

INFORMATION REPORT

TO: Chair and Members

Public Works Committee

WARD(S) AFFECTED: WARDS 1 and 12

COMMITTEE DATE: January 16, 2012

SUBJECT/REPORT NO:

Update to Proposed Westbound Ramps to Highway 403

(PW11027a) - (Wards 1 and 12)

SUBMITTED BY:

Gerry Davis, CMA General Manager

Public Works Department

SIGNATURE:

PREPARED BY:

Alan Kirkpatrick

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Mohan Philip

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Council Direction:

Committee will recall Report PW11027, Ancaster Transportation Master Plan, dated April 18, 2011, approved by Council on April 27, 2011, that included the following recommendations:

- (a) That the General Manager, Public Works Department, be authorized and directed to file the Ancaster Transportation Master Plan (ATMP) report with the Municipal Clerk for a thirty (30) day public review period;
- (b) That upon the completion of the thirty (30) day public review, the General Manager, Public Works Department, be authorized and directed to include the recommended projects for the purpose of future capital budget submissions in conjunction with the phasing identified, provided no comments or Part II Order requests are received that cannot be resolved;
- (c) That the Ministry of Transportation (MTO) be advised of the City of Hamilton's concerns with respect to the capacity deficiency currently being experienced and forecast for Highway 403 between Highway 6 and "New Highway 6" in Hamilton and that improvements proposed through the previous MTO studies for this corridor be implemented;
- (d) That the General Manager, Public Works Department, be directed to request the MTO to expedite the review and approval process of the "Traffic Operational Analysis of Highway 403 at Golf Links Road and Aberdeen Avenue" completed by the City of Hamilton for the proposed ramps at Golf Links Road and Aberdeen ramp;

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- (e) That the petition from the Ancaster residents, received by the Mayor's Office February 4, 2011, and considered by City Council on February 23, 2011, Item 5.1, and included as Appendix "E" of this report, requesting a 90-day extension to the Ancaster Transportation Master Plan Study, be received with no further extension of the planning process;
 - (i) That the recommended projects, attached as Appendix "A" to Report 11-006 be approved as amended;
 - (ii) That the preferred solution of a roundabout at the intersection of Wilson Street and Jerseyville Road be elevated to a Schedule C project in conjunction with the Wilson Street improvement project;
 - (iii) That the preferred solution of a roundabout at Rousseaux Street and Wilson Street not be considered in the current Ancaster Transportation Master Plan;
 - (iv) That the City continue best efforts to encourage the MTO to construct west bound access to the 403 at Main Street West in Hamilton and Mohawk Road/Rousseaux Street or as an alternative Golf Links Road in Ancaster;
 - (v) That the preferred improvements for McNiven Road between Golf Links Road and Mohawk Road/Rousseaux Street be elevated to a Schedule C project;
 - (vi) That two pedestrian crossings be provided on Wilson Street during Phases 3 & 4 of the Municipal Class EA process for the Wilson Street project.

The purpose of this Information Report is to bring the Committee up-to-date with the actions related recommendation (i) above and the proposed westbound ramps to Highway 403 at Main Street/Aberdeen Avenue and at Mohawk Road/Rousseaux Street and alternatively Golf Links Road and to identify next steps.

Information:

One of the problems and opportunities identified in the Ancaster Transportation Master Plan (ATMP) was the need for additional westbound access to Highway 403. This was identified to be an issue related to the amount of traffic on Wilson Street, in the core area, that the community wish to have reduced.

During the early stages of the ATMP, the Project Technical Team and consultant identified several alternatives, including a westbound ramp to Highway 403 from Mohawk Road/Rousseaux Street. This option was not pursued in detailed because the MTO indicated that this ramp could be problematic to consider further. As a result of the MTO's comments, alternative locations were investigated and because there are limited options, the only other location for further study was Golf Links Road.

The ATMP study investigated access opportunities to Highway 403 at Golf Links Road. This location also provided difficult design and construction scenarios to overcome.

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However, the MTO did indicate that the "concept" of additional access to Highway 403, both eastbound and westbound, was possible, and was a solution to additional westbound access to Highway 403, it was identified that implementation was still going to present many challenges to overcome to the satisfaction of the MTO.

The issue of additional westbound access to Highway 403 in Hamilton was expanded to include the Main Street/Aberdeen Avenue area. Westbound access to Highway 403 had previously been identified as a concern in the Ainslie Wood - Westdale TMP (2003) and the development of the McMaster Innovation Park (MIP) area along Longwood Road. Traffic on Main Street West wishing to access the westbound Highway 403, and points west (i.e. LINC Expressway) has to use Longwood Road, south to Aberdeen Avenue or continue westbound on Main Street West, travelling to Ancaster via Main Street West to Mohawk Road/Rousseaux Street or further along Wilson Street, through the "core" of the village to Highway 403.

A consulting assignment was undertaken to prepare a conceptual design for the Main Street/Aberdeen Avenue ramp based on a high-level investigation of design considerations, limitations and a design that is acceptable to the MTO as the owners of the Highway. The concept design was prepared in consultation with MTO and this would be the basis for future detailed design and analysis.

As a result of recommendation i), noted above, Councillor Ferguson and Ted McMeekin, MPP, met with the former Minister of Transportation, Kathleen Wynne, and senior MTO staff on August 24, 2011. The outcome of this meeting is documented in a letter from the Regional Director, Lou Politano, dated August 26, 2011, and a letter from the Minister dated August 29, 2011, is included in Appendix A-1 and A-2 respectively.

The principles identified with the proposed new ramp concepts include:

- o safety for the motorists using the ramps, the traffic on highway and traffic and pedestrians on the local road network adjacent to the ramp facilities
- o constructability
- o price
- funding
- o environmental issues
- o operations and maintenance needs
- consideration of potential expansion of the highway network
- impact to adjacent residents
- no impact to the inter-regional highway network as a result of implementing the ramps
- o that an Environmental Assessment will be required

A meeting was arranged on November 10, 2011, with Councillor Ferguson, City staff and MTO staff to follow-up on the previous discussions and meetings and the studies undertaken so far. The purpose of the meeting was to identify next steps that would be required by the City with regard to research and study into proceeding with the proposed ramps to Highway 403.

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The outcome of this meeting resulted in a suggested priority of the order of further detailed information and studies regarding westbound access to Highway 403, including:

- Mohawk Road/Rousseaux Street location as the first priority
- Main Street/Aberdeen Avenue location as the second priority

Although the Golf Links Road westbound access is part of the original report's recommendations and was initially supported by the MTO, the provision of a westbound access to Highway 403 will be problematic and only pursued as a last resort.

The following sections will review the issues for the other locations and the reasons for the priorities.

MAIN STREET/ABERDEEN AVENUE ACCESS TO HIGHWAY 403

The issues were discussed starting from the intersection of the westbound 403 off ramp and Main Street West and proceeding westerly along a potential ramp right-of-way to connect with the highway:

At Main Street West

- The existing ramp to/from Highway 403 at Main Street has been a concern for Columbia College due to high pedestrian/student activity across the ramp and exposed to traffic leaving the highway westbound and the traffic wishing to enter the highway. Both the City and the MTO are aware of these concerns. Further investigation regarding improvements is necessary to mitigate any pedestrian crossing concerns as much as possible.
- o If a westbound access ramp to Highway 403 is provided at this location, consideration would be given to allowing westbound traffic on Main Street West to turn left and access the highway. At the present time no left-turns are permitted at this location. This aspect would require additional study to determine whether this would impact the traffic operation on Main Street.
- The proposed Light Rapid Transit (LRT) "B-Line" has been identified in this vicinity and would be in a "center-running" location (down the center of the road).
 Traffic issues and operations/impacts would require additional consideration.
- Impact Consideration High.

Adjacent to the Hydro One Sub-Station

- Based on the high-level concept review prepared for the proposed westbound access ramp to Highway 403, the preliminary design indicates that the ramp limits would impact a portion of the Hydro One property.
- As a result of the current preliminary plan, the exact impact has not been completely identified. Hydro One has been contacted to indicate that a ramp proposal is underway and that further discussion will be required with Hydro One. The Hydro One representatives indicated that they would not provide any specific comments until a detailed plan is submitted for their consideration. However, based on the concepts drawing prepared to date, Hydro One has indicated that there are a number of problems with the potential ramp impacting their property,

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the hydro infrastructure plant (possible relocation) and the minimum setbacks required from their facilities to adjacent land use and the public.

Impact Consideration - High.

Adjacent Wooded and Residential Area

- o Immediately adjacent to the proposed westbound ramp right-of-way, there is a wooded area that buffers the highway from the residents, i.e. Don Avenue, Paul Street, Southview Place, Cline Avenue S, and Haddon Avenue S. This area may require additional review and study to determine the extent and impact if the ramp design was to proceed. It would be necessary to undertake additional studies to determine the conditions, impacts and next steps.
- o Impact Consideration High.

Adjacent Stormwater Facility

- A significant concrete-lined, stormwater facility is present adjacent to a proposed new westbound ramp that would need to be crossed and would require realignment to construct the new ramp.
- o Impact Consideration High.

Connection to Existing Westbound Ramp from Aberdeen Avenue

- Because of the limited area available to design and construct a new westbound ramp, the idea of implementing a "Ramp-to-Ramp" (RTR) configuration was proposed. Although there are other examples of RTR design (even at this interchange) the idea has limited potential in the space available as the existing RTR opportunity would not meet the current MTO minimum standards and design requirements. The MTO has expressed concern of the proposed ramp concept as it results in several turns that could distract a motorist in addition to negotiating the RTR movement. Therefore, the RTR would require more space and distance to accommodate the "speed-change" distance and merging space to meet the MTO standards and requirements.
- o In order to provide an acceptable design, the length of the ramp has to be extended which results in impacting adjacent private property and the CN Rail Bridge and recently opened Rail-Trail Connection.
- o Impact Consideration High.

Connection to Westbound Highway 403

- As previously mentioned above, the RTR design would require the overall westbound ramps to Highway 403 to be realigned and extended that would impact existing noise walls and the Rail-Trail Bridge abutment.
- Details of moving the existing noise walls will require detailed design to determine the extent of potential land purchase and re-grading the area and reinstallation of the noise walls.
- The existing CN Rail-Trail abutment along the west side of Highway 403 would be impacted by the extension of the proposed westbound ramps resulting in the bridge deck requiring expansion and a new abutment being constructed.

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- Consideration of any future widening to Highway 403 is also required in considering the provision of this ramp so that any consideration of highway widening would not be impacted with the new ramp.
- Impact Consideration High.

Based on the identified issues above, the potential impacts at the Main Street/Aberdeen Avenue location would require significant further detailed review and analysis and therefore, at this time, staff is recommending not to proceed with studies related to an additional westbound access to Highway 403, and that Mohawk Road/Rousseaux Street be considered the higher priority for investigation at this time. A plan of the area is included as Appendix B-1.

MOHAWK ROAD/ROUSSEAUX STREET ACCESS TO HIGHWAY 403

The issues were discussed starting from Mohawk Road/Rousseaux Street at the Highway 403 interchange with Mohawk Road/Rousseaux Street and the LINC Expressway and proceeding westerly along a potential ramp right-of-way to connect with the highway.

A number of years ago, a westbound access ramp to Highway 403 existed from Mohawk Road/Rousseaux Street. When the interchange was being redesigned to accommodate the future LINC Expressway a decision was made that since it would be difficult to continue to provide this westbound ramp from Mohawk Road/Rousseaux Street and provide the other ramps and new truck climbing lane, and since there was limited number of vehicles using the ramp, the westbound ramp was eliminated. There is still land available where the previous westbound ramp right-of-way was located.

At Mohawk Road/Rousseaux Street

- The access to a new westbound ramp Highway 403 would be provided via a right-turn only from Mohawk Road/Rousseaux Street.
- Impact consideration Low.

Connection to Existing Westbound Ramp

- O A ramp-to-ramp (RTR) connection would be required from Mohawk Road/Rousseaux Street as there is a current westbound ramp from westbound Linc Expressway to westbound Highway 403, a proposed ramp from Mohawk Road/Rousseaux Street would need to be incorporated in a RTR design. Although, as previously mentioned, there is land available where the previous westbound ramp from Mohawk Road/Rousseaux Street was located, under new design standards, the RTR configuration would require specific engineering to make this connection work to the MTO's satisfaction.
- There are noise walls present at this location based on the highway noise levels.
 Additional review of noise resulting from a proposed westbound ramp would be required.
- o Impact Consideration Medium.

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Connection to Highway 403

- The highway in this area includes an extra "truck-climbing" lane for large vehicles climbing the Niagara escarpment and proceeding westbound on Highway 403. The provision of a new westbound ramp from Mohawk Road/Rousseaux Street needs to take this lane and the speed of vehicles using this lane into consideration and a factor in the design.
- Based on the design standards and requirements, the preliminary requirements indicate that the speed-change lane would impact the existing Golf Links Road bridge pier. This would require expansion of the bridge deck and a new pier being constructed.
- O Although a detailed design has not been undertaken, there has been limited conversation that a possible solution to not requiring impact to the Golf Links Road bridge would include "shifting" the highway towards the center-median, away from the bridge pier to accommodate the overall configuration of the ramp. Shifting of the highway is by no means a simple procedure but may provide a satisfactory solution to avoid the impact to the bridge.
- Impact Consideration: Golf Links Road bridge High.
 Shifting Highway 403 High.
- Consideration of any future widening to Highway 403 is also required in considering the provision of this ramp so that any consideration of highway widening would not be impacted with the new ramp.
- o Impact Consideration High.

As Highway 403 is under the jurisdiction of the province and the MTO, they require that current design standards and requirements are followed for public safety, satisfactory Level of Service/operations and capacity and future liability.

Staff has discussed the steps involved that would be required by the MTO in order to proceed along the agreed-to process for the ultimate approvals and implementation.

Based on Golf Links Road not being considered as a westbound ramp location and that there or too many design issues and consideration at the Main Street/Aberdeen Avenue location, and that Mohawk Road/Rousseaux Street was not analyzed in detail during the ATMP, a number of steps are required to proceed successfully with this proposal.

The intention would be that steps would be undertaken and reported back on a decision of "GO" – "NO-GO", meaning that if the investigation/study results in positive results, a "GO" status would be indicated and further study is warranted, subject to funding and budget approval. If a "NO-GO" status is determined based on the study findings, i.e. environmental issues, property acquisition, constructability, cost, etc., this would be reported and the process could be suspended because the solutions may not be achievable without significant impact and expense to proceed.

The anticipated list of steps related to the Mohawk Road/Rousseaux Street westbound access to Highway 403 includes:

Traffic Modelling

- The use of computer models to project traffic volumes, traffic flow, congestion, trucks, etc. are regularly utilized to contribute to decision making to address future needs.
- The City utilizes an "EMME" model for its future traffic/transportation projections to 2021 and 2031. This model takes into consideration the local road network as well as highway connections to model future traffic. The MTO utilizes different traffic projection models that are geared more to highway needs and performance. It is not practical for the City to recreate its information in an MTO model because it would be too time-consuming, expensive and have limited use for the City. Although these models produce required information for their respective agencies, there are differences in the information produced. In order to proceed, the MTO requires further review and analysis of what the City's model is predicting and is it acceptable to the MTO in their future highway needs. The City did undertake a modelling exercise for the Main Street/Aberdeen Avenue area and the Golf Links Road access to westbound Highway 403 as previously described in the Ancaster transportation master Plan, but did not undertake a modelling analysis for Mohawk Road/Rousseaux Street access to westbound Highway 403.
- Since the Mohawk Road/Rousseaux Street westbound ramp is being considered as the first priority in the investigation of additional westbound highway access in Hamilton, the Mohawk Road/Rousseaux Street area will require a modeling analysis to be undertaken by the City and reviewed by the MTO before proceeding to subsequent steps in the approvals process, including:
 - Concept plan development, analysis and preliminary cost estimation
 - Macro-simulation
 - Detailed Geometric design feasibility, cost estimate
 - Risk Analysis
 - Micro-simulation
 - Environmental Assessment
- The final step would be a full EA undertaken by the City. There are two options for EA; the one the City typically uses and a Provincial process. Although this is a provincial highway and facility, the MTO staff has indicated that the process the City typically undertakes is acceptable to them, at the City's cost.

Mohawk Road/Rousseaux Street

- No concept plan or designs have been undertaken for this proposed westbound ramp location.
- As previously indentified, land is available for the proposed westbound ramp right-of-way following a review as to whether there would be any noise impact

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from the ramp, how a RTR connection would be made, the extent of the proposed speed-change lane and the ultimate connection to the highway.

Prior to completing any detailed studies on the implementation of westbound ramps to Highway 403 in either of these locations, we have determined high-level estimated costs in the range of \$5 - \$10 million for the ramp including engineering, studies, and contract management. This cost estimate is based on a typical implementation of a ramp without some of the scope that could be involved i.e. the possibility of having to "shift" the highway in the case of the Mohawk Road/Rousseaux Street ramp.

These details would be worked out in later stages.

There is no funding currently identified in the Capital Works budget forecast for westbound ramps to Highway 403.

The proposed 2012 Capital Budget includes funds of \$200,000 (net \$100,000) for a proposed study to undertake the following:

- Review of the traffic/transportation modelling for the Mohawk Road/Rousseaux Street westbound access to Highway 403 (this process was not undertaken during the previous ATMP study).
- Preparation of the westbound Ramp concept plan for Mohawk Road/Rousseaux Street.
- Identification of impacts and analysis of the proposed westbound ramp to Highway 403 at Mohawk Road/Rousseaux Street.

Once this is completed, preliminary cost estimation can be provided to the Committee and decisions made with regard to the implementation of the westbound ramp to Highway 403 at Mohawk Road/Rousseaux Street. This information would be submitted to the Public Works Committee so that they are fully aware of the on-going status of this review and the anticipated series of steps and costs to complete this implement for consideration in future capital budget deliberations. If a shifting of Highway 403 is a potential solution to the westbound ramp implementation to avoid impacting the Golf Links Road Bridge, this would also require a number of design steps to see how this would be accomplished. A plan of the area is included as Appendix B-2.

RELEVANT POLICIES

Financial Sustainability:

Delivery of municipal services in a sustainable, innovative and cost effective manner. Sustainable and cost effective road improvement solutions.

Intergovernmental Relationships:

Influence provincial policy development to benefit Hamilton.

The need to improve Highway 403 by increasing its capacity and providing access ramps. Continuing to work with MTO staff on solutions.

Growing Our Economy:

Improved transportation infrastructure is generally seen as supportive measure for economic growth.

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Social Development:

Residents have access to jobs and support services with improved transportation facilities.

Environmental Stewardship:

Support efficient transportation networks to reduce Green House Gases (GHG) Healthy Community: Plan and manage the built environment.

Letter dated August 26, 2011 from Lou Politano, Regional Director, MTO

Ministry of Transportation Office of the Regional Director Central Region 2nd Floor, Bldg. D 1201 Wilson Avenue Toronto, ON M3M 1J8 Tel (416) 235-5400 Fax (416) 235-5323

Ministère des Transports Bureau du directeur régional Région du Centre 2e étage, édifice D 1201 avenue Wilson Toronto, ON M3M1J8 Tél: 416 235-5400 Téléc: 416 235-5266



August 26, 2011

Jillian Stephens, P.Eng.
Director, Environmental and Sustainable
Infrastructure
City of Hamilton
320 – 77 James Street North
Hamilton, Ontario
L8R 2K3

Dear Ms. Stephens:

Councillor Ferguson and MPP McMeekin met with Minister Wynne on August 24th to discuss the city's initiative to provide additional westbound access to Highway 403 through the City of Hamilton as a means of improving the operation of the local road network. I also attended the meeting. I found the conversation very productive and would like to take this opportunity to let you know that we reached agreement on a number of items that will help the City advance its proposal.

At the meeting, Councillor Ferguson noted that the City will not be pursuing access at Golf Links Road because of the complexities it presents, including the proximity between a westbound on-ramp and the Highway 6 exit ramp from Highway 403, and the provincial requirement to also provide a ramp that serves the return move from the west.

Instead, I understand that the City is interested in advancing design options to provide a westbound on-ramp from Mohawk Road to Highway 403. I'm pleased to let you know that the ministry is agreeable in principle with this proposal provided that it can be designed to meet provincial geometric and safety standards and that such a new ramp would not adversely impact the safe operation of Highway 403. At this time, the Mohawk Road alternative appears to be a practical option that can be implemented with relative ease.

For Main/Aberdeen, the city's proposal requires a ramp-to-ramp connection between a new westbound on-ramp from Main Street and the existing westbound on-ramp from Aberdeen. While ramp-to-ramp connections are normally not a preferred design option, they have been used successfully at other locations where there are limited alternatives. I'm pleased to let you know that the ministry is also agreeable in principle with a ramp-to-ramp concept, provided that such a design can be achieved in accordance with provincial geometric and safety standards and that the new ramp would not adversely impact the safe operation of Highway 403.

The ministry will continue to work with you as you advance these proposals. It may be helpful if a working meeting be held with technical staff from the city and MTO to review the design concepts, and to confirm the standards that need to be met for the new ramp designs. We have recently received the City's "Ramp Access Transportation Study", and we are in the process of reviewing it. It would be appropriate if the meeting occur once our review of the Study is sufficiently advanced. If you are agreeable to such a meeting, I will be in contact with you within a few days to make the arrangements.

As discussed at the August 24th meeting, the City will be the proponent for the ramps, and provided that an acceptable design option is developed, it will be necessary for the City to also carry out the environmental assessment study and ensure that stakeholder input is obtained and addressed. At the meeting, I also noted that as these ramps are driven by the need to address local road traffic issues, the City would be financially responsible for their design and construction.

Thank you again for continuing your dialogue with the Ministry. I look forward to continuing working with your team as you advance this initiative.

Sincerely,

Lou Politano, P.Eng. Regional Director

c: T. McMeekin, MPP

L. Ferguson, Councillor

Letter dated August 29, 2011 from former Minister of Transportation, Kathleen Wynne

Ministry of Transportation

Office of the Minister

Ferguson Block, 3rd Floor 77 Wellesley St. West Toronto, Ontario M7A 128 (416) 327-9200 www.mto.gov.on.ca Ministère des Transports

Bureau du ministre

Édifice Ferguson, 3º étage 77, rue Wellesley ouest Toronto (Ontario) M7A 1ZA (416) 327-9200 www.mto.gov.on.ca



August 29, 2011

Mr. Ted McMeekin, MPP Ancaster-Dundas-Flamborough-Westdale 299 Dundas Street East PO Box 1240 Waterdown, Ontario LOR 2H0

Dear Mr. McMeekin:

I would like to thank you and Councillor Ferguson for meeting with me on August 24th to discuss new ramps onto Highway 403. I found the meeting very informative and I now have a better understanding of the need for additional westbound access to the highway.

The ministry looks forward to continuing working with the City of Hamilton in exploring and developing safe and efficient access ramps. Attached is recent correspondence from Lou Politano, Regional Director, Central Region, to the city's Jill Stephens summarizing a plan for moving forward with the city's initiative.

Again, thank you for meeting with me.

Cathlein Wynne

Sincerely,

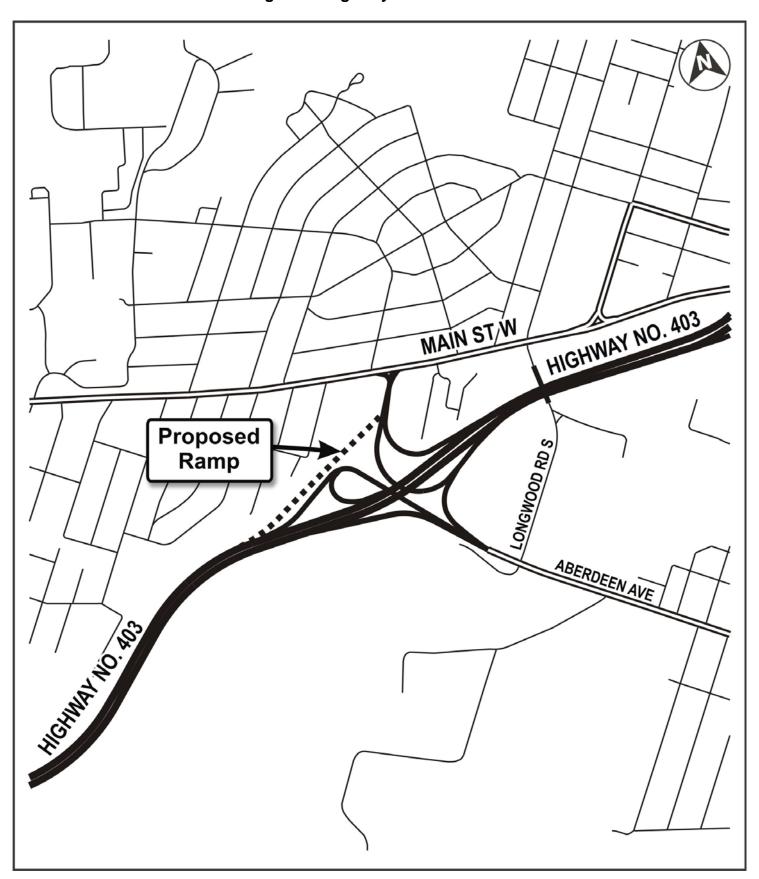
Kathleen Wynne

Minister

Enclosure

c: Councillor Lloyd Ferguson, Ward 12, Ancaster

Appendix B-1
Report PW11027a
Plan of Interchange with Highway 403 and Main Street/Aberdeen Avenue



Appendix B-2
Report PW11027a
Plan of Interchange with Highway 403 and Mohawk Road/Rousseaux Street

