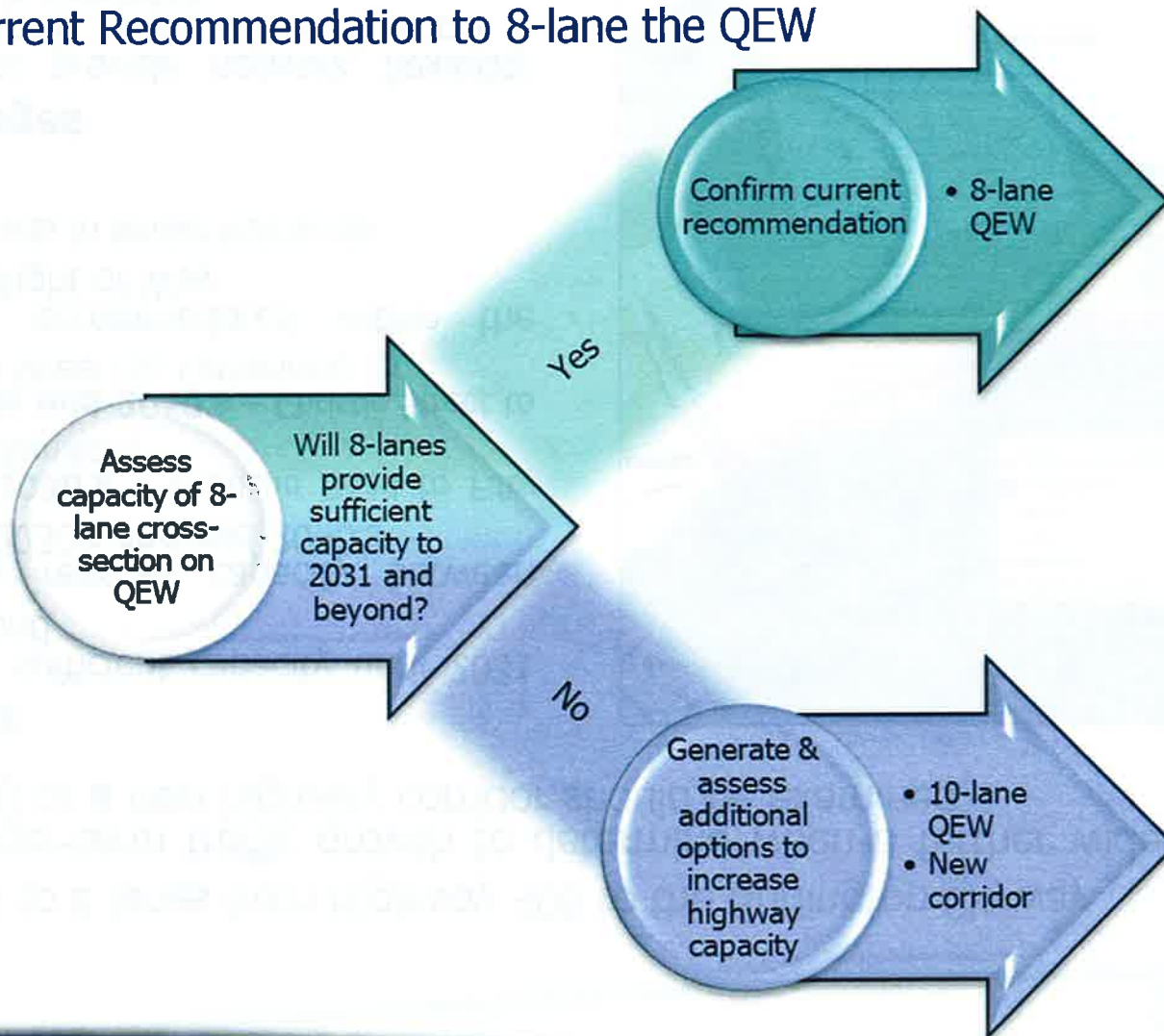


- Test Current Recommendation to 8-lane the QEW



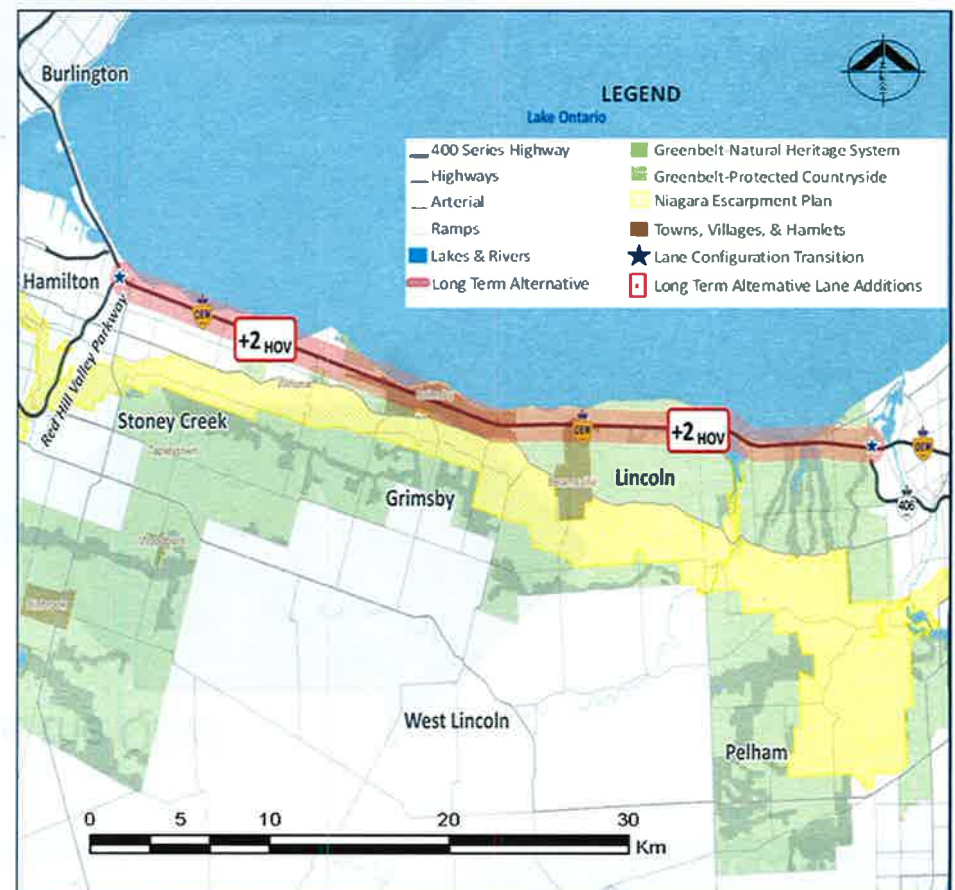
- Widen QEW to 8 lanes from Highway 406 to the Burlington Skyway
- Monitor longer-term traffic growth to determine when a further widening of the QEW (to 10 lanes) or a new highway corridor should be examined

Advantages

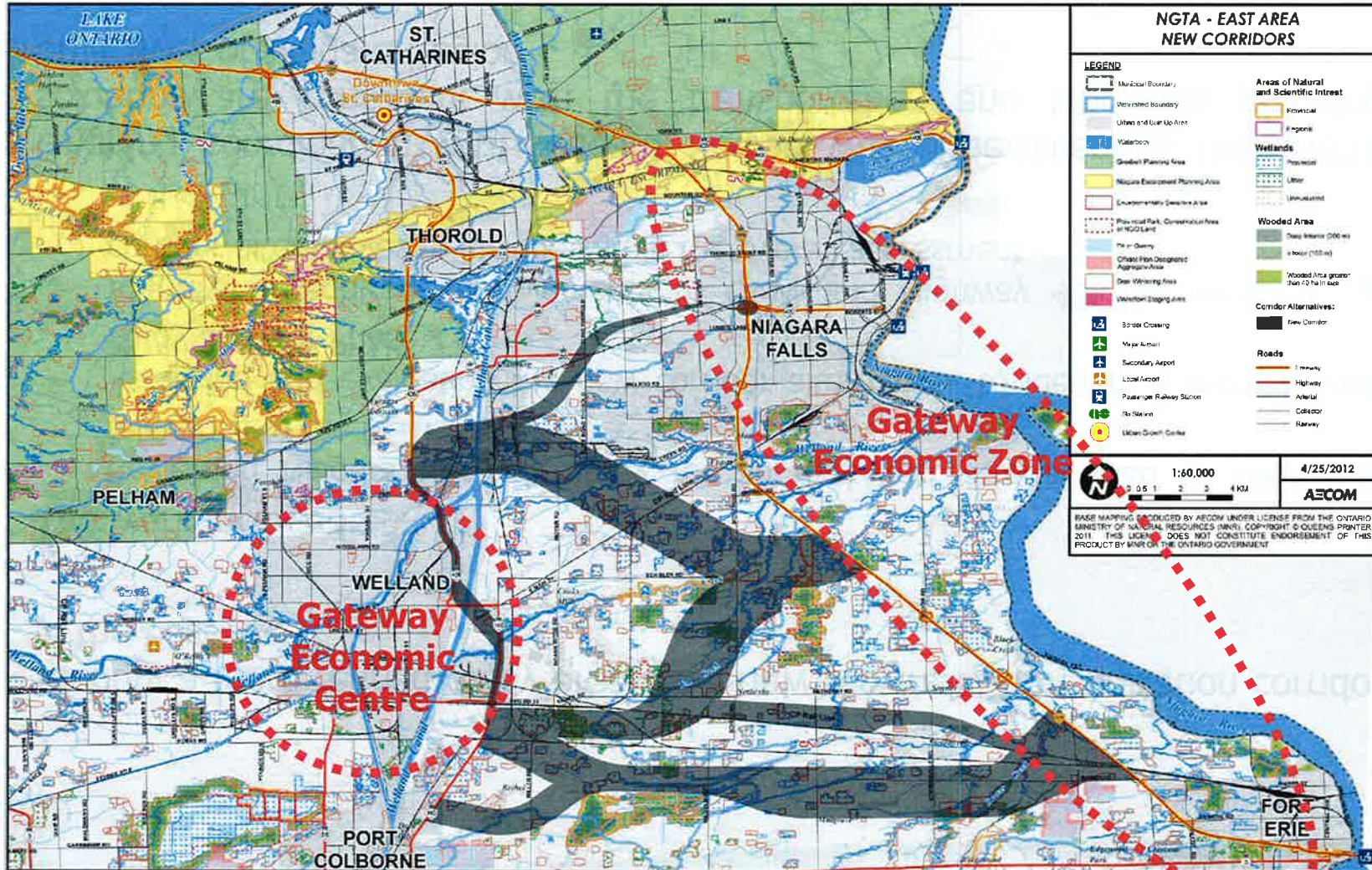
- Provides sufficient capacity until 2031 and beyond
- Generally reaches capacity between the late 2030’s and mid-2040’s
 - **Early 2030’s** – Fruitland Road to Fifty Road (Hamilton)
 - **Early to mid-2050’s** – Christie Street to Ontario Street (St. Catharines)
- Can be accommodated within the existing Right of Way
 - No impacts to tender fruit lands

Disadvantages

- Does not provide network flexibility (redundancy) when incidents occur – capacity is exceeded
- Limited stimulus for economic development



- Identify a more refined study area for a new provincial transportation corridor in the East Area
- The work included:
 - Reviewing Niagara Region’s study for an east-west arterial road to determine relevance to the NGTA study
 - Assessing and evaluating the new corridor alternatives to identify a more refined study area for Phase 2
 - Identifying required improvements to QEW and Highway 406 for each of the corridor alternatives to include within the overall assessment
- Ongoing coordination with Niagara Region was undertaken so that NGTA solutions are consistent with the transportation and land use planning objectives of Niagara Region

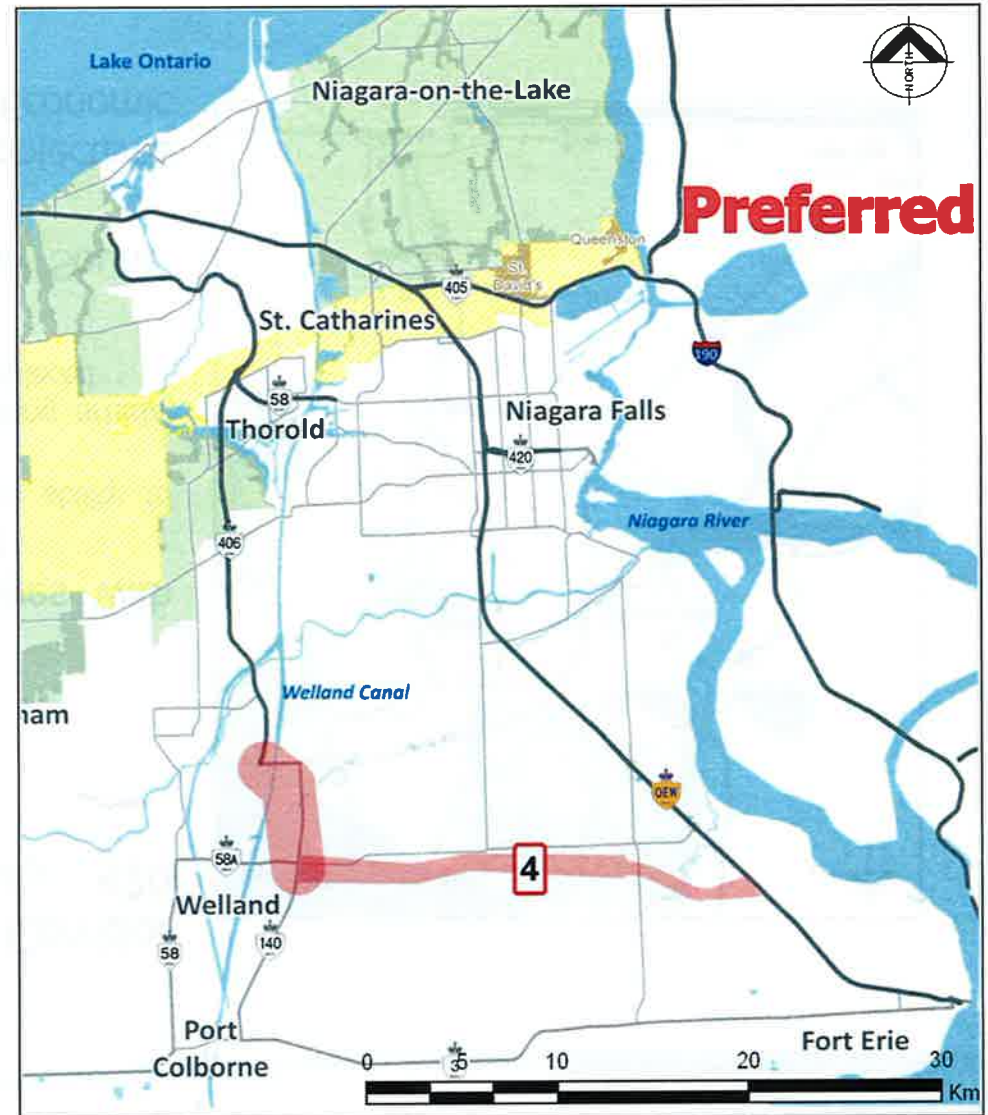


East Area – Alternative 4

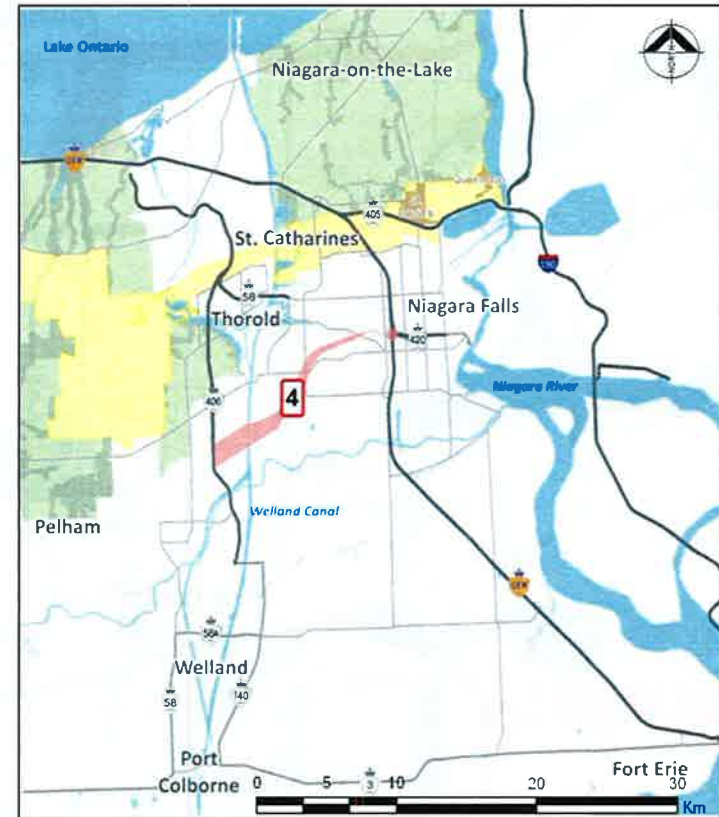
New Highway from South
of Welland to QEW near
Fort Erie

LEGEND

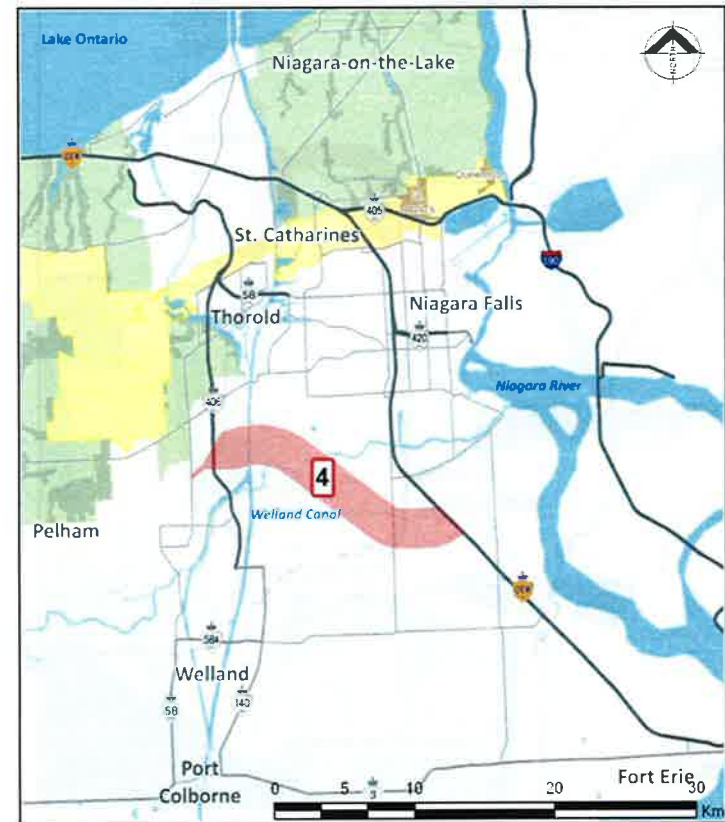
- 400 Series Highway
- Highways
- Arterial
- Ramps
- Lakes & Rivers
- Long Term Alternative
- Greenbelt-Natural Heritage System
- Greenbelt-Protected Countryside
- Niagara Escarpment Plan
- Towns, Villages, & Hamlets
- Lane Configuration Transition
- Long Term Alternative Lane Additions



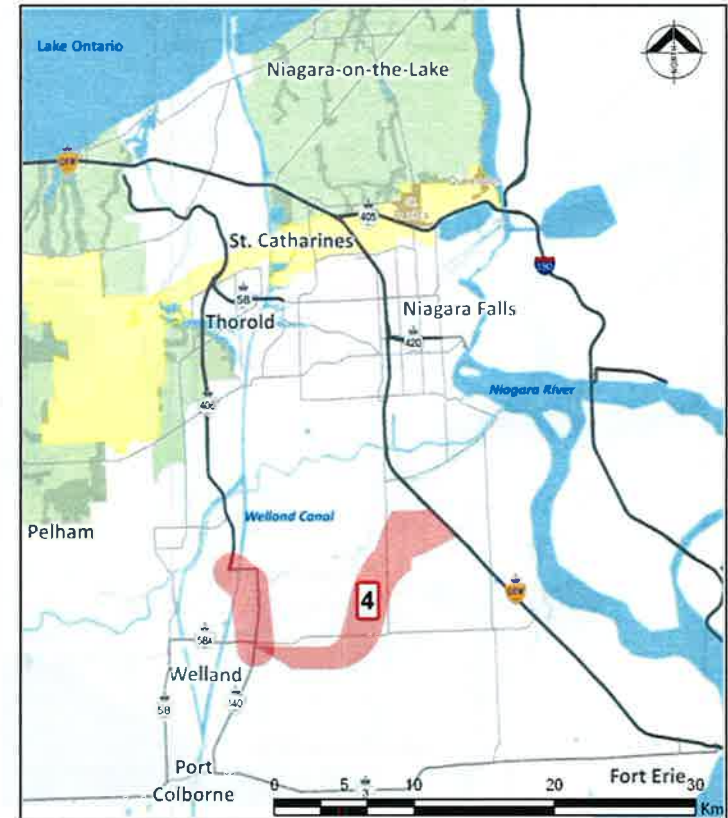
- **East Option #1** (New Highway Corridor from north of Welland to Hwy 420 Extension)
 - Major social impacts
 - More than 180 residences impacted
 - Significant constructability challenges with connecting to Hwy 420 interchange
 - Narrow right-of-way (60 metres) limits ability to provide adequate horizontal geometry
 - Displacement of a portion of the existing arterial road network, which would need to be replaced
 - High Cost
 - Not consistent with Niagara’s “Grow South” strategy
 - Does not support Growth Plan objectives associated with the Gateway Economic Centre and Zone



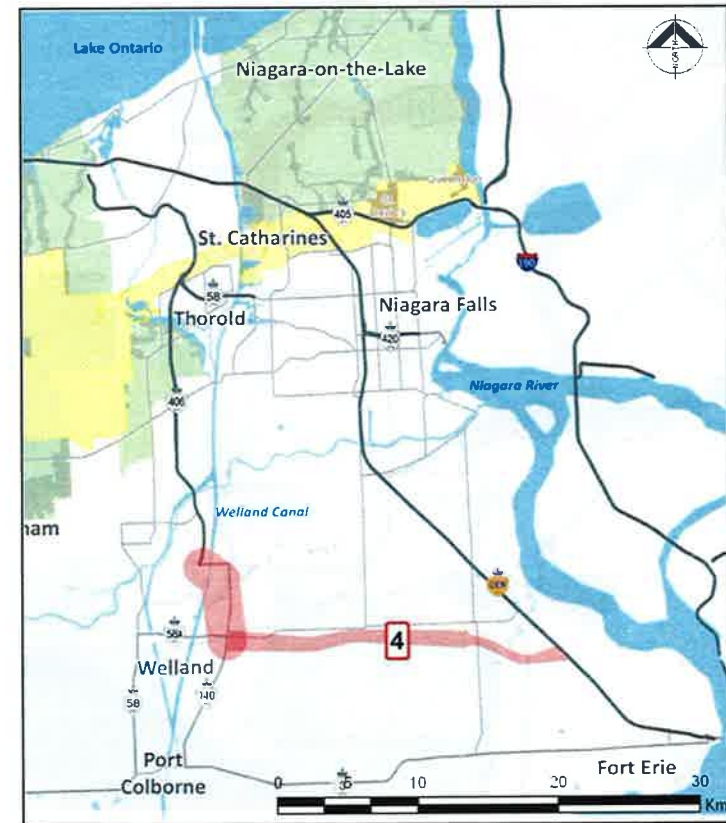
- **East Option #2** (New Highway North of Welland to QEW between Niagara Falls and Fort Erie)
 - Better access to all Niagara border crossings (without Central Area new corridor)
 - Requires minimal improvements to Hwy 406
 - Shortest route overall
 - Not consistent with Niagara’s “Grow South” strategy
 - Does not support Growth Plan objectives associated with the Gateway Economic Centre and Zone
 - Requires significant amendments to Thorold’s secondary plan
 - Significant environmental challenges west of Hwy 406 if/when Central Area corridor is constructed



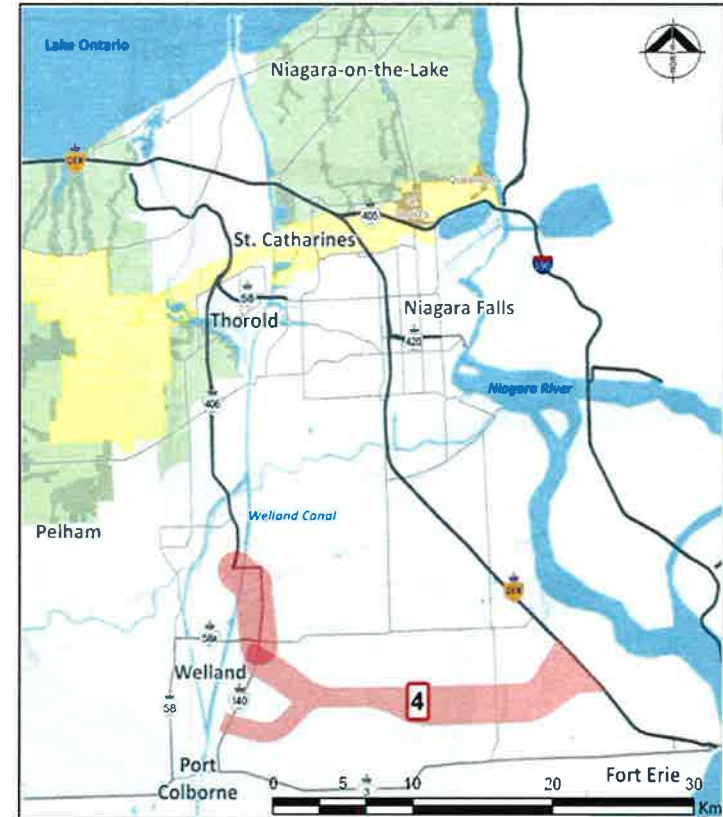
- **East Option #3** (New Highway South of Welland to QEW between Niagara Falls and Fort Erie)
 - Better access to all Niagara border crossings (with Central Area new corridor)
 - Avoids significant environmental challenges west of Hwy 406 if/when Central Area corridor is constructed
 - Attracts lower traffic volumes without new Central Area corridor
 - Requires widening/improvements to Hwy 406
 - Not consistent with Niagara's "Grow South" strategy
 - Somewhat supportive of Growth Plan objectives for the Gateway Economic Centre and Zone



























- **East Option #4** (New Highway South of Welland to QEW near Fort Erie)
 - Provides strong connections to Gateway Economic Centre and Gateway Economic Zone
 - Aligns with Niagara’s “Grow South” Strategy
 - Completes “loop” between key urban centres
 - St. Catharines, Welland, Niagara Falls, Fort Erie
 - Avoids significant environmental challenges west of Hwy 406 if/when Central Area corridor is constructed
 - Doesn’t impact any Class 1 or 2 agricultural soils
 - Attracts less volume of traffic with/without Central new corridor
 - Future economic development expected to enhance utilization of the corridor
 - Requires widening/improvements to Hwy 406
 - Improved access for only one border crossing (Peace Bridge in Fort Erie)



- **East Option #5** (New Highway Corridor from south of Welland to QEW at Fort Erie)
 - No substantial benefits over Option #4 (New Highway South of Welland to QEW near Fort Erie) in any factor area
 - Longer route – much higher cost and more potential constructability challenges
 - Potentially significant impacts to groundwater recharge area and highly vulnerable aquifer



Alternatives	Factors							
	Transportation	Natural	Agriculture	Social / Land Use	Cultural	Economy	Cost / Constructability	Connection to Central Area New Corridor
East Option #1 (N. of Welland to Hwy 420 Extension)	Removed from further consideration - Major social impacts, constructability challenges and high costs. Not consistent with Niagara's "Grow South" strategy, and does not support Growth Plan objectives of connecting Gateway Economic Centre and Zone.							
East Option #2 (N. of Welland to QEW between Niagara Falls and Fort Erie)								
East Option #3 (S. of Welland to QEW between Niagara Falls and Fort Erie)								
East Option #4 (S. of Welland to QEW near Fort Erie)								
East Option #5 (S. of Welland to QEW at Fort Erie)	Removed from further consideration - Longer route than East Option #4 with higher costs, potential for significant environmental impacts and no substantial benefits over East Option #4 in any factor area.							



- In response to concerns that the assessment of alternatives had been undertaken at too broad a level without adequate quantification of impacts, a more focused analysis was completed
 - Identified impacts of refined corridor and highway widening alternatives

- The work generally involved:
 - Consideration of two scenarios corresponding to medium-term and long-term improvements
 - Medium-term improvements are those that would be required regardless of the long-term recommendation
 - Long-term alternatives built upon medium-term improvements. The Study Team:
 - Identified new corridor alternatives connecting to Highway 401, 407 ETR, and other highways (e.g. Highway 6)
 - Developed a conceptual plan for widening existing highways
 - Assessed all new corridor and widening alternatives based on impacts to Environment, Community, Economy, Transportation and Costs

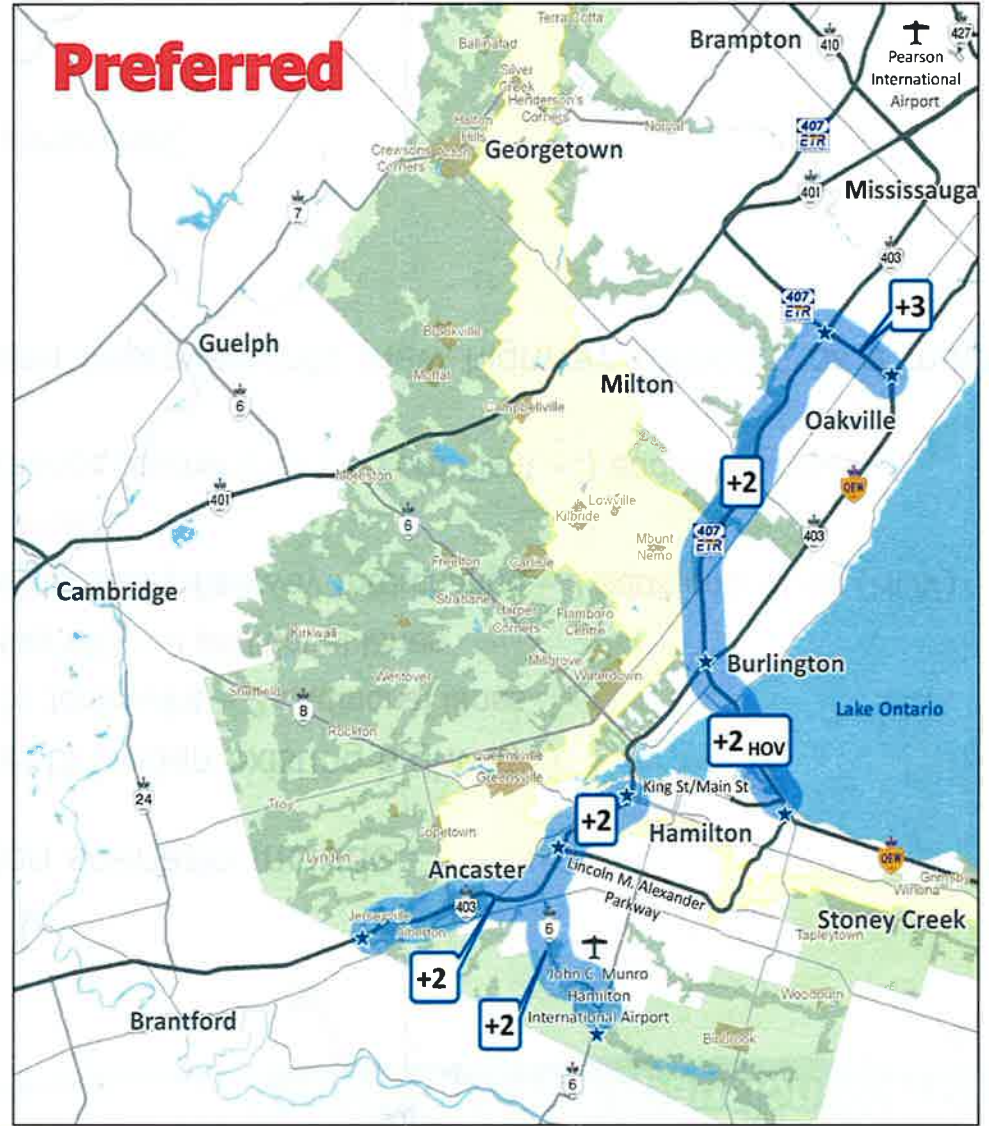
- Key elements of each highway expansion scenario include:
 - **Scenario 1** – Medium-term improvements (widen existing highways)
 - Hwy 403 from King Street/Main Street to Jerseyville – 2 additional lanes
 - Hwy 6 between Hamilton Airport and Hwy 403 – 2 additional lanes
 - QEW from Freeman Interchange to Red Hill Valley Parkway Interchange – 2 additional lanes (HOV)
 - 407 ETR through Halton – 2 additional lanes
 - Hwy 403 from Hwy 403/407 ETR interchange southerly to the Ford Plant – 3 additional lanes
 - **Scenario 2** – **Scenario 1** + Long-term improvements (new highway corridors or a major highway widening)
 - Addresses capacity issues to 2031
 - Builds on medium-term improvements
 - 6 technically viable options have been considered

Medium-Term Improvements

Widen Existing Highways

LEGEND

- 400 Series Highway
- Highways
- Arterial
- Ramps
- Lakes & Rivers
- Medium Term Alternative
- Greenbelt-Natural Heritage System
- Greenbelt Protected Countryside
- Niagara Escarpment Plan
- Towns, Villages, & Hamlets
- Lane Configuration Transition
- Medium Term Alternative Lane Additions



Widen Existing Highways

- Advantages
 - Aligns with the “building block” philosophy
 - Provides a partial solution to the identified transportation problems
 - Responds to feedback received from local municipalities and environmental/agricultural stakeholder groups
 - Community and environmental impacts can be successfully mitigated
 - Recommended highway widening provides a foundation and does not preclude longer term improvements
- Disadvantages
 - Does not address the long term need (2031 and beyond) for additional capacity in the West Area
 - May not provide sufficient support for economic development, trade and the forecast growth in both population and employment

Long Term Highway Expansion Alternatives

- Advantages
 - Addresses both medium- and long-term need for additional highway capacity
 - Provides adequate support for the forecast growth in population and employment and economic development
 - Provides a long-term planning vision
- Disadvantages
 - Significant impacts to community, natural and agricultural features
 - High costs and constructability issues
 - Significant municipal and stakeholder concerns with all long-term options
- The following slides summarize the Study Team's assessment of Scenario 2

- **West Option #1** (Conventional Widening of Hwy 403 from the Freeman Interchange to Lincoln Alexander Parkway)
 - Addresses some of transportation problems to 2031
 - Provides sufficient capacity on Hwy 403 through Hamilton to 2031
 - Only incremental environmental impacts – compared with new corridor alternatives
 - Avoids new major and potentially non-mitigatable impacts to numerous natural features
 - Builds upon existing infrastructure
 - No impacts to rural community character and prime agricultural lands
 - No new Niagara Escarpment crossing
 - No new corridor in Greenbelt

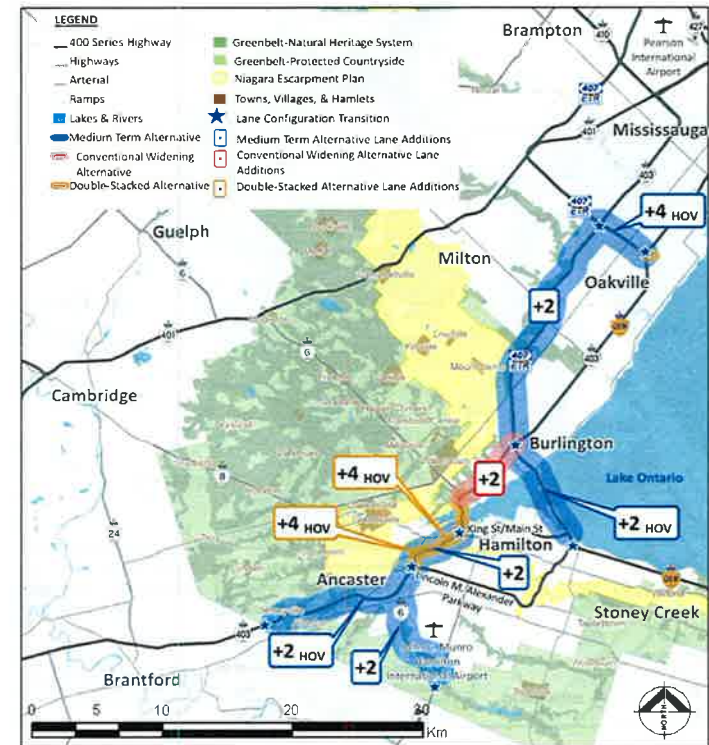


- **West Option #1 (con't)**

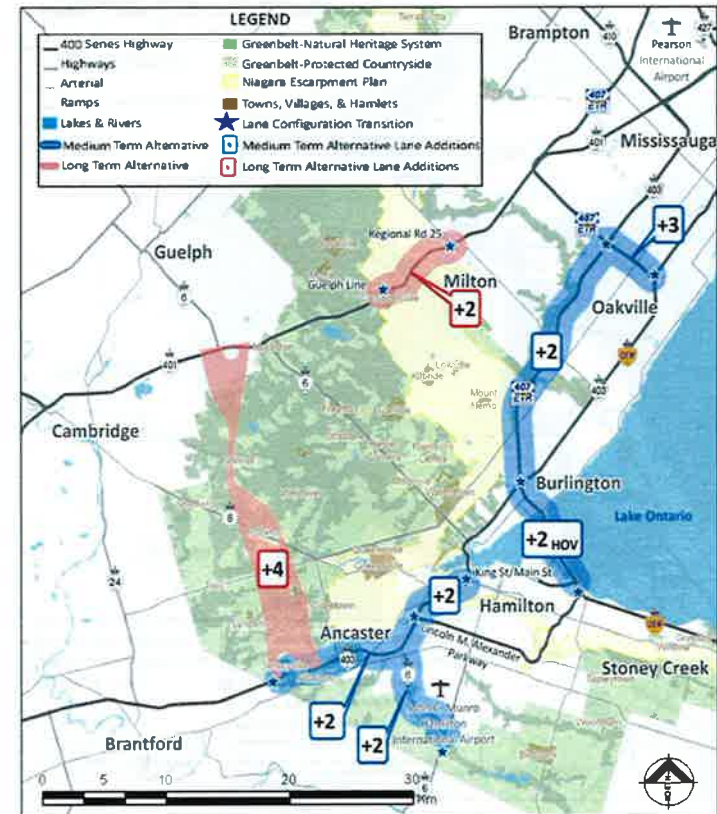
- Least flexibility beyond 2031 – not a long-term vision
- Major constructability issues
 - Widening Hwy 403 to 10 lanes through Cootes Paradise
 - Major impacts to existing rail infrastructure - realignment of two rail lines
 - Major utility relocation issues (hydro crossing)
- Major impact on built urban community
 - 24 residences, 5 multi-story apartment buildings
- Major impacts to the Hamilton economy during construction
 - Major disruption to travel in the Hamilton area for a prolonged period (>5 years)
- No network flexibility (redundancy) benefits
 - No good alternative route when incidents occur



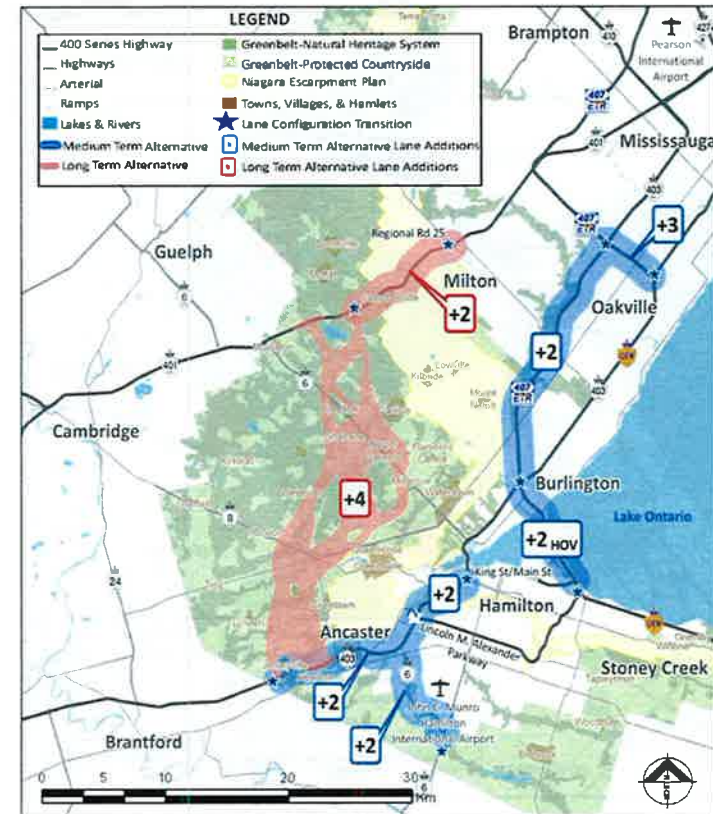
- **West Option #2** (Conventional / Double Stacked Widening of Hwy 403 from the Freeman Interchange to Lincoln Alexander Parkway)
 - Significant constructability concerns
 - Requires fourth-level structure at Hwy 6 North and King/Main/Aberdeen Interchanges
 - Major utility relocation issues (hydro crossing)
 - Very high costs
 - Estimated at \$5.2 Billion
 - Significant social impacts
 - Displacement of 20 residences
 - Aesthetics
 - Noise and air quality impacts
 - Environmental impacts and property requirements are marginally reduced compared to conventional widening



- **West Option #3** (New Highway from Hwy 403 to Hwy 401 Near Hanlon Expressway)
 - Does not sufficiently address NGTA transportation problems
 - High levels of congestion remain on Hwy 403 through Hamilton, QEW/Halton and QEW/Burlington Skyway
 - Attracts significant demand to/from the west of the study area and could be considered as part of a separate study



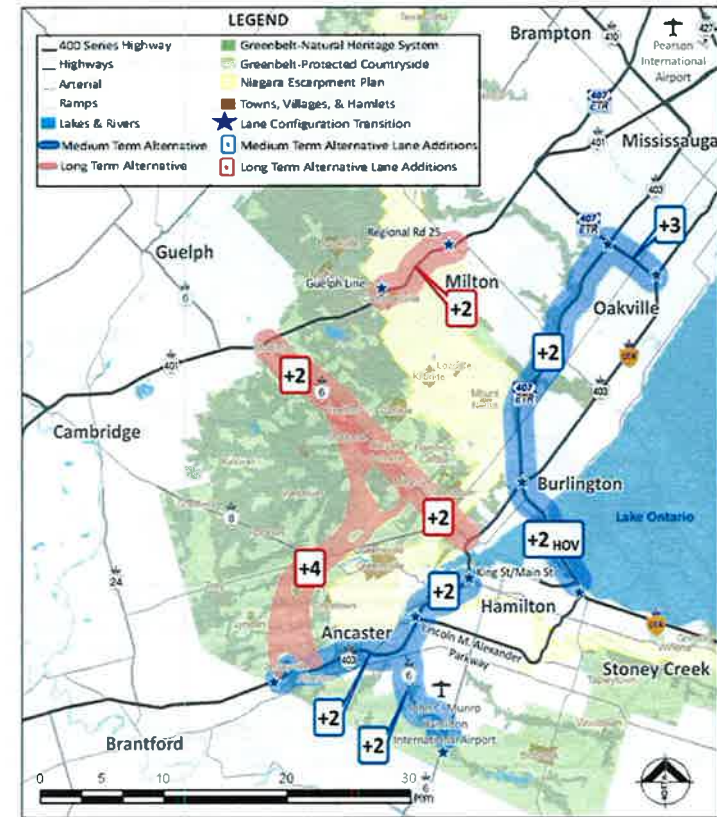
- **West Option #4** (New Highway Connecting Hwy 403 to Hwy 401 Near Wellington County/Halton Boundary)
 - Provides greatest relief to key transportation problem areas
 - Relieves congestion on Hwy 403/Hamilton, QEW/Halton, QEW/Burlington Skyway
 - Provides strong support to GTA economy
 - Provides good connection to north GTA growth areas (Milton easterly through Durham)
 - Does not require a new crossing of the Niagara Escarpment in Burlington



- **West Option #4 (con't)**
 - High risk of non-mitigatable impacts in an area featuring a high density and diversity of large and significant natural features with strong inter-connectivity and important ecological functions
 - Provincially Significant Wetlands
 - Environmentally Sensitive Areas
 - Large blocks of core interior forest habitat
 - Headwaters of major drainage systems
 - Significant groundwater recharge areas and highly vulnerable aquifers
 - New corridor entirely in the Greenbelt
 - Portion of new corridor encroaches into Niagara Escarpment Plan Area (but opportunity to avoid during route planning)
 - Significant impacts to prime agricultural lands
 - Significant impacts to rural community character

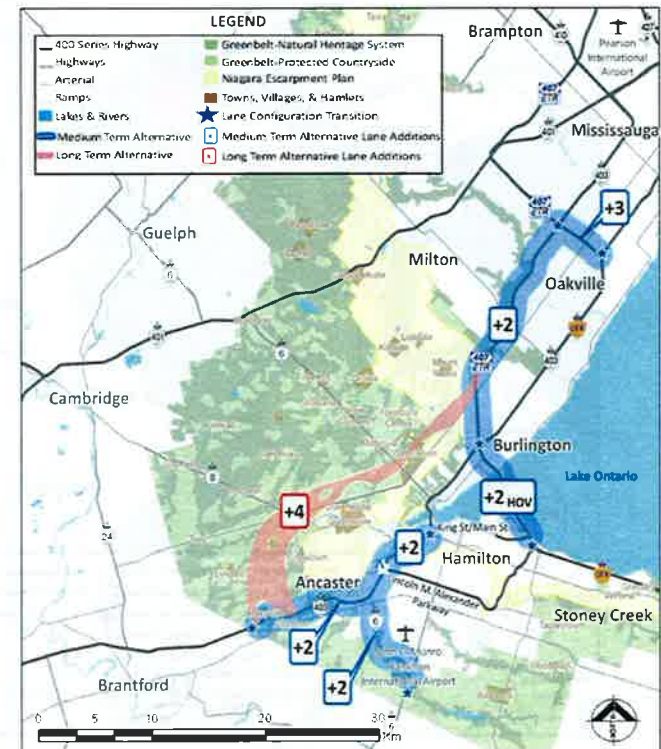


- **West Option #5** (New Highway from Hwy 403 to Hwy 6 plus Widening Hwy 6)
 - Does not sufficiently address NGTA transportation problems
 - High levels of congestion remain on Hwy 403 through Hamilton, QEW/Halton and QEW/Burlington Skyway
 - Significant social impacts associated with widening of Hwy 6 and removal of direct access
 - 100 residences and 30 businesses impacted (removed / displaced)
 - New corridor components require roadway expansion into a substantial number of Provincially Significant Wetlands and forests that border the roadway as well as valuable agricultural lands

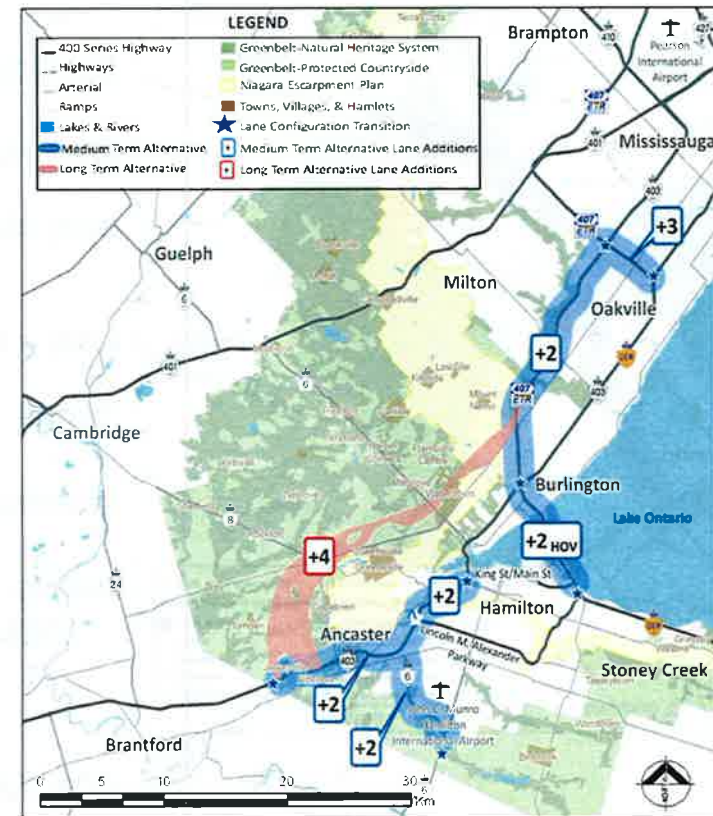


- **West Option # 6** (New Highway Connecting Hwy 403 to 407 ETR Near Regional Road 5/Dundas Street)

- Adequately addresses major transportation problem areas:
 - Some congestion relief to Hwy 403/Hamilton, QEW/Burlington Skyway, QEW/Halton
- Greater opportunities for reducing impacts to natural features as compared to Option # 4 (Hwy 403 to Hwy 401)
 - Lower density of forest and wetland blocks with greater spacing, allowing increased flexibility during route planning
 - Generally smaller, more widely scattered forest blocks resulting in fewer fragmentation impacts – generally edge encroachments
 - 40-50% less area of Provincially Significant Wetlands impacted
 - 30% less forested area impacted and fewer of the very large forest blocks (>40 ha) impacted
 - Lower range of groundwater recharge and vulnerable aquifer areas crossed (20-50% lower)
- Much lower community impacts than Option #1 (widening Hwy 403)
 - 8 residences impacted in Waterdown vs. 24 residences and 5 multi-story apartment buildings in Hamilton
- Provides strong support to GTA economy
 - Provides good connection to north GTA growth areas (Milton easterly through Durham)



























- **West Option #6 (con't)**
 - New crossing of Niagara Escarpment
 - Located at the narrowest part of the Niagara Escarpment Plan area (6 km) in Halton
 - Impacts are minimized by locating adjacent to urban area
 - There is potential to construct a tunnel to minimize some environmental and community impacts – significant cost premium
 - New corridor entirely within the Greenbelt
 - Highest impact to prime agricultural lands
 - Not possible to avoid all potential impacts to significant natural features
 - Significant impacts to rural community character



- The following three alternatives were not carried forward for detailed assessment:
 - **West Option #2** (Double Stacked Hwy 403) – Major constructability issues and high costs, and does not address problems any better than West Option #1
 - **West Option #3** (Hwy 403 to Hwy 401 near Hanlon) – Utilized primarily by traffic travelling to/from the west, and does not address NGTA transportation problems on Highway 403 through Hamilton, or on the QEW through Halton and at the Burlington Skyway
 - **West Option #5** (Hwy 403 to Hwy 6 plus widening) – Does not address transportation problems as well as other alternatives, and results in major social impacts (Highway 6 widening/access control) and environmental impacts (new corridor component)
- These three alternatives may be reconsidered as part of a future study to consider a long-term transportation strategy in the West Area

- The remaining long-term alternatives in the West Area were carried forward to a detailed assessment:

Alternatives	Factors							
	Transportation	Natural	Agriculture	Socio-Economic / Land Use	Cultural	Greenbelt / NEP	Economy	Cost / Constructability
West Option #1 (Hwy 403 Widening)								
West Option #4 (Hwy 403 to Hwy 401 near Halton)								
West Option #6 (Hwy 403 to 407 ETR)								



The Study Team developed the current recommendation using a combination of technical assessment and feedback from consultation:

- **Widen existing highways:**
 - **2 additional lanes:** Hwy 403 through Hamilton, Hwy 6 between Hamilton Airport and Hwy 403, QEW over the Burlington Skyway, 407 ETR through Halton
 - **3 additional lanes:** Hwy 403 from Ford Plant to 407 ETR
- **Scope a future study to address longer term needs**



- The medium-term improvements provide a strong foundation for a future long-term strategy
- A separate future study will be undertaken to complete a long-term strategy
- The scope of this future study will be developed in consultation with municipalities and stakeholder groups
- Elements of this future study may include (and are not limited to) consideration of:
 - Longer planning horizon (beyond 2031)
 - Expanded study area geography and transportation problems/opportunities
 - Opportunities for increased mode shift and increased integration of non-roadway transportation service providers












January 2013	<p>Consult stakeholders on results of assessment and recommended highway expansion alternatives</p> <ul style="list-style-type: none"> - Municipalities - NGTA Advisory Groups <ul style="list-style-type: none"> • Municipal Executive Advisory Group • Municipal Technical Advisory Group and Regulatory Agency Advisory Group • Community Advisory Group - Other stakeholders (as requested)
February 2013	<p>Public Information Centre #5 in 3 locations across study area to share results of assessment and preferred highway expansion alternatives</p>
February and March 2013	<p>Confirm final highway expansion recommendations</p>
March through June 2013	<p>Prepare and release final Transportation Development Strategy</p>



Appendix - Summary of Assessment Rationale

Alternatives Carried Forward in the East & West Areas

Alternatives	Factors							
	Transportation	Natural	Agriculture	Social / Land Use	Cultural	Economy	Cost / Constructability	Connection to Central Area New Corridor
								
<p>SUMMARY</p> <ul style="list-style-type: none"> Provides the best relief to the QEW through St. Catharines (with a new corridor in the Central Area) Provides good access to all three Niagara border crossings 	<ul style="list-style-type: none"> Relatively short corridor in comparison to other alternatives Avoids environmental impacts of Option #3 and Option #4 associated with upgrading of Hwy 406 to freeway standards Although this alternative impacts a high number of watercourses, Provincially Significant Wetlands and woodlots, it is anticipated that these impacts can be mitigated during future route planning 	<ul style="list-style-type: none"> Does not impact Class 1 agricultural soils and has relatively minor impacts to Class 2 agricultural soils 	<ul style="list-style-type: none"> Not consistent with Niagara's "Grow South" strategy Does not support the Growth Plan objectives of connecting Gateway Economic Centre and Zone Affects the Town of Thorold's secondary plan for development 	<ul style="list-style-type: none"> Potential to impact one historic settlement (Port Robinson) and has relatively high potential for impacts to archaeological resources 	<ul style="list-style-type: none"> Provides somewhat improved access of affected businesses to and from GTA/US markets Does not provide direct service to the Gateway Economic Zone and the Gateway Economic Centre 	<ul style="list-style-type: none"> Least costly alternative (shortest, and does not require upgrade of Hwy 406) Challenges with new crossing of the Welland Canal: <ul style="list-style-type: none"> A tunnel crossing would require complex staging to maintain shipping channel A bridge would necessitate long approaches with potential to impact wetlands and ANSI's 	<ul style="list-style-type: none"> Provides the best transportation network performance without a new corridor in the Central Area, but provides lower performance than Option #3 if there is a new corridor Challenging environmental constraints on the west side of QEW in the vicinity of where a potential future new corridor in the Central Area would connect 	

Very Good










Good

Fair

Poor

Very Poor

Extremely Poor

Alternatives	Factors							
	Transportation	Natural	Agriculture	Social / Land Use	Cultural	Economy	Cost / Constructability	Connection to Central Area New Corridor
								
SUMMARY	<ul style="list-style-type: none"> Relieves congestion on QEW through St. Catharines, but not quite as well as Option #2 given the more southerly orientation 	<ul style="list-style-type: none"> Moderate length corridor in comparison to other alternatives As with the other alternatives, this alternative impacts watercourses, Provincially Significant Wetlands and woodlots, but it is anticipated that these impacts can be mitigated during route planning Results in impacts associated with upgrading Hwy 406 to freeway standards 	<ul style="list-style-type: none"> Very minor impacts to Class 1 agricultural soils and relatively minor impacts to Class 2 agricultural soils 	<ul style="list-style-type: none"> Not consistent with Niagara's "Grow South" strategy Does not fully support the Growth Plan objectives of connecting Gateway Economic Centre and Zone 	<ul style="list-style-type: none"> No potential for impacts to heritage properties or historic settlement areas, but has relatively high potential for impacts to archaeological resources 	<ul style="list-style-type: none"> Provides somewhat improved access of affected businesses to and from GTA/US markets Does not provide direct service to the Gateway Economic Zone and the Gateway Economic Centre 	<ul style="list-style-type: none"> Moderate cost (longer corridor, and requires upgrades to Hwy 406) New bridge would require relocation of major hydro transmission line corridor Similar staging issues with tunnel as Option #2 Staging issues with new freeway interchange at QEW Challenging construction of interchange at Hwy 140 due to proximity of railway(s) and Townline Road overpass structures 	<ul style="list-style-type: none"> Provides good transportation network performance in conjunction with a Central Area new corridor Avoids the challenging environmental issues of Option #2 if a new corridor is constructed in the Central Area

Very Good


Good

Fair

Poor

Very Poor

Extremely Poor

Alternatives	Factors							
	Transportation	Natural	Agriculture	Social / Land Use	Cultural	Economy	Cost / Constructability	Connection to Central Area New Corridor
	●	●	●	●	●	●	●	●
<p>SUMMARY</p> <ul style="list-style-type: none"> • Attracts the least amount of traffic from the QEW through St. Catharines as a result of its southerly orientation • It is anticipated that future economic development will enhance utilization of this corridor • Provides better community connectivity than the other alternatives (i.e. provides a complete loop between St. Catharines, Welland, Niagara Falls, Fort Erie) 	<ul style="list-style-type: none"> • Longest corridor overall • Impacts watercourses, Provincially Significant Wetlands and woodlots, but there is potential to mitigate these impacts during route planning • Results in impacts associated with upgrading Hwy 406 to freeway standards • Avoids environmental challenges of Option #2 and Option #3 if a new corridor is constructed in the Central Area 	<ul style="list-style-type: none"> • Impacts slightly more Class 1-3 agricultural soils than Option #3 	<ul style="list-style-type: none"> • Consistent with Niagara's "Grow South" strategy • Supports the Growth Plan objectives of connecting Gateway Economic Centre and Zone 	<ul style="list-style-type: none"> • Minor potential to impact one place of worship • Relatively low potential to impact archaeological resources 	<ul style="list-style-type: none"> • Provides better linkage than Option #2 to the Welland market • Improved access to and from GTA/US markets • Provides direct service to the Gateway Economic Zone and the Gateway Economic Centre 	<ul style="list-style-type: none"> • Highest cost alternative (longest, and requires upgrades to Hwy 406) • Very complex staging for tunnel under the Welland Canal due to tunnel skew, proximity of East Main Street tunnel, etc. • Same freeway to freeway QEW interchange staging and construction issues as Option #3 	<ul style="list-style-type: none"> • Does not perform as well as Option #3 from a transportation perspective with a Central Area new corridor • Avoids the challenging environmental issues of Option #2 if a new corridor is constructed in the Central Area 	

Very Good










Good

Fair

Poor

Very Poor










Extremely Poor

Factors								
Alternatives	Transportation	Natural	Agriculture	Socio-Economic / Land Use	Cultural	Greenbelt / NEP	Economy	Cost / Constructability
								
SUMMARY	<ul style="list-style-type: none"> Addresses some of the transportation needs to 2031 (e.g. Hwy 403 through Hamilton), but does not address all transportation needs (e.g. QEW through Halton and over the Burlington Skyway) Does not provide long-term vision for addressing transportation needs beyond 2031 	<ul style="list-style-type: none"> Results in minimal potential impacts to smallest number of Provincially Significant Wetlands Minimal potential impacts to woodlots Impacts a number of Environmentally Significant Areas (ESAs) 	<ul style="list-style-type: none"> Minimal impacts to agricultural lands 	<ul style="list-style-type: none"> Highest potential impacts to residential properties (24 residences and 5 apartments) Major land use impacts near any of the existing interchanges Higher potential for air quality impacts given proximity to built-up areas Large number of residences with potential for significant noise impacts 	<ul style="list-style-type: none"> Slightly less potential to impact archaeological features than other alternatives More potential to impact to built heritage features but no significant impacts are anticipated based on available information 	<ul style="list-style-type: none"> Potential impacts to the Niagara Escarpment are associated with widening through an existing Escarpment cut No significant impacts to Greenbelt lands 	<ul style="list-style-type: none"> Provides additional capacity to existing economic linkages in the southern GTA Does not provide strong economic connection to north GTA communities Does not provide redundancy / alternate route during closures Major impacts to Hamilton economy during construction 	<ul style="list-style-type: none"> Greatest constructability concerns associated with: widening through Cootes Paradise, replacement of existing bridges and reconstruction of existing interchanges through Hamilton, impacts to two rail lines, and major utility relocation issues (existing hydro crossing)



Factors								
Alternatives	Transportation	Natural	Agriculture	Socio-Economic / Land Use	Cultural	Greenbelt / NEP	Economy	Cost / Constructability
SUMMARY	<ul style="list-style-type: none"> Provides better long-term transportation performance than Option #1, and marginally better long-term transportation performance than Option #6, in terms of addressing primary transportation needs (e.g. Hwy 403 through Hamilton, QEW through Halton and at Burlington Skyway) 	<ul style="list-style-type: none"> Greatest non-mitigatable impacts to highly sensitive environmental features (Provincially Significant Wetlands, Environmentally Sensitive Areas, watercourses, woodlots, etc.) Features are closely spaced, and there is limited potential for avoidance 	<ul style="list-style-type: none"> Significant impacts to Class 1-3 soils Majority of Class 1-3 lands are between Hwy 403 and Hwy 8. Some areas of Class 1-3 lands along the rest of the new corridor to Hwy 401, but the majority of this area is occupied by wetlands 	<ul style="list-style-type: none"> Impacts fewer residences than Option #1 and avoids encroachment on urban boundary of Waterdown associated with Option #6 Moderate number of residences potentially having a significant noise impact 	<ul style="list-style-type: none"> Slightly higher potential to impact archaeological features than Option #1 No discernible differences between potential impacts to archaeological features as compared to Option #6 Low potential for impacts to built heritage features based on available information 	<ul style="list-style-type: none"> Low potential for impacts to Niagara Escarpment Plan area. It is anticipated that these impacts can be avoided during future route planning High impacts to Greenbelt lands, as corridor is entirely within the Greenbelt 	<ul style="list-style-type: none"> Provides strong linkages to north GTA communities Maintains existing economic linkages in south GTA Provides additional network flexibility during closures Avoids economic impacts to City of Hamilton during construction 	<ul style="list-style-type: none"> No major constructability concerns for the new corridor Some potential for wetland crossings that could require specialized construction techniques Widening Hwy 403 through Hamilton requires reconstruction of King/ Main/ Aberdeen interchanges and relatively minor widening of existing Niagara Escarpment crossing, but less challenging than widening for Option #1



Factors								
Alternatives	Transportation	Natural	Agriculture	Socio-Economic / Land Use	Cultural	Greenbelt / NEP	Economy	Cost / Constructability
								
SUMMARY	<ul style="list-style-type: none"> Provides marginally lower long-term transportation performance than Option #4, in terms of addressing primary transportation needs 	<ul style="list-style-type: none"> Major impacts to a large number of highly sensitive environmental features (Provincially Significant Wetlands, Environmentally Sensitive Areas, watercourses, woodlots, etc.) Sensitive environmental features are not as closely spaced as with Option #4, presenting greater avoidance opportunities 	<ul style="list-style-type: none"> Highest impacts to Class 1-3 soils Class 1-3 include the area between Hwy 403 to Hwy 8 and in the areas of Flamborough, north Waterdown and north Burlington 	<ul style="list-style-type: none"> Impacts fewer residences than Option #1 and Option #4, but encroaches on urban boundary of Waterdown Moderate number of residences potentially having a significant noise impact 	<ul style="list-style-type: none"> Slightly higher potential to impact archaeological features than Option #1 No discernible differences between potential impacts to archaeological features as compared to Option #4 Low potential for impacts to built heritage features based on available information 	<ul style="list-style-type: none"> Highest impacts to the Niagara Escarpment Plan area, as this alternative requires a new crossing of the Niagara Escarpment at narrowest location (6 km width in Halton) High impacts to Greenbelt lands, as corridor is entirely within the Greenbelt 	<ul style="list-style-type: none"> Provides strong linkages to north GTA communities Maintains existing economic linkages in south GTA Provides additional network flexibility during closures Avoids economic impacts to City of Hamilton during construction 	<ul style="list-style-type: none"> No major constructability concerns if new corridor is constructed at-grade Potential for significant constructability and costs if tunnel is required for crossing of Niagara Escarpment Widening Hwy 403 through Hamilton results in similar impacts as the widening associated with Option #4

