Does it create a transportation network and block plan that supports a vibrant urban centre?	Block size	<ul style="list-style-type: none"> <li>provides smallest block sizes; however, does not support a vibrant centre due to the wide rights-of-way that divide green spaces</li> <li>provides multiple traffic signals, which supports walkability</li> </ul>	<ul style="list-style-type: none"> <li>provides irregular block sizes and reduces walkability over Option 3, but reduces the number of auto-dependent streets compared to Option 1</li> <li>integrates pedestrian connection on Borough Approach East with green spaces and creates a vibrant Complete Street on Borough Approach West</li> </ul>	<ul style="list-style-type: none"> <li>provides regular block sizes, supporting walkability</li> <li>integrates pedestrian connection on Borough Approach West with green spaces and creates a vibrant Complete Street on Borough Approach East</li> </ul>
	Does it improve connectivity and access within the Centre and to/from surrounding communities?	Vehicle Distance Travelled (VDT)	<ul style="list-style-type: none"> <li>based on a reduction of lanes on Borough Drive (one lane in each direction), results in VDT of 34,325 km, which increases accessibility over the "Do Nothing" scenario VDT of 37,447 km</li> </ul>	<ul style="list-style-type: none"> <li>based on a reduction of lanes on Borough Drive (one lane in each direction), results in increased accessibility over Option 1 to VDT of 34,322 km</li> </ul>	<ul style="list-style-type: none"> <li>based on a reduction of lanes on Borough Drive (one lane in each direction), results in slightly reduced accessibility and a VDT of 34,398 km</li> </ul>
	Does it encourage and support active and sustainable modes of transportation?	Transportation Demand Management Objectives	<ul style="list-style-type: none"> <li>supports auto dependence through provision of multiple streets for vehicles</li> </ul>	<ul style="list-style-type: none"> <li>discourages automobile activity in the Centre by reducing vehicle capacity on Borough Approaches in conjunction with lane reduction on Borough Drive</li> </ul>	<ul style="list-style-type: none"> <li>discourages automobile activity in the Centre by reducing vehicle capacity on Borough Approaches in conjunction with lane reduction on Borough Drive</li> <li>creates access to SSE from more central location for all modes on Borough Approach East</li> </ul>
	Does it minimize the impact on the natural environment and cultural heritage?	Impact to Archaeological and Natural Features	<ul style="list-style-type: none"> <li>not expected to negatively impact the natural environment or areas of archaeological potential</li> </ul>	<ul style="list-style-type: none"> <li>although adding to the open space, depending on the alignment of Borough Approach West, may impact the natural environment and areas of archaeological potential</li> </ul>	<ul style="list-style-type: none"> <li>not expected to negatively impact the natural environment or areas of archaeological potential and is expected to contribute additional open space</li> </ul>
	Does it support and enhance the open space network?	Impact to open spaces	<ul style="list-style-type: none"> <li>applies design guidelines of a Complete Streets Park Street on Borough Approach West and East to enhance connection with adjacent green spaces</li> <li>does not prioritize pedestrians and cyclists over vehicles on either approach, limiting the active transportation connections to open spaces over Options 2 and 3</li> </ul>	<ul style="list-style-type: none"> <li>enhances the open space network by consolidating green spaces of Hand of God Park and the Civic Green Park</li> <li>applies design guidelines of a Complete Streets Park Street on Borough Approach West to enhance connection with adjacent woodlot and Hand of God Park</li> <li>prioritizes pedestrians on Borough Approach East, providing a vehicle-free connection to open spaces</li> </ul>	<ul style="list-style-type: none"> <li>enhances the open space network by consolidating green spaces west of Borough Approach East and providing greater connection between Hand of God Park and woodlot west of Borough Approach West for active transportation users</li> <li>prioritizes pedestrians on Borough Approach West, providing a vehicle-free connection to open spaces</li> <li>applies design guidelines of a Complete Streets Park Street on Borough Approach East to enhance connection with adjacent woodlots</li> </ul>
	Is it economically feasible to implement (considering full life cycle costs, impact to utilities, durability and future expansion opportunities)?	Construction, operating, maintenance, life-cycle costs	<ul style="list-style-type: none"> <li>approximately \$1-2 Million required for signals at both approaches and active transportation improvements</li> </ul>	<ul style="list-style-type: none"> <li>approximately \$0.5-1 Million required for signal at Borough Approach West, decommission of Borough Approach East, and active transportation improvements</li> </ul>	<ul style="list-style-type: none"> <li>approximately \$1-1.5 Million required for signal at Borough Approach East, decommission of pedestrian signal at Borough Approach West, and active transportation improvements</li> </ul>
	Does it encourage public and private investments?	Property impacts and connection to public transit investment	<ul style="list-style-type: none"> <li>no property impacts</li> <li>supports existing transit stops and transfer points on Ellesmere Road, but does not provide improvements for multi-modal travel to investment in future public transit and the SSE (prioritizes vehicles)</li> </ul>	<ul style="list-style-type: none"> <li>no property impacts</li> <li>overall, reduces the attractiveness of driving in the Centre and subsequently improves multi-modal connections to transit investment</li> </ul>	<ul style="list-style-type: none"> <li>approximately \$1M required for signalization of Borough Approach West, decommission of Borough Approach East, and active transportation improvements</li> </ul>
	Does it allow for the safe and efficient movement of goods?	Goods movement and access to commercial developments	<ul style="list-style-type: none"> <li>not anticipated to impact goods movement as Borough Approaches are not intended to support heavy trucks</li> </ul>	<ul style="list-style-type: none"> <li>not anticipated to impact goods movement as Borough Approaches are not intended to support heavy trucks</li> </ul>	<ul style="list-style-type: none"> <li>not anticipated to impact goods movement as Borough Approaches are not intended to support heavy trucks</li> </ul>
Overall Assessment			Least Preferred	Most Preferred	More Preferred