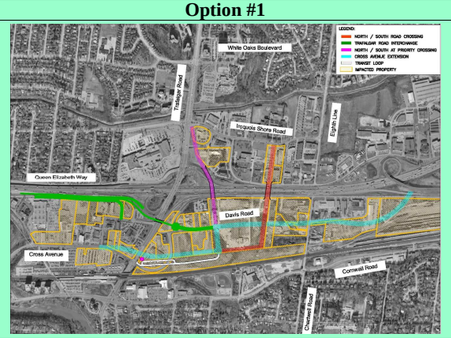
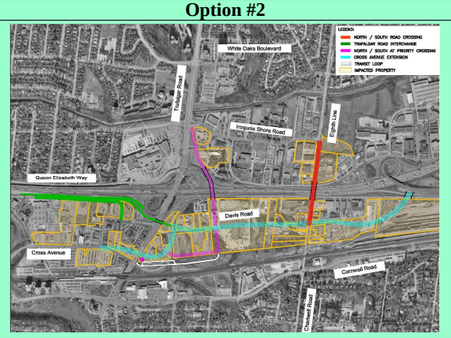
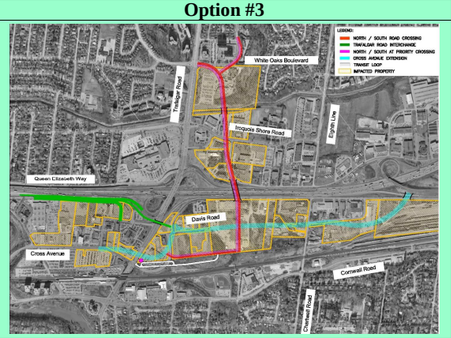
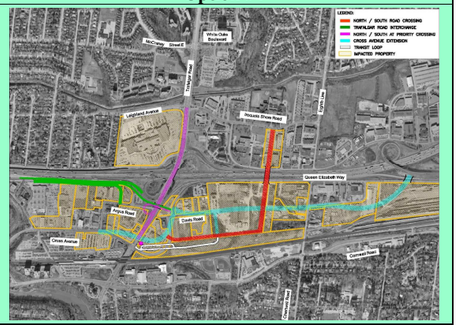
APPENDIX F
EVALUATION OF ALTERNATIVES

Evaluation Matrix

Options consisting of combinations of core improvements:

- Improvement A: North / South QEW Road Crossing
- Improvement B: Trafalgar Road Interchange
- Improvement C: North / South QEW Active Transportation / Priority Crossing
- Improvement D: Cross Avenue Extension

COMBINATION OPTIONS					
Criteria	**Factor**	**Option #1**	**Option #2**	**Option #3**	**Option #4**
					
Natural Environment	Ecological Landscapes • Landscape name and type (patch, corridor, matrix) • Landscape significance (high, moderate, low)	a. Impacts to 1 ecological landscape.	a. Impacts to 1 ecological landscape.	a. Impacts to 3 ecological landscapes.	a. Impacts to 1 ecological landscape.
	Terrestrial Communities/Ecosystems • Community name and type (ELC) • Area affected by new road right-of-way (ha) • Community significance (high, moderate, low)	a. Limited impacts to terrestrial communities/ecosystems.	a. Limited impacts to terrestrial communities/ecosystems.	a. Limited impacts to terrestrial communities/ecosystems.	a. Limited impacts to terrestrial communities/ecosystems.
	Aquatic Communities/Ecosystems • Community name • Area affected by new road right-of-way (ha) • Community sensitivity (high, moderate, low, none)	a. Limited impacts to aquatic communities/ecosystems.	a. Limited impacts to aquatic communities/ecosystems.	a. Impacts fish habitat at the Morrison-Wedgewood Drain.	a. Limited impacts to aquatic communities/ecosystems.
	Species at Risk • Species name • Number of species at risk affected by new road right-of-way (special concern, threatened, endangered)	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.

Least preferred ← → Most preferred

COMBINATION OPTIONS					
Criteria	**Factor**	**Option #1**	**Option #2**	**Option #3**	**Option #4**
	Designated Natural Areas • Area name and type (ANSI, ESA, PSW, Significant Woodland, etc.) • Area affected by new road right-of-way (ha)	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.
	Groundwater • Groundwater recharge and discharge impacts / opportunities	a. As per the *Foundation Study* by Golder Associates (September 2013), the seepage volume at the Cross Avenue Extension crossing at the QEW (Site S6), as well as the North / South QEW Active Transportation / Priority crossing at the QEW (Site S4), are anticipated to be very minimal in assuming excavation depths into the shale bedrock. As the North / South QEW Road Crossing is located in between Sites S4, S5 and S8, it is also assumed that groundwater impacts at this location will be minimal as well. However, as indicated in the *Foundation Study*, granular soils were encountered at the Trafalgar Road Interchange crossing (Site S1), where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. As the Cross Avenue Extension crossing at Trafalgar Roadis also near Site S1, groundwater control and/or a PTTW may also be required for this crossing.	a. As per the *Foundation Study* by Golder Associates (September 2013), the seepage volume at the Cross Avenue Extension crossing at the QEW (Site S6), as well as the North / South QEW Active Transportation / Priority crossing at the QEW (Site S4), are anticipated to be very minimal in assuming excavation depths into the shale bedrock. As the North / South QEW Road Crossing is located in between Sites S4, S5 and S8, it is also assumed that groundwater impacts at this location will be minimal as well. However, as indicated in the *Foundation Study*, granular soils were encountered at the Trafalgar Road Interchange crossing (Site S1), where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. As the Cross Avenue Extension crossing at Trafalgar Road is also near Site S1, groundwater control and/or a PTTW may also be required for this crossing.	a. As per the *Foundation Study* by Golder Associates (September 2013), the seepage volume at the Cross Avenue Extension crossing at the QEW (Site S6), as well as the North / South QEW combined Road and Active Transportation / Priority crossing at the QEW (Site S4), are anticipated to be very minimal in assuming excavation depths into the shale bedrock. However, as indicated in the *Foundation Study*, granular soils were encountered at the Trafalgar Road Interchange crossing (Site S1), where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. As the Cross Avenue Extension crossing at Trafalgar Road is also near Site S1, groundwater control and/or a PTTW may also be required for this crossing.	a. As per the *Foundation Study* by Golder Associates (September 2013), the seepage volume at the Cross Avenue Extension crossing at the QEW (Site S6) is anticipated to be very minimal in assuming excavation depths into the shale bedrock. As the North / South QEW Road Crossing is located in between Sites S4, S5 and S8, it is also assumed that groundwater impacts at this location will be minimal as well. However, as indicated in the *Foundation Study*, granular soils were encountered at the Trafalgar Road Interchange crossing (Site S1), where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. The Cross Avenue Extension crossing at Trafalgar Road, as well as the North/South QEW Active Transportation /Priority crossing which runs along Trafalgar Road, are also near Site S1. Therefore, groundwater control and/or a PTTW may also be required at these locations.
	Stormwater • Watershed drainage impacts / opportunities	a. Limited impacts to drainage – adequate conveyance to be provided for: 5 crossings of drainage features across the Cross Avenue Extension; drainage to existing wetland across the Trafalgar Road Interchange; crossing of drainage ditch along QEW across the North/South QEW Road Crossing; and 2 crossings within the Transit Loop. b. Drainage from low underpass where the Trafalgar Road Interchange crosses Trafalgar Road may not be possible via gravity, pumping may be required.	a. Limited impacts to drainage – adequate conveyance to be provided for: 6 crossings of drainage features across the Cross Avenue Extension; crossing of drainage ditch along QEW across the North/South QEW Road Crossing; and 2 crossings within the Transit Loop. b. Drainage from low underpass where the Trafalgar Road Interchange crosses Trafalgar Road may not be possible via gravity, pumping may be required.	a. Limited impacts to drainage – adequate conveyance to be provided for: 6 crossings of drainage features across the Cross Avenue Extension; 2 crossings of drainage features across the North/South and North/South Priority Crossings, including the drainage ditch along the QEW and the Morrison-Wedgewood Diversion Channel; and 2 crossings within the Transit Loop. b. Drainage from low underpass where the Trafalgar Road Interchange crosses Trafalgar Road may not be possible via gravity, pumping may be required.	a. Limited impacts to drainage – adequate conveyance to be provided for: 6 crossings of drainage features across the Cross Avenue Extension; crossing of drainage ditch along QEW across the North/South QEW Road Crossing; and 2 crossings within the Transit Loop. b. Drainage from low underpass where the Trafalgar Road Interchange crosses Trafalgar Road may not be possible via gravity, pumping may be required.

Least preferred ○ ◔ ◑ ◕ ● Most preferred

COMBINATION OPTIONS					
Criteria	**Factor**	**Option #1**	**Option #2**	**Option #3**	**Option #4**
Land Use / Social Environment	Land Use Planning Policies, Plans, Goals, Objectives • Federal / provincial land use planning policies / goals / objectives • Municipal land use planning policies / goals / objectives	a. Complies with goals / objectives – The provision of QEW crossings for active transportation / transit and other vehicles, direct access from EB QEW to Midtown, and from Midtown to EB QEW, would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). b. Provides choices for mobility by linking people and places with a sustainable transportation network consisting of roads, transit, walking and cycling facilities. c. Improves the internal road circulation and connections to, and through, Midtown Oakville for all modes of transportation. ●	a. Complies with goals / objectives – The provision of QEW crossings for active transportation / transit and other vehicles, direct access from EB QEW to Midtown, and from Midtown to EB QEW, would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). b. Provides choices for mobility by linking people and places with a sustainable transportation network consisting of roads, transit, walking and cycling facilities. c. Improves the internal road circulation and connections to, and through, Midtown Oakville for all modes of transportation. ●	a. Complies with goals / objectives – The provision of a combined QEW crossing for active transportation, transit, and other vehicles, direct access from EB QEW to Midtown, and from Midtown to EB QEW, would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). b. Provides choices for mobility by linking people and places with a sustainable transportation network consisting of roads, transit, walking and cycling facilities. c. Improves the internal road circulation and connections to, and through, Midtown Oakville for all modes of transportation. ●	a. Complies with goals / objectives – The provision of a QEW crossing, improvements along Trafalgar Road for transit accommodation, direct access from EB QEW to Midtown, and from Midtown to EB QEW, would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). b. Provides choices for mobility by linking people and places with a sustainable transportation network consisting of roads, transit, walking and cycling facilities. c. Improves the internal road circulation and connections to, and through, Midtown Oakville for all modes of transportation. ●
	Land Use / Community • Residential (urban and rural) • Commercial / industrial • Community facilities / institutions • Impacts to existing uses • Quality of life	a. Potential impacts to 38 properties (mostly non-residential). b. Significant impacts to 16 properties (building demolished and/or within 10m of a building). c. Moderate impacts to existing or planned land uses. d. Provides innovative road designs with cross-sections that support pedestrians, cycling and transit-supportive land uses. e. Provides opportunities for coordination of land use and transportation planning to maximize the efficient use of land. f. Provides opportunities for promoting a compact urban form with higher density and higher intensity land uses. ◑	a. Potential impacts to 48 properties (mostly non-residential). b. Significant impacts to 14 properties (building demolished and/or within 10m of a building). c. Potential impacts to stable neighbourhoods (e.g. Falgarwood). d. Moderate impacts to existing or planned land uses. e. Provides innovative road designs with cross-sections that support pedestrians, cycling and transit-supportive land uses. f. Provides opportunities for coordination of land use and transportation planning to maximize the efficient use of land. g. Provides opportunities for promoting a compact urban form with higher density and higher intensity land uses. ◔	a. Potential impacts to 41 properties (mostly non-residential). b. Significant impacts to 22 properties (building demolished and/or within 10m of a building). c. Potential impacts to stable neighbourhoods (e.g. White Oaks/McCraney). d. Moderate impacts to existing or planned land uses. e. Provides innovative road designs with cross-sections that support pedestrians, cycling and transit-supportive land uses. f. Provides opportunities for coordination of land use and transportation planning to maximize the efficient use of land. g. Provides opportunities for promoting a compact urban form with higher density and higher intensity land uses. ◑	a. Potential impacts to 36 properties (mostly non-residential). b. Significant impacts to 16 properties (building demolished and/or within 10m of a building). c. Moderate impacts to existing or planned land uses. d. Provides innovative road designs with cross-sections that support pedestrians, cycling and transit-supportive land uses. e. Provides opportunities for coordination of land use and transportation planning to maximize the efficient use of land. f. Provides opportunities for promoting a compact urban form with higher density and higher intensity land uses. ◑
	Noise • Receptors affected by transportation noise	a. Potential for moderate noise impacts. ◑	a. Potential for moderate noise impacts. ◑	a. Potential for moderate noise impacts. ◑	a. Potential for moderate noise impacts. ◑
	Air • Air quality • Greenhouse gas emissions	a. Potential impacts to air quality. b. Opportunities to improve air quality through land use and transportation decisions including, concentrating activity centres; encouraging mixed use development; providing a well-connected pedestrian and bicycle network; and providing convenient and efficient transit service. ◑	a. Potential impacts to air quality. b. Opportunities to improve air quality through land use and transportation decisions including, concentrating activity centres; encouraging mixed use development; providing a well-connected pedestrian and bicycle network; and providing convenient and efficient transit service. ◑	a. Potential impacts to air quality. b. Opportunities to improve air quality through land use and transportation decisions including, concentrating activity centres; encouraging mixed use development; providing a well-connected pedestrian and bicycle network; and providing convenient and efficient transit service. ◑	a. Potential impacts to air quality. b. Opportunities to improve air quality through land use and transportation decisions including, concentrating activity centres; encouraging mixed use development; providing a well-connected pedestrian and bicycle network; and providing convenient and efficient transit service. ◑
	City Building • Opportunities to fulfill development objectives	a. Will support growth and development in the area. ◕	a. Will support growth and development in the area. ◕	a. Will support growth and development in the area. ◕	a. Will support growth and development in the area. ◕

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Least preferred ←→ Most preferred

COMBINATION OPTIONS					
Criteria	**Factor**	**Option #1**	**Option #2**	**Option #3**	**Option #4**
Cultural Heritage Environment	Built Heritage and Cultural Heritage Landscapes • Buildings (i.e., standing sites of architectural or heritage significance, Ontario heritage properties, heritage bridges, cemeteries) and cultural heritage landscapes (i.e., areas of historic 19th century settlement)	a. One previously identified cultural heritage resource (420 South Service Road – GE site) is in close proximity to improvements – within 70m.	a. One previously identified cultural heritage resource (420 South Service Road – GE site) is in close proximity to improvements – within 70m.	a. One previously identified cultural heritage resource (420 South Service Road – GE site) is in very close proximity to improvements – within 15m.	a. One previously identified cultural heritage resource (420 South Service Road – GE site) is in close proximity to improvements – within 190m.
	Archaeology • Archaeological sites or resources	a. No directly affected archaeological sites.	a. No directly affected archaeological sites.	a. No directly affected archaeological sites.	a. No directly affected archaeological sites.
Area Economy	Development Parcels • Creation of new development parcels	a. Creation of new development parcels south of the QEW.	a. Creation of new development parcels south of the QEW.	a. Creation of new development parcels south of the QEW and north of the diversion channel.	a. Creation of new development parcels south of the QEW.
	Development Access • Access to development within Midtown • Mobility across QEW	a. Can improve access within Midtown and provides additional opportunities for general purpose traffic, transit, cyclists and pedestrians to cross the QEW to access areas both north and south of the freeway.	a. Can improve access within Midtown and provides additional opportunities for general purpose traffic, transit, cyclists and pedestrians to cross the QEW to access areas both north and south of the freeway.	a. Can improve access within Midtown and provides an additional opportunity for general purpose traffic, transit, cyclists and pedestrians to cross the QEW to access areas both north and south of the freeway.	a. Can improve access within Midtown and provides an additional opportunity for general purpose traffic, cyclists and pedestrians to cross the QEW to access areas both north and south of the freeway.
	Delay and Cost of Travel • Reduce delays and cost of travel in and through Midtown	a. Can reduce delays through the area by providing 2 additional crossings of the QEW, and other Midtown improvements.	a. Can reduce delays through the area by providing 2 additional crossings of the QEW, and other Midtown improvements.	a. Can reduce delays through the area by providing 1 additional crossing of the QEW, and other Midtown improvements.	a. Can reduce delays through the area by providing 1 additional crossing of the QEW, and other Midtown improvements.
	Goods Movement • Reduce delays to truck traffic	a. Can improve the flow of truck traffic on Trafalgar Road, as other vehicles can use new alternate routes.	a. Can improve the flow of truck traffic on Trafalgar Road, as other vehicles can use new alternate routes.	a. Can improve the flow of truck traffic on Trafalgar Road, as other vehicles can use new alternate route.	a. Potential to delay trucks and delivery vehicles on Trafalgar Road, due to future transit operations.
Transportation	Traffic Level of Service / Operations (Municipal) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. 5-legged intersection at Trafalgar Road / Iroquois Shore Road. b. Poor traffic operations at: - Trafalgar Road / Iroquois Shore Road - Trafalgar Road / Cross Avenue Extension	a. 5-legged intersection at Iroquois Shore Road. b. Closely spaced intersections in the area south of the QEW and east of Trafalgar Road. c. Poor traffic operations at: - Trafalgar Road / Iroquois Shore Road - Trafalgar Road / Cross Avenue Extension - Eighth Line / Iroquois Shore Road	a. Increased traffic on White Oaks Boulevard. b. Closely spaced intersections in the area south of the QEW and east of Trafalgar Road. c. Poor traffic operations at: - Trafalgar Road / White Oaks Boulevard - Trafalgar Road / Cross Avenue Extension	a. Increased traffic on Trafalgar Road. b. Closely spaced intersections in the area south of the QEW and east of Trafalgar Road. c. Poor traffic operations at: - Trafalgar Road / Iroquois Shore Road - Trafalgar Road / Cross Avenue Extension
	Traffic Level of Service / Operations (MTO) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Improved operations anticipated due to: - Direct access to Midtown from EB QEW off-ramp. - Direct access to EB QEW from Midtown via Cross Avenue Extension.	a. Improved operations anticipated due to: - Direct access to Midtown from EB QEW off-ramp. - Direct access to EB QEW from Midtown via Cross Avenue Extension.	a. Improved operations anticipated due to: - Direct access to Midtown from EB QEW off-ramp. - Direct access to EB QEW from Midtown via Cross Avenue Extension.	a. Improved operations anticipated due to: - Direct access to Midtown from EB QEW off-ramp. - Direct access to EB QEW from Midtown via Cross Avenue Extension.
	Accommodation of Cyclists and Pedestrians • Directness and number of AT routes • Opportunities for accessible barrier crossings	a. Potential to accommodate cyclists and pedestrians on new roads. b. Two new QEW crossings can provide benefits for active transportation. c. Improved Trafalgar Road can provide benefits to cyclists and pedestrians.	a. Potential to accommodate cyclists and pedestrians on new roads. b. Two new QEW crossings can provide benefits for active transportation. c. Improved Trafalgar Road can provide benefits to cyclists and pedestrians.	a. Potential to accommodate cyclists and pedestrians on new roads. b. One new QEW crossing can provide benefits for active transportation. c. Improved Trafalgar Road can provide benefits to cyclists and pedestrians.	a. Potential to accommodate cyclists and pedestrians on new roads. b. One new QEW crossing can provide benefits for active transportation. c. Enhanced Trafalgar Road can provide benefits to cyclists and pedestrians.

Least preferred ← → Most preferred

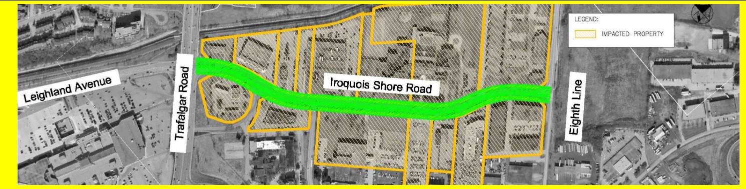
COMBINATION OPTIONS					
Criteria	**Factor**	**Option #1**	**Option #2**	**Option #3**	**Option #4**
	Transit • Transit delay • Transit directness of routes • Transit station catchment and operation	a. Moderate improvements in transit operations anticipated. b. Requires transit route detour from Trafalgar Road between Iroquois Shore Road and Cross Avenue. c. Transit vehicles have to pass through multiple intersections in the area south of the QEW and east of Trafalgar Road.	a. Moderate improvements in transit operations anticipated. b. Requires transit route detour from Trafalgar Road between Iroquois Shore Road and Cross Avenue. c. Transit vehicles have to pass through multiple intersections in the area south of the QEW and east of Trafalgar Road.	a. Moderate improvements in transit operations anticipated. b. Requires transit route detour from Trafalgar Road between White Oaks Boulevard and Cross Avenue. c. Transit vehicles have to pass through multiple intersections in the area south of the QEW and east of Trafalgar Road.	a. Minor improvements in transit operations anticipated. b. Maintains transit route along Trafalgar Road.
	Safety • Number of conflict points • Human factors concerns (driver workload, positive guidance, accommodation of signage)	a. Potential issues at Trafalgar Road / Iroquois Shore Road due to 5-legged intersection. b. Potential benefits due to intersection spacing along Cross Avenue.	a. Potential issues at Trafalgar Road / Iroquois Shore Road due to 5-legged intersection. b. Potential issues due to intersection spacing along Cross Avenue.	a. Potential benefits at Trafalgar Road / White Oaks Boulevard due to this being an existing intersection. b. Potential issues due to intersection spacing along Cross Avenue.	a. Potential for higher conflicts between modes on Trafalgar Road. b. Potential issues due to intersection spacing along Cross Avenue.
Cost / Constructability	Capital Cost • Cost of network infrastructure	a. High capital costs for road improvements including two new bridge crossings of the QEW and one underpass at Trafalgar Road.	a. High capital costs for road improvements, including two new bridge crossings of the QEW and one underpass at Trafalgar Road.	a. Moderate capital costs for road improvements, including one new bridge crossing of the QEW, one new bridge crossing of the diversion channel north of Iroquois Shore Road, and one underpass at Trafalgar Road.	a. Moderate capital costs for road improvements, including one new bridge crossing of the QEW, one bridge widening at Trafalgar Road and one underpass at Trafalgar Road.
	Contaminated Property • Identification and management of landfills, hazardous waste sites, brownfield areas, etc.	a. Potential impacts to one property with known contamination.	a. Potential impacts to one property with known contamination.	a. Potential impacts to one property with known contamination.	a. Potential impacts to one property with known contamination.
	Utilities • Impacts to utilities – Bell, Cogeco, Rogers, Union Gas, Oakville Hydro, municipal services, etc.	a. Moderate impacts to utilities on Trafalgar Road, South Service Road and Industry Street. b. Utilities impacted include Bell, Cogeco, Rogers, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (1030m) - Cogeco (220m) - Rogers (110m) - Union Gas (240m) - Oakville Hydro (240m)	a. Moderate impacts to utilities on Trafalgar Road, South Service Road, Industry Street and Eighth Line. b. Utilities impacted include Bell, Cogeco, Rogers, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (1580m) - Cogeco (535m) - Rogers (660m) - Union Gas (655m) - Oakville Hydro (880m)	a. Moderate impacts to utilities on Trafalgar Road, South Service Road, North Service Road, White Oaks Boulevard and Industry Street. b. Utilities impacted include Bell, Cogeco, Rogers, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (1710m) - Cogeco (770m) - Rogers (460m) - Union Gas (730m) - Oakville Hydro (500m)	a. Minor impact to utilities on Trafalgar Road, South Service Road and Industry Road. b. Utilities impacted include Bell, Cogeco, Rogers, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (870m) - Cogeco (90m) - Rogers (890m) - Union Gas (270m) - Oakville Hydro (150m)
	Property Acquisition • Impacts to existing properties • Property requirements	a. Potential impacts to 38 properties. b. Moderate impacts to existing properties. Increased impacts to properties located on South Service Road, North-South and Cross Avenue corridors. c. The total area of property required is approximately 7.8 hectares.	a. Potential impacts to 48 properties. b. Moderate impacts to existing properties. Increased impacts to properties located on South Service Road, Chartwell Road, North-South and Cross Avenue corridors. c. The total area of property required is approximately 6.2 hectares.	a. Potential impacts to 41 properties. b. Moderate impacts to existing properties. Increased impacts to properties located on South Service Road, North-South and Cross Avenue corridors. c. The total area of property required is approximately 8.2 hectares.	a. Potential impacts to 36 properties. b. Moderate impacts to existing properties. Increased impacts to properties located on South Service Road, Trafalgar Road, North-South and Cross Avenue corridors. c. The total area of property required is approximately 7.8 hectares.

Least preferred ← → Most preferred

COMBINATION OPTIONS					
Criteria	**Factor**	**Option #1**	**Option #2**	**Option #3**	**Option #4**
	Staging • Staging requirements	a. Major staging requirements for underpass construction at Trafalgar Road. b. Major staging requirements to construct two new QEW overpasses. c. Major staging requirements at intersection of Trafalgar Road and Iroquois Shore Road to accommodate fifth leg. d. Moderate staging requirements to realign South Service Road, Cross Avenue, Davis Road and Industry Street. Temporary closures may be required.	a. Major staging requirements for underpass construction at Trafalgar Road. b. Major staging requirements to construct two new QEW overpasses. c. Major staging requirements at intersection of Trafalgar Road and Iroquois Shore Road to accommodate fifth leg. d. Moderate to high staging requirements to widen Eighth Line on both sides. Additional complications due to two work zones on either side of the existing road. e. Moderate staging requirements to realign South Service Road, Cross Avenue, Davis Road and Industry Street. Temporary closures may be required.	a. Major staging requirements for underpass construction at Trafalgar Road. b. Major staging requirements to construct new QEW overpass. c. Moderate staging requirements to realign South Service Road, Cross Avenue, Davis Road, White Oaks Boulevard and Industry Street. Temporary closures may be required.	a. Major Staging requirements for underpass construction at Trafalgar Road. b. Major Staging requirements to construct new QEW overpass and to widen existing Trafalgar Road overpass. c. Major Staging requirements to on Trafalgar Road to construct bus priority lanes on both sides of the road. d. Moderate staging requirements to realign Cross Avenue, Davis Road, Argus Road and Industry Street. Temporary closures may be required.
	Environmental Mitigation • Mitigation requirements for Creek, diversion channel, etc.	a. Cross Avenue extension will cross Morrison's Creek which has been identified as a regulated area. Some environmental mitigation requirements are anticipated to accommodate this crossing.	a. Cross Avenue extension will cross Morrison's Creek which has been identified as a regulated area. Some environmental mitigation requirements are anticipated to accommodate this crossing.	a. Cross Avenue extension will cross Morrison's Creek which has been identified as a regulated area. Some environmental mitigation requirements are anticipated to accommodate this crossing. b. North-South corridor will cross the diversion channel which has been identified as a regulated area. Some environmental mitigation requirements are anticipated to accommodate this crossing.	a. Cross Avenue extension will cross Morrison's Creek which has been identified as a regulated area. Some environmental mitigation requirements are anticipated to accommodate this crossing.
Overall Ranking		**2**	**3**	**1**	**3**

Least preferred ← → Most preferred

Improvement E: Iroquois Shore Road Widening

IMPROVEMENT E				
Criteria	**Factor / Sub-factor or Measure**	**Improvement E1 (widening to the south)**	**Improvement E2 (widening along the centreline)**	**Improvement E3 (widening to the north)**
				
Natural Environment	Ecological Landscapes • Landscape name and type (patch, corridor, matrix) • Landscape significance (high, moderate, low)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Terrestrial Communities/Ecosystems • Community name and type (ELC) • Area affected by new road right-of-way (ha) • Community significance (high, moderate, low)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Aquatic Communities/Ecosystems • Community name • Area affected by new road right-of-way (ha) • Community sensitivity (high, moderate, low, none)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Species at Risk • Species name • Number of species at risk affected by new road right-of-way (special concern, threatened, endangered)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Designated Natural Areas • Area name and type (ANSI, ESA, PSW, Significant Woodland, etc.) • Area affected by new road right-of-way (ha)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Groundwater • Groundwater recharge and discharge impacts / opportunities	a. Improvement E1 is located in between sites S4 and S5 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement E1. ●	a. Improvement E2 is located in between sites S4 and S5 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement E2. ●	a. Improvement E3 is located in between sites S4 and S5 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement E3. ●
	Stormwater • Watershed drainage impacts / opportunities	a. Potential to mitigate an existing depressed area. ●	a. Potential to mitigate an existing depressed area. ●	a. Potential to mitigate an existing depressed area. ●

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Least preferred ⟷ Most preferred

IMPROVEMENT E				
Criteria	**Factor / Sub-factor or Measure**	**Improvement E1 (widening to the south)**	**Improvement E2 (widening along the centreline)**	**Improvement E3 (widening to the north)**
Land Use / Social Environment	Land Use Planning Policies, Plans, Goals, Objectives • Federal / provincial land use planning policies / goals / objectives • Municipal land use planning policies / goals / objectives	a. Complies with goals / objectives – The widening of Iroquois Shore Road would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The widening of Iroquois Shore Road would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The widening of Iroquois Shore Road would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●
	Land Use / Community • Residential (urban and rural) • Commercial / industrial • Community facilities / institutions • Impacts to existing uses • Quality of life	a. Impacts 7 non-residential properties on the south side of Iroquois Shore Road. b. Limited impacts to existing uses. ◔	a. Impacts 15 non-residential properties on both the south and north sides of Iroquois Shore Road – less impacts to each property when compared to E1 and E3. b. Limited impacts to existing uses. ◕	a. Impacts 8 non-residential properties on the north side of Iroquois Shore Road. b. Limited impacts to existing uses. ◔
	Noise • Receptors affected by transportation noise	a. Limited number of receptors. ◕	a. Limited number of receptors. ◕	a. Limited number of receptors. ◕
	Air • Air quality • Greenhouse gas emissions	a. Potential impacts to air quality. ◕	a. Potential impacts to air quality. ◕	a. Potential impacts to air quality. ◕
	City Building • Opportunities to fulfill development objectives	a. Will support growth and development in the area. ◕	a. Will support growth and development in the area. ◕	a. Will support growth and development in the area. ◕
Cultural Heritage / Environment	Built Heritage and Cultural Heritage Landscapes • Buildings (i.e., standing sites of architectural or heritage significance, Ontario heritage properties, heritage bridges, cemeteries) and cultural heritage landscapes (i.e., areas of historic 19th century settlement)	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●
	Archaeology • Archaeological sites or resources	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●
Area Economy	Development Parcels • Creation of new development parcels	a. Limited new development parcels. ◑	a. Limited new development parcels. ◑	a. Limited new development parcels. ◑
	Development Access • Access to development within Midtown • Mobility across QEW	a. Significant changes not anticipated. ◕	a. Significant changes not anticipated. ◕	a. Significant changes not anticipated. ◕
	Delay and Cost of Travel • Reduce delays and cost of travel in and through Midtown	a. No direct impacts. ●	a. No direct impacts. ●	a. No direct impacts. ●
	Goods Movement • Reduce delays to truck traffic	a. No directly affected truck routes. ●	a. No directly affected truck routes. ●	a. No directly affected truck routes. ●

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Least preferred ↔ Most preferred

IMPROVEMENT E				
Criteria	**Factor / Sub-factor or Measure**	**Improvement E1 (widening to the south)**	**Improvement E2 (widening along the centreline)**	**Improvement E3 (widening to the north)**
Transportation	Traffic Level of Service / Operations (Municipal) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Improved operations. ●	a. Improved operations. ●	a. Improved operations. ●
	Traffic Level of Service / Operations (MTO) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. No direct impacts. ●	a. No direct impacts. ●	a. No direct impacts. ●
	Accommodation of Cyclists and Pedestrians • Directness and number of AT routes • Opportunities for accessible barrier crossings	a. Potential to accommodate cyclists and pedestrians on both sides of the road – cycle lanes and second sidewalk proposed. ●	a. Potential to accommodate cyclists and pedestrians on both sides of the road – cycle lanes and second sidewalk proposed. ●	a. Potential to accommodate cyclists and pedestrians on both sides of the road – cycle lanes and second sidewalk proposed. ●
	Transit • Transit delay • Transit directness of routes • Transit station catchment and operation	a. Potential to improve transit operations. ●	a. Potential to improve transit operations. ●	a. Potential to improve transit operations. ●
	Safety • Number of conflict points • Human factors concerns (driver workload, positive guidance, accommodation of signage)	a. No direct human factors concerns for drivers. b. Potential to increase safety of cyclists and pedestrians. ●	a. No direct human factors concerns for drivers. b. Potential to increase safety of cyclists and pedestrians. ●	a. No direct human factors concerns for drivers. b. Potential to increase safety of cyclists and pedestrians. ●
Cost / Constructability	Capital Cost • Cost of network infrastructure	c. Moderate capital costs commensurate with level of improvement. ◑	a. Moderate capital costs commensurate with level of improvement. ◑	a. Moderate capital commensurate with level of improvement. ◑
	Contaminated Property • Identification and management of landfills, hazardous waste sites, brownfield areas, etc.	a. No directly affected contaminated properties. ●	a. No directly affected contaminated properties. ●	a. No directly affected contaminated properties. ●
	Utilities • Impacts to utilities – Bell, Cogeco, Rogers, Union Gas, Oakville Hydro, municipal services, etc.	a. Minor impacts to existing utilities to the south of Iroquois Shore Road. b. Utilities impacted include BellCanada and Cogeco. c. Approximate length of utilities impacted: - Bell (90m) - Cogeco (770m) ◕	a. Moderate impacts to existing utilities to the north and south of Iroquois Shore Road. b. Utilities impacted include Union Gas, BellCanada, Cogeco, Rogers and Oakville Hydro. c. Approximate length of utilities impacted: - Bell (860m) - Cogeco (1050m) - Rogers (770m) - Union Gas (770m) - Oakville Hydro (770m) ◑	a. Moderate impacts to existing utilities to the north of Iroquois Shore Road. b. Utilities impacted include BellCanada, Cogeco, Union Gas, Rogers and Oakville Hydro. c. Approximate length of utilities impacted: - Bell (770m) - Cogeco (280m) - Rogers (1500m) - Union Gas (770m) - Oakville Hydro (770m) ◑

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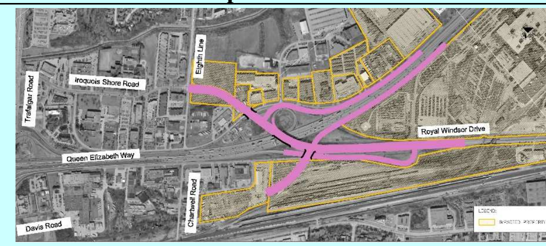
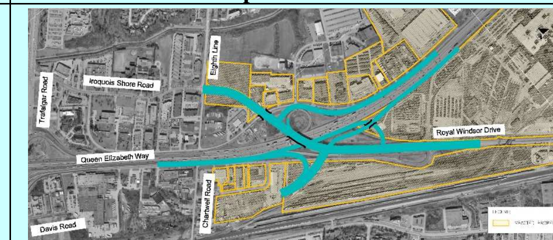
Least preferred ← → Most preferred

IMPROVEMENT E				
Criteria	**Factor / Sub-factor or Measure**	**Improvement E1 (widening to the south)**	**Improvement E2 (widening along the centreline)**	**Improvement E3 (widening to the north)**
	Property Acquisition • Impacts to existing properties • Property requirements	a. Potential impacts to 7 properties. b. Moderate impacts to existing properties. Increased impacts to properties located to the south of Iroquois Shore Road corridor. c. The total area of property required is approximately 0.6 hectares. 	a. Potential impacts to 15 properties. b. Minor impacts to existing properties located both north and south of the Iroquois Shore Road corridor. c. The total area of property required is approximately 0.6 hectares. 	a. Potential impacts to 8 properties. b. Moderate impacts to existing properties. Increased impacts to properties located to the north of Iroquois Shore Road corridor. c. The total area of property required is approximately 0.7 hectares. 
	Staging • Staging requirements	a. Temporary conditions from Trafalgar Road to Eighth Line. b. Moderate staging requirements to widen Iroquois Shore Road on the south side. 	a. Temporary conditions from Trafalgar Road to Eighth Line. b. Moderate to high staging requirements to widen Iroquois Shore Road on both sides. Additional complications due to two work zones on either side of the existing road. 	a. Temporary conditions from Trafalgar Road to Eighth Line. b. Moderate staging requirements to widen Iroquois Shore Road on the north side. 
	Environmental Mitigation • Mitigation requirements for Creek, diversion channel, etc.	a. No significant environmental mitigation requirements anticipated. 	a. No significant environmental mitigation requirements anticipated. 	a. No significant environmental mitigation requirements anticipated. 
Overall Ranking		**2**	**1**	**2**

Improvement F: Royal Windsor Drive Interchange

IMPROVEMENT F					
Criteria	**Factor**	**Improvement F1**	**Improvement F2**	**Improvement F3**	**Improvement F4**
					
Natural Environment	Ecological Landscapes • Landscape name and type (patch, corridor, matrix) • Landscape significance (high, moderate, low)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Terrestrial Communities/Ecosystems • Community name and type (ELC) • Area affected by new road right-of-way (ha) • Community significance (high, moderate, low)	a. Limited anticipated impacts. ◕	a. Limited anticipated impacts. ◕	a. Limited anticipated impacts. ◕	a. Limited anticipated impacts. ◕
	Aquatic Communities/Ecosystems • Community name • Area affected by new road right-of-way (ha) • Community sensitivity (high, moderate, low, none)	a. Impacts areas of direct and indirect fish habitat. ◔	a. Impacts areas of direct and indirect fish habitat. ◔	a. Impacts areas of indirect fish habitat. ◑	a. Impacts areas of indirect fish habitat (less impact than Improvement F3). ◕
	Species at Risk • Species name • Number of species at risk affected by new road right-of-way (special concern, threatened, endangered)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Designated Natural Areas • Area name and type (ANSI, ESA, PSW, Significant Woodland, etc.) • Area affected by new road right-of-way (ha)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Groundwater • Groundwater recharge and discharge impacts / opportunities	a. Improvement F1 crosses both sites S6 and S8 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement F1. ●	a. Improvement F2 crosses both sites S6 and S8 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement F2. ●	a. Improvement F3 crosses both sites S6 and S8 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement F3. ●	a. Improvement F4 crosses both sites S6 and S8 which were analyzed as part of the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, the seepage volumes at these sites are anticipated to be very minimal in assuming excavation depths into the shale bedrock. Therefore, major groundwater impacts are not anticipated for Improvement F4. ●

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Least preferred ←→ Most preferred

IMPROVEMENT F					
Criteria	**Factor**	**Improvement F1**	**Improvement F2**	**Improvement F3**	**Improvement F4**
	Stormwater • Watershed drainage impacts / opportunities	a. Impact to floodplain associated with Lower Wedgewood Creek. b. Opportunity to benefit / mitigate flooding site #22. c. Potential impact to spill conveyance associated with a spill point on the Morrison-Wedgewood Diversion Channel. This should not be an issue since this is planned to be mitigated by CH prior to the Midtown improvements being constructed. d. Potential to impact large pond (unknown function) identified during site visit on August 23, 2012. e. Opportunity to mitigate some of the existing depressed areas. f. At the QEW, near The Canadian Road, there is a watercourse (considered headwater by CH) which could be impacted if the QEW is widened to the south. g. Impact to existing hydrologic connection (unregulated watercourse) – crossing will be required at a skewed angle. ◔	a. Impact to floodplain associated with Lower Wedgewood Creek. b. Opportunity to benefit / mitigate flooding site #22. c. Potential impact to spill conveyance associated with a spill point on the Morrison-Wedgewood Diversion Channel. This should not be an issue since this is planned to be mitigated by CH prior to the Midtown improvements being constructed. d. Potential to impact large pond (unknown function) identified during site visit on August 23, 2012. e. Opportunity to mitigate some of the existing depressed areas. f. At the QEW, near The Canadian Road, there is a watercourse (considered headwater by CH) which could be impacted if the QEW is widened to the south. ◑	a. Impact to floodplain associated with Lower Wedgewood Creek. b. Opportunity to benefit / mitigate flooding site #22. c. Potential impact to spill conveyance associated with a spill point on the Morrison-Wedgewood Diversion Channel. This should not be an issue since this is planned to be mitigated by CH prior to the Midtown improvements being constructed. d. Potential to impact large pond (unknown function) identified during site visit on August 23, 2012. e. Opportunity to mitigate some of the existing depressed areas. f. At the QEW, near The Canadian Road, there is a watercourse (considered headwater by CH) which could be impacted if the QEW is widened to the south. ◑	a. Impact to floodplain associated with Lower Wedgewood Creek. b. Opportunity to benefit / mitigate flooding site #22. c. Potential impact to spill conveyance associated with a spill point on the Morrison-Wedgewood Diversion Channel. This should not be an issue since this is planned to be mitigated by CH prior to the Midtown improvements being constructed. d. Potential to impact large pond (unknown function) identified during site visit on August 23, 2012. e. Opportunity to mitigate some of the existing depressed areas. f. At the QEW, near The Canadian Road, there is a watercourse (considered headwater by CH) which could be impacted if the QEW is widened to the south. ◑
Land Use / Social Environment	Land Use Planning Policies, Plans, Goals, Objectives • Federal / provincial land use planning policies / goals / objectives • Municipal land use planning policies / goals / objectives	a. Complies with goals / objectives – the provision of WB and EB QEW off-ramps to Iroquois Shore Road / Royal Windsor Drive, as well as an EB QEW on-ramp from Cross Avenue would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ◑	a. Complies with goals / objectives – the provision of WB and EB QEW off-ramps to Iroquois Shore Road / Royal Windsor Drive, as well as one directly into Midtown, and an EB QEW on-ramp from Cross Avenue would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ◕	a. Complies with goals / objectives – the provision of WB and EB QEW off-ramps to Iroquois Shore Road / Royal Windsor Drive, as well as one directly into Midtown, and an EB QEW on-ramp from Cross Avenue would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ◕	a. Complies with goals / objectives – the provision of a full movement interchange would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●
	Land Use / Community • Residential (urban and rural) • Commercial / industrial • Community facilities / institutions • Impacts to existing uses • Quality of life	a. Potential impacts to 15 properties. b. Significant impacts to 1 property (building demolished and/or within 10m of a building). c. Limited impacts to existing land use. ◕	a. Potential impacts to 23 properties. b. Significant impacts to 2 properties (building demolished and/or within 10m of a building). c. Limited impacts to existing land use. ◑	a. Potential impacts to 23 properties. b. Significant impacts to 2 properties (building demolished and/or within 10m of a building). c. Limited impacts to existing land use. ◑	a. Potential impacts to 23 properties. b. Significant impacts to 2 properties (building demolished and/or within 10m of a building). c. Limited impacts to existing land use. ◑
	Noise • Receptors affected by transportation noise	a. Limited number of receptors. ◕	a. Limited number of receptors. ◕	a. Limited number of receptors. ◕	a. Limited number of receptors. ◕
	Air • Air quality • Greenhouse gas emissions	a. Potential impacts to air quality. ◑	a. Potential impacts to air quality. ◑	a. Potential impacts to air quality. ◑	a. Potential impacts to air quality. ◑
	City Building • Opportunities to fulfill development objectives	a. Will provide opportunities to accommodate growth and development in Midtown Oakville. ◕	a. Will provide opportunities to accommodate growth and development in Midtown Oakville. ●	a. Will provide opportunities to accommodate growth and development in Midtown Oakville. ●	a. Will provide opportunities to accommodate growth and development in Midtown Oakville. ●

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Least preferred ← → Most preferred

IMPROVEMENT F					
Criteria	**Factor**	**Improvement F1**	**Improvement F2**	**Improvement F3**	**Improvement F4**
Cultural Heritage / Environment	Built Heritage and Cultural Heritage Landscapes • Buildings (i.e., standing sites of architectural or heritage significance, Ontario heritage properties, heritage bridges, cemeteries) and cultural heritage landscapes (i.e., areas of historic 19th century settlement)	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●
	Archaeology • Archaeological sites or resources	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●
Area Economy	Development Parcels • Creation of new development parcels	a. Limited new development parcels. ◑	a. Limited new development parcels. ◑	a. Limited new development parcels. ◑	a. Limited new development parcels. ◑
	Development Access • Access to development within Midtown • Mobility across QEW	a. Limited opportunities to access Midtown directly from EB QEW. ◑	a. Opportunities for improved access through the area. ◕	a. Opportunities for improved access through the area. ◕	a. Opportunities for improved access through the area. ●
	Delay and Cost of Travel • Reduce delays and cost of travel in and through Midtown	a. Can provide relief to QEW-Trafalgar Road interchange – opportunities for improved access and connectivity to/from the eastern portion of Midtown. ◑	a. Can provide relief to QEW-Trafalgar Road interchange – opportunities for improved access and connectivity to/from the eastern portion of Midtown. ◕	a. Can provide relief to QEW-Trafalgar Road interchange – opportunities for improved access and connectivity to/from the eastern portion of Midtown. ◕	a. Can provide relief to QEW-Trafalgar Road interchange – opportunities for improved access and connectivity to/from the eastern portion of Midtown. ●
	Goods Movement • Reduce delays to truck traffic	a. Can improve flow of truck traffic. ◑	a. Can improve flow of truck traffic. ◕	a. Can improve flow of truck traffic. ◕	a. Can improve flow of truck traffic. ●
Transportation	Traffic Level of Service / Operations (Municipal) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Can improve traffic operations. b. All municipal intersections are expected to operate at acceptable levels of service. c. Road connections can improve response time of emergency services. d. Four intersections along Iroquois Shore Road / Royal Windsor Drive between Eighth Line and The Canadian Road / South Service Road. ◑	a. Can improve traffic operations. b. All municipal intersections are expected to operate at acceptable levels of service. c. Road connections can improve response time of emergency services. d. Four intersections along Iroquois Shore Road / Royal Windsor Drive between Eighth Line and The Canadian Road / South Service Road. ◑	a. Can improve traffic operations. b. All municipal intersections are expected to operate at acceptable levels of service. c. Road connections can improve response time of emergency services. d. Five intersections along Iroquois Shore Road / Royal Windsor Drive between Eighth Line and The Canadian Road / South Service Road. ◑	a. Can improve traffic operations. b. All municipal intersections are expected to operate at acceptable levels of service. c. Road connections can improve response time of emergency services. d. Four intersections along Iroquois Shore Road / Royal Windsor Drive between Eighth Line and The Canadian Road / South Service Road. ◑
	Traffic Level of Service / Operations (MTO) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Can improve traffic operations. b. Direct access to Iroquois Shore Road from WB QEW. c. Direct access to Royal Windsor Drive from EB QEW. d. Direct access to EB QEW from Midtown. e. EB QEW off-ramp / Royal Windsor Drive intersection is expected to operate at an acceptable level of service. f. Midtown to EB QEW on-ramp – Royal Windsor Drive intersection is expected to experience operational issues during the PM peak hour: - For the WBL and NBT movements – Saturation is expected to occur, with vehicle demand exceeding available capacity. ◑	a. Can improve traffic operations. b. Direct access to Iroquois Shore Road from WB QEW. c. Direct access to Royal Windsor Drive from EB QEW. d. Direct access to EB QEW from Midtown. e. Direct access to Midtown from EB QEW. f. All MTO intersections are expected to operate at acceptable levels of service. ◕	a. Can improve traffic operations. b. Direct access to Iroquois Shore Road from WB QEW. c. Direct access to Royal Windsor Drive from EB QEW. d. Direct access to EB QEW from Midtown. e. Direct access to Midtown from EB QEW. f. All MTO intersections are expected to operate at acceptable levels of service. ◕	a. Can improve traffic operations. b. Direct access to Iroquois Shore Road from WB QEW. c. Direct access to Royal Windsor Drive from EB QEW. d. Direct access to EB QEW from Midtown. e. Direct access to Midtown from EB QEW. f. All MTO intersections are expected to operate at acceptable levels of service. g. Weaving concerns between WB QEW on-ramp movements at Royal Windsor Drive interchange and the existing WB off-ramp movement at the Trafalgar Road interchange. ◔

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Least preferred ← → Most preferred

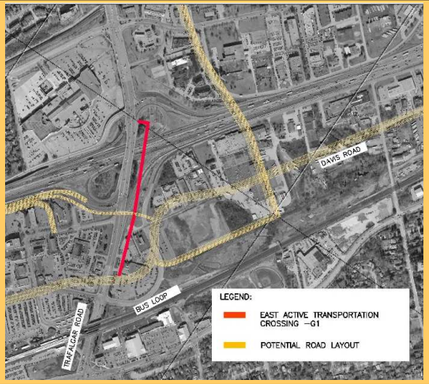
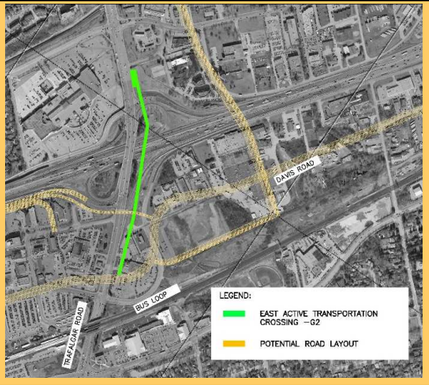
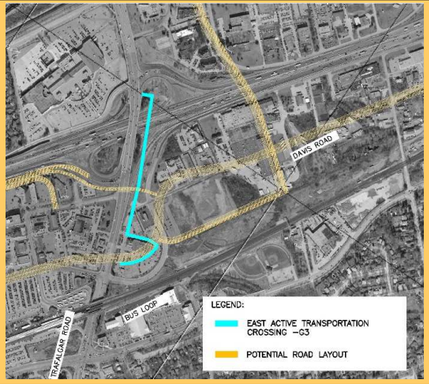
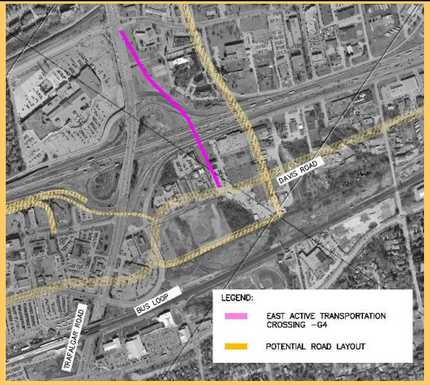
IMPROVEMENT F					
Criteria	**Factor**	**Improvement F1**	**Improvement F2**	**Improvement F3**	**Improvement F4**
	Accommodation of Cyclists and Pedestrians • Directness and number of AT routes • Opportunities for accessible barrier crossings	a. Potential to accommodate cyclists and pedestrians on Iroquois Shore Road / Royal Windsor Drive – new crossing of the QEW. b. Cycle lanes and sidewalks on both sides of the road are expected to be provided.	a. Potential to accommodate cyclists and pedestrians on Iroquois Shore Road / Royal Windsor Drive – new crossing of the QEW. b. Cycle lanes and sidewalks on both sides of the road are expected to be provided.	a. Potential to accommodate cyclists and pedestrians on Iroquois Shore Road / Royal Windsor Drive – new crossing of the QEW. b. Cycle lanes and sidewalks on both sides of the road are expected to be provided.	a. Potential to accommodate cyclists and pedestrians on Iroquois Shore Road / Royal Windsor Drive – new crossing of the QEW. b. Cycle lanes and sidewalks on both sides of the road are expected to be provided. c. Conflicts between cyclists/pedestrians and vehicles would be expected at the on-ramps to EB and WB QEW.
	Transit • Transit delay • Transit directness of routes • Transit station catchment and operation	a. Potential for minor reduction in transit delays due to diversion of traffic from transit routes. b. Opportunity for future route crossing QEW.	a. Potential for minor reduction in transit delays due to diversion of traffic from transit routes. b. Opportunity for future route crossing QEW.	a. Potential for minor reduction in transit delays due to diversion of traffic from transit routes. b. Opportunity for future route crossing QEW.	a. Potential for minor reduction in transit delays due to diversion of traffic from transit routes. b. Opportunity for future route crossing QEW.
	Safety • Number of conflict points • Human factors concerns (driver workload, positive guidance, accommodation of signage)	a. Skewed Royal Windsor Drive / EB on-ramp intersection has potential to impact turning activity (e.g. off-tracking of heavy vehicles into adjacent lanes). b. Potential for sight distance constraints at Royal Windsor Drive / EB on-ramp intersection resulting from bridge structure parapet walls immediately south of the intersection. c. Potential conflicts between cyclists/pedestrians and turning vehicles from Royal Windsor Drive to the EB QEW on-ramp.	a. Skewed Royal Windsor Drive / EB on-ramp intersection has potential to impact turning activity (e.g. off-tracking of heavy vehicles into adjacent lanes). b. Potential for sight distance constraints at Royal Windsor Drive / EB on-ramp intersection resulting from bridge structure parapet walls immediately south of the intersection. c. Potential conflicts between cyclists/pedestrians on the north side of Royal Windsor Drive and turning vehicles from Royal Windsor Drive to the EB QEW on-ramp. d. Tight radius for buttonhook ramp from EB QEW to Midtown. e. Potential weaving issues between Trafalgar Road on-ramp to EB QEW and EB QEW off-ramps to Midtown and Royal Windsor Drive. f. Potential moderate to high human factors issues relating to driver workload and speed reduction for EB QEW off-ramp to Midtown.	a. Skewed Royal Windsor Drive / EB on-ramp intersection has potential to impact turning activity (e.g. off-tracking of heavy vehicles into adjacent lanes). b. Potential conflicts between cyclists/pedestrians and turning vehicles from Royal Windsor Drive to the EB QEW on-ramp. c. Tight radius for buttonhook ramp from EB QEW to Midtown. d. Potential weaving issues between Trafalgar Road on-ramp to EB QEW and EB QEW off-ramps to Midtown and Royal Windsor Drive. e. Potential moderate to high human factors issues relating to driver workload and speed reduction for EB QEW off-ramp to Midtown.	a. Full movement interchange would introduce many conflict points between cyclists/pedestrians and vehicles. b. Skewed Royal Windsor Drive / EB on-ramp intersection has potential to impact turning activity (e.g. off-tracking of heavy vehicles into adjacent lanes).
Cost / Constructability	Capital Cost • Cost of network infrastructure	a. Moderate capital costs for road improvements including two new structures and the widening of the Royal Windsor Drive Bridge.	a. Moderate capital costs for road improvements including two new structures and the widening of the Royal Windsor Drive Bridge.	a. High capital costs for road improvements, including three new structures, widening of the Royal Windsor Drive Bridge and relocation of the southern bridge abutment.	a. High capital costs for road improvements, including three new structures, widening of the Royal Windsor Drive Bridge and relocation of the southern and northern bridge abutment.
	Contaminated Property • Identification and management of landfills, hazardous waste sites, brownfield areas, etc.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.

Least preferred ← → Most preferred

IMPROVEMENT F					
Criteria	**Factor**	**Improvement F1**	**Improvement F2**	**Improvement F3**	**Improvement F4**
	Utilities • Impacts to utilities – Bell, Cogeco, Rogers, Union Gas, Oakville Hydro, municipal services, etc.	a. Minor impact to utilities on Royal Windsor Drive and South Service Road. b. Utilities impacted include BellCanada, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (300m) - Union Gas (200m) - Oakville Hydro (200m)	a. Moderate impact to utilities on Royal Windsor Drive and South Service Road. b. Utilities impacted include BellCanada, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (1670m) - Rogers (670m) - Union Gas (850m) - Oakville Hydro (850m)	a. Moderate impact to utilities on Royal Windsor Drive and South Service Road. b. Utilities impacted include BellCanada, Union Gas, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (1670m) - Rogers (670m) - Union Gas (850m) - Oakville Hydro (850m)	a. Moderate impacts to utilities on Trafalgar Road, South Service Road and Industry Street. b. Utilities impacted include Bell, Cogeco, Rogers, Union Gas, Oakville Hydro, Oakville watermain. c. Approximate length of utilities impacted: - Bell (1430m) - Rogers (670m) - Union Gas (850m) - Oakville Hydro (850m)
	Property Acquisition • Impacts to existing properties • Property requirements	a. Potential impacts to 15 properties. b. Minor impacts to existing properties. Increased impacts to properties located on North Service Road corridor to accommodate the E-N/S ramp. c. The total area of property required is approximately 2.6 hectares.	a. Potential impacts to 23 properties. b. Minor impacts to existing properties. Increased impacts to properties located on North Service Road to accommodate the E-N/S ramp and South Service Road to accommodate the W-Cross ramp. c. The total area of property required is approximately 2.6 hectares.	a. Potential impacts to 23 properties. b. Minor impacts to existing properties. Increased impacts to properties located on North Service Road to accommodate the E-N/S ramp and South Service Road to accommodate the W-Cross ramp. c. The total area of property required is approximately 3.9 hectares.	a. Potential impacts to 23 properties. b. Minor impacts to existing properties. Increased impacts to properties located on North Service Road to accommodate the E-N/S ramp and South Service Road to accommodate the W-Cross ramp. c. The total area of property required is approximately 3.1 hectares.
	Staging • Staging requirements	a. Major staging requirements to realign the W-N/S ramp. b. Major staging requirements to widen Royal Windsor Drive structure across the QEW. c. Major staging requirements to construct new structure over North Service Road. d. Moderate staging requirements to construct new E-N/S and N/S-E ramps.	a. Major staging requirements to realign the W-N/S ramp. b. Major staging requirements to widen Royal Windsor Drive structure across the QEW. c. Major staging requirements to construct new structure over North Service Road. d. Moderate staging requirements to construct new E-N/S and N/S-E ramps.	a. Major staging requirements to realign the W-N/S ramp. b. Major staging requirements to widen Royal Windsor Drive structure across the QEW. c. Major staging requirements to widen the southern bridge abutment at Royal Windsor Drive. d. Major staging requirements to construct new structure over North Service Road. e. Moderate staging requirements to construct new E-N/S and N/S-E ramps.	a. Major staging requirements to realign the W-N/S ramp. b. Major staging requirements to widen Royal Windsor Drive structure across the QEW. c. Major staging requirements to widen the southern and northern bridge abutments at Royal Windsor Drive. d. Major staging requirements to construct new structure over North Service Road. e. Moderate staging requirements to construct new E-N/S and N/S-E ramps.
	Environmental Mitigation • Mitigation requirements for Creek, diversion channel, etc.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.
Overall Ranking		**4**	**1**	**2**	**3**

Least preferred ← → Most preferred

Improvement G: East Active Transportation Crossing

IMPROVEMENT G					
Criteria	**Factor**	**Improvement G1**	**Improvement G2**	**Improvement G3**	**Improvement G4**
					
Natural Environment	Ecological Landscapes • Landscape name and type (patch, corridor, matrix) • Landscape significance (high, moderate, low)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Terrestrial Communities/Ecosystems • Community name and type (ELC) • Area affected by new road right-of-way (ha) • Community significance (high, moderate, low)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Aquatic Communities/Ecosystems • Community name • Area affected by new road right-of-way (ha) • Community sensitivity (high, moderate, low, none)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts ●	a. No anticipated impacts. ●
	Species at Risk • Species name • Number of species at risk affected by new road right-of-way (special concern, threatened, endangered)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●
	Designated Natural Areas • Area name and type (ANSI, ESA, PSW, Significant Woodland, etc.) • Area affected by new road right-of-way (ha)	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●	a. No anticipated impacts. ●

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Least preferred ← → Most preferred

IMPROVEMENT G					
Criteria	**Factor**	**Improvement G1**	**Improvement G2**	**Improvement G3**	**Improvement G4**
	Groundwater • Groundwater recharge and discharge impacts / opportunities	a. As indicated in the *Foundation Study* by Golder Associates (September 2013), granular soils were encountered at this crossing (Site S1), where the groundwater depth was approximately 0.6 m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. ◕	a. As indicated in the *Foundation Study* by Golder Associates (September 2013), granular soils were encountered at this crossing (Site S1), where the groundwater depth was approximately 0.6 m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. ◕	a. As indicated in the *Foundation Study* by Golder Associates (September 2013), granular soils were encountered at this crossing (Site S1), where the groundwater depth was approximately 0.6 m. Therefore, if granular soils are encountered during the detailed investigations, groundwater control and/or a PTTW may be required. ◕	a. As per the *Foundation Study* by Golder Associates (September 2013), the seepage volume at this crossing (Sites S4 and S5) is anticipated to be very minimal in assuming excavation depths into the shale bedrock. However, this crossing is also in close proximity to Site S1. As indicated in the *Foundation Study*, granular soils were encountered at Site S1, where the groundwater depth was approximately 0.6 m. Therefore, if granular soils are encountered at this crossing during the detailed investigations, groundwater control and/or a PTTW may be required. ◕
	Stormwater • Watershed drainage impacts / opportunities	a. Limited impacts to drainage. ◕	a. Limited impacts to drainage. ◕	a. Limited impacts to drainage – adequate conveyance of drainage feature to be provided at this crossing. ◕	a. Limited impacts to drainage. ◕
Land Use / Social Environment	Land Use Planning Policies, Plans, Goals, Objectives • Federal / provincial land use planning policies / goals / objectives • Municipal land use planning policies / goals / objectives	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●
	Land Use / Community • Residential (urban and rural) • Commercial / industrial • Community facilities / institutions • Quality of life	a. Potential impacts to 2 properties. b. Limited impacts to existing or planned land uses. ◑	a. Potential impacts to 2 properties. b. Limited impacts to existing or planned land uses. ◑	a. Potential impacts to 2 properties. b. Limited impacts to existing or planned land uses. ◑	a. Potential impacts to 1 property. b. Limited impacts to existing or planned land uses. ◕
	Noise • Receptors affected by transportation noise	a. No noise impacts. ●	a. No noise impacts. ●	a. No noise impacts. ●	a. No noise impacts. ●
	Air • Air quality • Greenhouse gas emissions	a. No impacts to air quality. ●	a. No impacts to air quality. ●	a. No impacts to air quality. ●	a. No impacts to air quality. ●
	City Building • Impacts to existing uses • Opportunities to fulfill development objectives	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕
Cultural Heritage / Environment	Built Heritage and Cultural Heritage Landscapes • Buildings (i.e., standing sites of architectural or heritage significance, Ontario heritage properties, heritage bridges, cemeteries) and cultural heritage landscapes (i.e., areas of historic 19th century settlement)	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. One previously identified cultural heritage resource (420 South Service Road – GE site) is in close proximity to improvements – within 70m. ◕
	Archaeology • Archaeological sites or resources	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●

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Least preferred ⟷ Most preferred

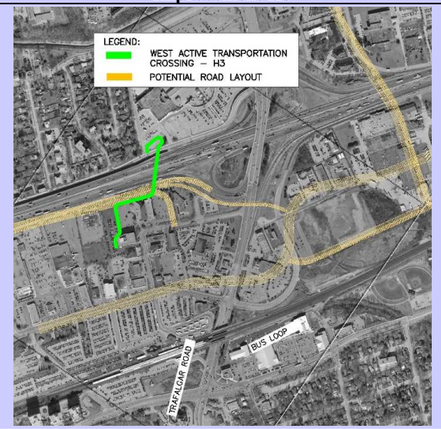
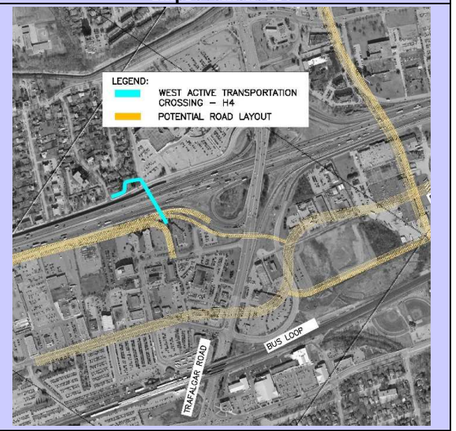
IMPROVEMENT G					
Criteria	**Factor**	**Improvement G1**	**Improvement G2**	**Improvement G3**	**Improvement G4**
Area Economy	Development Parcels Created • Creation of new development parcels	a. No potential for new development parcels.	a. No potential for new development parcels.	a. Potential for new development parcels south of the QEW.	a. Potential for new development parcels south of the QEW.
	Development Access • Access to development within Midtown • Mobility across QEW	a. Can improve pedestrian access to/from Midtown across the QEW on the east side of Trafalgar Road.	a. Can improve pedestrian access to/from Midtown across the QEW on the east side of Trafalgar Road.	a. Can improve pedestrian access to/from Midtown across the QEW on the east side of Trafalgar Road.	a. Can improve pedestrian access to/from Midtown across the QEW on the east side of Trafalgar Road.
	Delay and Cost of Travel • Reduce delays and cost of travel in and through Midtown	a. Minimal delays for pedestrians who would usually cross the QEW on Trafalgar Road(delay depends on origin and destination of the pedestrian, since there will be more attractions as Midtown develops and this may change travel patterns of pedestrians).	a. Minimal delays for pedestrians who would usually cross the QEW on Trafalgar Road (delay depends on origin and destination of the pedestrian, since there will be more attractions as Midtown develops and this may change travel patterns of pedestrians).	a. Moderate delays for pedestrians who would usually cross the QEW on Trafalgar Road (delay depends on origin and destination of the pedestrian, since there will be more attractions as Midtown develops and this may change travel patterns of pedestrians).	a. Moderate to high delays for pedestrians who would usually cross the QEW on Trafalgar Road (delay depends on origin and destination of the pedestrian, since there will be more attractions as Midtown develops and this may change travel patterns of pedestrians).
	Goods Movement • Reduce delays to truck traffic	a. No directly affected truck routes.	a. No directly affected truck routes.	a. No directly affected truck routes.	a. No directly affected truck routes.
Transportation	Traffic Level of Service / Operations (Municipal) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Not applicable.	a. Not applicable.	a. Not applicable.	a. Not applicable.
	Traffic Level of Service / Operations (MTO) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Not applicable.	a. Not applicable.	a. Not applicable.	a. Not applicable.
	Accommodation of Cyclists and Pedestrians • Directness and number of AT routes • Opportunities for accessible barrier crossings	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Directness of route is dependent on the origin and destination of the user – however, if comparing new crossing with Trafalgar Road, G1 provides QEW crossing alternative of Trafalgar Road, just east of Trafalgar Road – cyclists and pedestrians have direct access to/from the Oakville GO Station.	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Directness of route is dependent on the origin and destination of the user – however, if comparing new crossing with Trafalgar Road, G2 provides QEW crossing alternative of Trafalgar Road, just east of Trafalgar Road – cyclists and pedestrians have direct access to/from the Oakville GO Station.	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Directness of route is dependent on the origin and destination of the user – however, if comparing new crossing with Trafalgar Road, G3 provides QEW crossing alternative of Trafalgar Road, just east of Trafalgar Road for the northern section, diverting further east from Trafalgar Road south of the Trafalgar Road / EB QEW off-ramp intersection – cyclists and pedestrians have to travel a slightly circuitous route to get to/from the Oakville GO Station.	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Directness of route is dependent on the origin and destination of the user – however, if comparing new crossing with Trafalgar Road, G4 provides QEW crossing alternative of Trafalgar Road, east of Trafalgar Road, diverting further east from Trafalgar Road south of the Trafalgar Road / Iroquois Shore Road intersection – cyclists and pedestrians have to travel a circuitous route to get to/from the Oakville GO Station.
	Transit • Transit delay • Transit directness of routes • Transit station catchment and operation	a. Not applicable.	a. Not applicable.	a. Not applicable.	a. Not applicable.

Least preferred ← → Most preferred

IMPROVEMENT G					
Criteria	**Factor**	**Improvement G1**	**Improvement G2**	**Improvement G3**	**Improvement G4**
	Safety • Number of conflict points • Human factors concerns (driver workload, positive guidance, accommodation of signage)	a. Pedestrians still have to cross one on-ramp and one off-ramp on Trafalgar Road.	a. Pedestrians do not have to cross any ramps on Trafalgar Road.	a. Pedestrians still have to cross one on-ramp and one off-ramp on Trafalgar Road.	a. Pedestrians do not have to cross any ramps on Trafalgar Road.
Cost / Constructability	Capital Cost • Cost of network infrastructure	a. Moderate capital costs commensurate with level of improvement.	a. Increased capital costs due to additional length of active transportation structure.	a. Moderate capital costs commensurate with level of improvement.	a. Moderate capital costs commensurate with level of improvement.
	Contaminated Property • Identification and management of landfills, hazardous waste sites, brownfield areas, etc.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.
	Utilities • Impacts to utilities – Bell, Cogeco, Rogers, Union Gas, Oakville Hydro, municipal services, etc.	a. Minor impact to utilities on Trafalgar Road and Davis Road. b. Utilities impacted include BellCanada, Cogeco, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (160m) - Cogeco (50m) - Oakville Hydro (30m) - Water (100m)	a. Minor impact to utilities on Trafalgar Road and Davis Road. b. Utilities impacted include BellCanada, Cogeco, Rogers, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (160m) - Cogeco (50m) - Rogers (90m) - Oakville Hydro (30m) - Water (220m)	a. Minor impact to utilities on Trafalgar Road and Davis Road. b. Utilities impacted include BellCanada, Cogeco, Rogers, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (200m) - Cogeco (50m) - Rogers (75m) - Oakville Hydro (150m) - Water (80m)	a. Minor impact to utilities on Trafalgar Road. b. Utilities impacted include BellCanada, Cogeco, Oakville Hydro and Municipal Services. c. Approximate length of utilities impacted: - Bell (30m) - Cogeco (30m) - Oakville Hydro (20m) - Water (20m)
	Property Acquisition • Impacts to existing properties • Property requirements	a. Potential impacts to 2 properties. b. The total area of property required is approximately 0.17 hectares.	a. Potential impacts to 2 properties. b. The total area of property required is approximately 0.17 hectares.	a. Potential impacts to 2 properties. b. The total area of property required is approximately 0.14 hectares.	a. Potential impacts to 1 property. b. The total area of property required is approximately 0.16 hectares.
	Staging • Staging requirements	a. Major staging requirements to construct new structure over the NS-E ramp. b. Major staging requirements to construct new structure across the QEW. c. Minor staging requirements to construct new structure adjacent to Trafalgar Road.	a. Major staging requirements to construct new structure over the W-N-S ramp, NS-W ramp and NS-E ramp. b. Major staging requirements to construct new structure across the QEW. c. Minor staging requirements to construct new structure adjacent to Trafalgar Road.	a. Major staging requirements to construct new structure over the NS-E ramp. b. Major staging requirements to construct new structure across the QEW. c. Minor staging requirements to construct new structure adjacent to Trafalgar Road.	a. Major staging requirements to construct new structure over the NS-E ramp. b. Major staging requirements to construct new structure across the QEW. c. Minor staging requirements to construct new structure over South Service Road.
	Environmental Mitigation • Mitigation requirements for Creek, diversion channel, etc.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.
Overall Ranking		**2**	**1**	**3**	**3**

Least preferred → Most preferred

Improvement H: West Active Transportation Crossing

IMPROVEMENT H					
Criteria	**Factor**	**Improvement H1**	**Improvement H2**	**Improvement H3**	**Improvement H4**
					
Natural Environment	Ecological Landscapes • Landscape name and type (patch, corridor, matrix) • Landscape significance (high, moderate, low)	a. Some impacts to manicured grasses and planted shrubs and/or trees.	a. No anticipated impacts.	a. No anticipated impacts.	a. Some impacts to manicured grasses and planted shrubs and/or trees.
	Terrestrial Communities/Ecosystems • Community name and type (ELC) • Area affected by new road right-of-way (ha) • Community significance (high, moderate, low)	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.
	Aquatic Communities/Ecosystems • Community name • Area affected by new road right-of-way (ha) • Community sensitivity (high, moderate, low, none)	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.
	Species at Risk • Species name • Number of species at risk affected by new road right-of-way (special concern, threatened, endangered)	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.
	Designated Natural Areas • Area name and type (ANSI, ESA, PSW, Significant Woodland, etc.) • Area affected by new road right-of-way (ha)	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.	a. No anticipated impacts.

Least preferred ← → Most preferred

IMPROVEMENT H					
Criteria	**Factor**	**Improvement H1**	**Improvement H2**	**Improvement H3**	**Improvement H4**
	Groundwater • Groundwater recharge and discharge impacts / opportunities	a. This crossing is nearest to Site S1, as per the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, granular soils were encountered at Site S1, where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered at this crossing during the detailed investigations, groundwater control and/or a PTTW may be required. ◕	a. This crossing is nearest to Site S1, as per the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, granular soils were encountered at Site S1, where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered at this crossing during the detailed investigations, groundwater control and/or a PTTW may be required. ◕	a. This crossing is nearest to Site S1, as per the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, granular soils were encountered at Site S1, where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered at this crossing during the detailed investigations, groundwater control and/or a PTTW may be required. ◕	a. This crossing is nearest to Site S1, as per the *Foundation Study* by Golder Associates (September 2013). As indicated in the *Foundation Study*, granular soils were encountered at Site S1, where the groundwater depth was approximately 0.6m. Therefore, if granular soils are encountered at this crossing during the detailed investigations, groundwater control and/or a PTTW may be required. ◕
	Stormwater • Watershed drainage impacts / opportunities	a. Limited impacts to drainage. ◕	a. Limited impacts to drainage. ◕	a. Limited impacts to drainage. ◕	a. Limited impacts to drainage. ◕
Land Use / Social Environment	Land Use Planning Policies, Plans, Goals, Objectives • Federal / provincial land use planning policies / goals / objectives • Municipal land use planning policies / goals / objectives	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●	a. Complies with goals / objectives – The provision of an active transportation crossing of the QEW would contribute to achieving the goals of the designated Midtown Oakville urban growth centre, as identified in the Growth Plan for the Greater Golden Horseshoe: Places to Grow (2006), and primary growth area, as identified in Livable Oakville (2009). ●
	Land Use / Community • Residential (urban and rural) • Commercial / industrial • Community facilities / institutions • Quality of life	a. Potential impacts to 2 properties. b. Increased impact to existing residential properties on Pearson Drive. ◕	a. Potential impacts to 2 properties. b. Reduction in available parking spaces at Oakville Place Mall. ◕	a. Potential impacts to 4 properties. b. Reduction in available parking spaces at Oakville Place Mall. ◑	a. Potential impacts to 3 properties. b. Increased impact to existing residential properties on Pearson Drive. ◕
	Noise • Receptors affected by transportation noise	a. No noise impacts. ●	a. No noise impacts. ●	a. No noise impacts. ●	a. No noise impacts. ●
	Air • Air quality • Greenhouse gas emissions	a. No impacts to air quality. ●	a. No impacts to air quality. ●	a. No impacts to air quality. ●	a. No impacts to air quality. ●
	City Building • Impacts to existing uses • Opportunities to fulfill development objectives	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕	a. Greater impact to existing and proposed land uses given the greater length of pedestrian facility required. b. Will support growth and development in the area. ◑	a. Limited impacts to existing or planned land uses. b. Will support growth and development in the area. ◕
Cultural Heritage / Environment	Built Heritage and Cultural Heritage Landscapes • Buildings (i.e., standing sites of architectural or heritage significance, Ontario heritage properties, heritage bridges, cemeteries) and cultural heritage landscapes (i.e., areas of historic 19th century settlement)	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●	a. No directly affected built or cultural heritage sites. ●
	Archaeology • Archaeological sites or resources	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●	a. No directly affected archaeological sites. ●
Area Economy	Development Parcels Created • Creation of new development parcels	a. No potential for new development parcels. ◑	a. No potential for new development parcels. ◑	a. No potential for new development parcels. ◑	a. No potential for new development parcels. ◑

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Least preferred ←→ Most preferred

IMPROVEMENT H					
Criteria	**Factor**	**Improvement H1**	**Improvement H2**	**Improvement H3**	**Improvement H4**
	Development Access • Access to development within Midtown • Mobility across QEW	a. Can improve pedestrian access between the mall and the Midtown Core.	a. Can improve pedestrian access between the mall and the Midtown Core.	a. Can improve pedestrian access between the mall and the Midtown Core.	a. More circuitous route for pedestrian access between the mall and the Midtown Core.
	Delay and Cost of Travel • Reduce delays and cost of travel in and through Midtown	a. Provides additional crossing of the QEW with options to access both the east and west side of the Midtown Core.	a. Provides additional crossing of the QEW with options to access both the east and west side of the Midtown Core.	a. Provides additional crossing of the QEW. Results in a more circuitous route however for pedestrian and cyclists wishing to access the west side of the Midtown Core.	a. Provides additional crossing of the QEW with options to access both the east and west side of the Midtown Core.
	Goods Movement • Reduce delays to truck traffic	a. No directly affected truck routes.	a. No directly affected truck routes.	a. No directly affected truck routes.	a. No directly affected truck routes.
Transportation	Traffic Level of Service / Operations (Municipal) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Not applicable.	a. Not applicable.	a. Not applicable.	a. Not applicable.
	Traffic Level of Service / Operations (MTO) • Delay • Reserve capacity • Queuing • Directness of road connections • Emergency service access / network redundancy	a. Not applicable.	a. Not applicable.	a. Not applicable.	a. Not applicable.
	Accommodation of Cyclists and Pedestrians • Directness and number of AT routes • Opportunities for accessible barrier crossings	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Provides equal opportunity for cyclists and pedestrians to travel either east or west in the Midtown Core.	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Provides equal opportunity for cyclists and pedestrians to travel either east or west in the Midtown Core.	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Restricts directness for cyclists and pedestrians wishing to travel to the east side of the Midtown Core.	a. Accommodates cyclists and pedestrians on a separate facility to cross the QEW. b. Provides equal opportunity for cyclists and pedestrians to travel either east or west in the Midtown Core.
	Transit • Transit delay • Transit directness of routes • Transit station catchment and operation	a. Not applicable.	a. Not applicable.	a. Not applicable.	a. Not applicable.
	Safety • Number of conflict points • Human factors concerns (driver workload, positive guidance, accommodation of signage)	a. Pedestrians do not have to cross any ramps on Trafalgar Road.	a. Pedestrians do not have to cross any ramps on Trafalgar Road.	a. Pedestrians do not have to cross any ramps on Trafalgar Road.	a. Pedestrians do not have to cross any ramps on Trafalgar Road.
Cost / Constructability	Capital Cost • Cost of network infrastructure	a. Moderate capital costs commensurate with level of improvement.	a. Moderate capital costs commensurate with level of improvement.	a. Increased capital costs due to additional length of pedestrian structure.	a. Moderate capital costs commensurate with level of improvement.
	Contaminated Property • Identification and management of landfills, hazardous waste sites, brownfield areas, etc.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.	a. No directly affected contaminated properties.

Least preferred ← → Most preferred

IMPROVEMENT H					
Criteria	**Factor**	**Improvement H1**	**Improvement H2**	**Improvement H3**	**Improvement H4**
	Utilities • Impacts to utilities – Bell, Cogeco, Rogers, Union Gas, Oakville Hydro, municipal services, etc.	a. Minor impact to utilities at Oakville Place. b. Utilities impacted include Union Gas. c. Approximate length of utilities impacted: - Union Gas (40m)	a. Minor impact to utilities at Oakville Place. b. Utilities impacted include Water and Storm Services. c. Approximate length of utilities impacted: - Water (30m) - Storm (95m)	a. Minor impact to utilities at Oakville Place. b. Utilities impacted include Water, Sanitary and Storm Services. c. Approximate length of utilities impacted: - Water (30m) - Sanitary (95m) - Storm (10m)	a. Minor impact to utilities at Oakville Place. b. Utilities impacted include Water and Storm Services. c. Utilities impacted include Union Gas. d. Approximate length of utilities impacted: - Union Gas (40m)
	Property Acquisition • Impacts to existing properties • Property requirements	a. Potential impacts to 2 properties. b. The total area of property required is approximately 0.56 hectares.	a. Potential impacts to 3 properties. b. The total area of property required is approximately 0.63 hectares.	a. Potential impacts to 4 properties. b. The total area of property required is approximately 0.31hectares.	a. Potential impacts to 3 properties. b. The total area of property required is approximately 0.28 hectares.
	Staging • Staging requirements	a. Existing pier is already in place. Moderate staging requirements to construct new structure across the QEW.	a. Existing pier is already in place. Moderate staging requirements to construct new structure across the QEW.	a. Existing pier is already in place. Moderate staging requirements to construct new structure across the QEW.	a. Major staging requirements to construct new structure across the QEW.
	Environmental Mitigation • Mitigation requirements for Creek, diversion channel, etc.	a. Replacement of trees and green space to the north of the QEW.	a. No significant environmental mitigation requirements anticipated.	a. No significant environmental mitigation requirements anticipated.	a. Replacement of trees and green space to the north of the QEW.
Overall Ranking		**2**	**1**	**3**	**2**