

# CITY OF HAMILTON MOTION

Council Date: April 26, 2017

MOVED BY COUNCILLOR .....

SECONDED BY COUNCILLOR.....

**Hamilton Light Rail Transit (LRT) Environmental Project Report (EPR) Addendum for B-Line (PED17056) (City Wide) (Item 8.2) (Referred to Council by the General Issues Committee on April 19, 2017)**

That the Hamilton B-Line Light Rail Transit (LRT) Environmental Project Report (EPR) Addendum, attached as Appendix “A” to Report PED17056, be submitted to the Ministry of the Environment and Climate Change (MOECC).

*Attachment – Report PED17056*

**Please Note:** Due to volume, Appendices “A” through “F” of Report PED17056 are not included in the printed agenda, but are available on the City’s website at <https://www.hamilton.ca/council-committee/council-committee-meetings/general-issues-committee>



**CITY OF HAMILTON**  
**PLANNING AND ECONOMIC DEVELOPMENT DEPARTMENT**  
**Light Rail Transit Office**

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	March 28, 2017
<b>SUBJECT/REPORT NO:</b>	Hamilton Light Rail Transit (LRT) Environmental Project Report (EPR) Addendum for B-Line (PED17056) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Trevor Horzelenberg (905) 546-2424 Ext. 2343
<b>SUBMITTED BY:</b>	Paul Johnson Director, LRT Project Coordination Planning and Economic Development Department
<b>SIGNATURE:</b>	

### RECOMMENDATION

That the Hamilton B-Line Light Rail Transit (LRT) Environmental Project Report (EPR) Addendum, attached as Appendix "A" to Report PED17056, be submitted to the Ministry of the Environment and Climate Change (MOECC).

### EXECUTIVE SUMMARY

During 2010 and 2011 the Hamilton Rapid Transit B-Line project was developed through Preliminary Design and Engineering, and an Environmental Assessment (EA) was prepared in accordance with the Ontario Transit Project Assessment Process (TPAP). The project comprised of an LRT route from McMaster University to Eastgate Square via Downtown Hamilton, running along Main Street West, King Street West, King Street East, Main Street East and Queenston Road. In December 2011 the Ontario Ministry of Environment (MOE) approved the EA. The purpose of the 2011 EA was to assess the potential environmental impacts associated with the Project, identify measures to mitigate those impacts, and develop systems to monitor the progress of implementing those mitigation measures.

An amendment to the 2011 EA was required as the scope of the LRT project changed. On May 26, 2015, the Ontario Government announced \$1B in provincial funding for the LRT project, from McMaster University to Queenston Traffic Circle (B-Line), with a spur (A-Line) from Downtown to serve the West Harbour GO Station and possibly the Waterfront (budget permitting), and a pedestrian connection to the Hamilton GO Centre. On February 2, 2017 the A-Line spur was removed, resulting in the revised route shown in Figure 1.1.

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**Figure 1.1 Revised 2017 Study Area of the Hamilton LRT Project**



The purpose of this Environmental Project Report Addendum document, attached as Appendix “A” to Report PED17056, is to identify and assess changes to the original scope from 2011. The City of Hamilton and Metrolinx are co-proponents of the EPR Addendum. The following is a summary of the elements of the assessment that were updated or added:

- Design modifications to the Hamilton LRT 2011 B-Line alignment, which include changing some sections of the LRT route from side-running to centre-running, between Dundurn Street and the Queenston Traffic Circle, and changing one section from centre-running to side-running, between Dalewood Avenue and Cootes Drive;
- The addition of new bus terminals at the western terminus (McMaster University) and eastern terminus (Queenston Traffic Circle), and the inclusion of a High-Order Pedestrian Connection on Hughson Street connecting the LRT to the Hamilton GO Centre;
- The assessment of an Operations Maintenance and Storage Facility (OMSF) where Light Rail Vehicles (LRVs) would be maintained and stored, along with its run-in track in mixed traffic on Frid Street and Longwood Road to Main Street West, across the Longwood Road bridge; and,
- Assessment of the completion of the Frid Street extension, connection the existing east and west portions of Frid Street through the OMSF property.

***Alternatives for Consideration – Not Applicable***

## **FINANCIAL – STAFFING – LEGAL IMPLICATIONS**

Financial: There are no financial implications. The preparation of the EPR Addendum was funded by Metrolinx.

Staffing: N/A

Legal: As part of the Transit Project Assessment Process (TPAP), the EPR Addendum fulfills statutory requirements under the Environmental Assessment Act (Ontario) and associated regulations, namely, Regulation 231/08 Transit Projects and Metrolinx Undertakings. Submission of the EPR Addendum is a key TPAP milestone.

## **HISTORICAL BACKGROUND**

In June 2007, the Province of Ontario released their MoveOntario 2020 plan, which was a multi-year rapid transit action plan for the Greater Toronto and Hamilton Area (GTHA). Metrolinx was then established by the Province to develop and implement a Regional Transportation Plan (RTP) along with an Investment Strategy and Capital Plan.

Following the announcement, staff from the City of Hamilton worked closely with Metrolinx to undertake rapid transit feasibility studies, develop technical reports and undertake consultations. This work led to *Rapid Ready - Expanding Mobility Choices in Hamilton*, a report to Council in February 2013 setting out Hamilton's rapid transit options; which then led to a provincial announcement in May 2015 of a \$1B investment of light rail transit in Hamilton.

### **Key Dates**

- April 2008 (PW08043): A rapid transit feasibility study was presented identifying options to consider when determining how to provide rapid transit in the city.
- October 2008 (PW08043(d)): A motion was approved by Council to “continue discussions with Metrolinx in regards to undertaking the appropriate business case analysis required in order to include the functional design, detail design and construction of the B-Line rapid transit corridor for the City of Hamilton”.
- October 2011 (CM11016/PW11064/PED11154/FCS11072): Outlined the work required prior to Metrolinx making a funding recommendation to their Board of Directors.
- February 2013 (PW13014): *Rapid Ready - Expanding Mobility Choices in Hamilton* report outlines the City's transit priorities and future planning for transit. The document addresses all modes of transportation from pedestrians to cars to buses and rapid transit. The report lays out the necessary infrastructure investments and changes that need to be made in order to prepare Hamilton for Light Rail Transit.

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- May 2015: The Provincial Government announced \$1B to build Light Rail Transit (LRT) in Hamilton. The LRT will run from McMaster University to Queenston Traffic Circle. Also included in the announcement, is the extension of GO train service from the West Harbour GO Station to a new GO station at Centennial Parkway.
- August 2015 (CM15014): Approval provided for the creation of a Light Rail Transit (LRT) office and that Steer Davies Gleave (SDG) be retained to complete the conceptual design and Environmental Assessment (EA) work required for any necessary and required changes to the original A and B Lines.
- January 2016 (PED16042/LS16003): Approval provided for the City to enter into a Memorandum of Agreement (MOA) with Metrolinx, respecting the City of Hamilton Light Rail Transit Project.
- May 2016 (PED16113/LS16011): Approval provided for the development of the Property Acquisition Unit and signing of the Real Estate Service protocol with Metrolinx.
- September 2016: First round of formal Public Information Centres for the EPR Addendum.
- January 2016: Second round of formal Public Information Centres for the EPR Addendum.
- February 2017: Province announces a change in the scope of the project by removing the A-Line LRT spur.

## **POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS**

The Hamilton LRT 2017 EPR Addendum is being conducted following the Transit Project Assessment Process (TPAP). The stipulated public and agency review steps, and timelines for finalizing the EPR Addendum, are similar to the TPAP.

The following outline describes the key steps in the EPR Addendum process under the TPAP:

- Prepare an assessment of the impacts the proposed change may have on the environment;
- Prepare and distribute an Addendum report; and,
- Prepare and distribute a Notice of Environmental Project Report Addendum; and,
- Conduct a final review by the public and stakeholders prior to proceeding with the proposed Addendum.

Subsequent to completion of the 2017 EPR Addendum, and filing a Notice of Environmental Project Report Addendum, the EPR Addendum document is made available to: the public, regulatory agencies, MPs & MPPs, aboriginal communities and other interested persons for review. The public review period will be for 30 days, in accordance with the *Environmental Assessment Act*.

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During the 30-day public review period, should objections be received, the Minister of the Environment and Climate Change has 35 days to consider any objections regarding negative impacts of the transit project; during which time the Ministry would provide notice to the project proponents. A notice from the Minister will state either that “the project can proceed”, “the project can proceed subject to conditions”, or “the proponent must conduct additional work prior to proceeding”.

## **RELEVANT CONSULTATION**

The LRT team completed an extensive consultation program with various City Departments, organizations, external agencies, and the general public to engage stakeholders. This process is further detailed in Section 5 – Consultation Process of Appendix “A” to Report PED17056.

The objective of the consultation during the EPR Addendum was to consult on the proposed project developments and the potential impacts and corresponding mitigation measures. Consultation activities are summarized below:

- Two series of Public Information Centres (PICs) were held; seven meetings in September 2016 (PIC #1) and three meetings in January 2017 (PIC #2). The January 2017 PICs were supplemented by three additional meetings in communities outside of the LRT corridor;
- Notices of PICs were mailed to properties within a 30m radius for PIC#1 and a 45m radius for PIC#2 of the LRT corridor. Notices were also sent via registered letter to affected property owners along the LRT corridor;
- Project websites provided the details of the PICs and additional meetings, meeting materials, and an opportunity to submit comments online and sign up for the project mailing list:
  - [Hamilton.ca/LRT](http://Hamilton.ca/LRT);
  - [Metrolinx.com/HamiltonLRT](http://Metrolinx.com/HamiltonLRT);
  - [MetrolinxEngage.com](http://MetrolinxEngage.com);
- Since May 2016, individual meetings were held with over 75 stakeholder and community groups, including Chambers of Commerce, Business Improvement Areas (BIAs), Ward/Community Council meetings, neighbourhood associations, school boards and other major organizations. Consultation sessions were held specifically for the High-Order Pedestrian Connection and cycling;
- The LRT team participated in several community events including Supercrawl, Concession Streetfest, Gore Park Summer Promenade and hosted two lunch and learn sessions for City staff; and,
- The LRT “Community Connectors” Program launched in May 2016; a team of diverse individuals from across Hamilton who visit nearly 1,400 properties along the LRT corridor. Their role is to inform, educate and engage property owners, and gather feedback that will help inform the project by visiting properties twice per year for the duration of the project.

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The public, regulatory agencies, aboriginal communities and other interested parties were able to choose their level of involvement that may have included public open houses, online sources, face-to-face meetings, presentations to stakeholder groups (i.e., senior groups, neighbourhood groups, conservation authorities, Aboriginal communities and First Nations representatives, and property owners).

## **ANALYSIS AND RATIONALE FOR RECOMMENDATION**

The Environmental Project Report Addendum is a necessary step in order to proceed with the B-Line LRT project. The requirement for this addendum was to address changes to the project scope to address the gaps from the 2011 EPR.

The EPR Addendum process involved significant public consultation as outlined above. In addition, all necessary environmental technical reports were updated based on the revised scope of the LRT project. Throughout this addendum process staff received and reviewed concerns brought forward to ensure the specifications meets the intent of the overall project. Changes to the alignment, stop location and pedestrian crossings were identified by the public through our consultation process, and most of these suggestions were incorporated into the design contained within the report.

The LRT team is satisfied that all components of the environmental assessment process are addressed and any of the mitigation strategies identified in the technical reports can be accommodated as part of this project.

An important change noted in this EPR Addendum is the shift of the LRT to a primarily centre-running system. The 2011 design used a primarily side-running system. The new alignment of the LRT provides a more 'rapid, reliable and safe' approach which provides a more efficient LRT operation, better journey times and improved reliability. The key features of this approach are:

- Provide a westerly terminus at McMaster University, integrated into the north side of Main Street West. The alignment is (north) side-running east to Dalewood Avenue, where it transitions to the previous centre-line alignment through the remainder of Main Street West to Paradise Road, then (north) side-running to a new bridge over Highway 403;
- Provide an exclusive LRT right of way with primarily centre running on the remainder of the B-Line route to the Queenston Traffic Circle, except, in International Village, within a portion of King Street West from Queen Street to Hess Street, and within a portion of King Street East from James to John;
- Provide for two-way traffic on King Street West (except between Queen and Hess), King Street East (except in international Village and between James to John), Main Street West, and Main Street East;

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- In International Village, on King Street between Catharine Street and Wellington Street, the LRT alignment is offset to the north side to allow eastbound traffic on the south side, and to maintain access for south side properties;
- An alternative means of servicing and deliveries for the International Village area to be developed using side streets, laneways, and open areas to the rear of the frontage properties, particularly the rear lane from Wellington Street to Mary Street;
- Minimize the number of locations where road vehicles are permitted to cross the LRT tracks. The majority of local road intersections thus become right-in/right-out only, with crossings allowed at nearby arterial roads with signalized intersections;
- Permit U-turns at signalized intersections to maintain local accessibility;
- Pedestrian access to stops is mainly provided at the intersection end of stop platforms, to assist with controlling passenger movements and enhance safety. In some instances, access from both platform ends will be used for passenger convenience;
- Design the alignment for 65m long platforms to accommodate (future) use of different LRV configurations and sizes to increase system capacity; and,
- Consider the use of a curb face alongside the exclusive LRT alignment to minimize vehicles driving on or over the tracks except at designated intersections. To allow emergency services vehicles to use portions of the guideway, while discouraging unauthorized use by other vehicles, a mountable roll curb to demark the LRT lanes is proposed.

### **Key Elements of Hamilton's LRT Project Updated in the EPR Addendum:**

#### **Stop Types**

Figure 1.2 identifies the proposed stops for the LRT corridor and the stop type. B-Line platforms are designed as a mix of Central-Island platforms, Far-Side platforms, and Parallel-Side platforms, depending on space constraints. Far-Side platforms are preferred from an LRT operations perspective, so that advance notice of LRV arrival can be provided to the traffic signal controllers, maximising the opportunity for LRT priority through the signals.

This layout is also preferred from an accessibility standpoint, as it allows passengers to exit the platform behind the LRV, enhancing safety and reducing LRV delays. However, the objective of minimizing property requirements resulted in the majority of platforms being Central-Island or Parallel Side platforms, both being common configurations. Central-Island platforms have the advantage of increased passenger convenience and ease of wayfinding.

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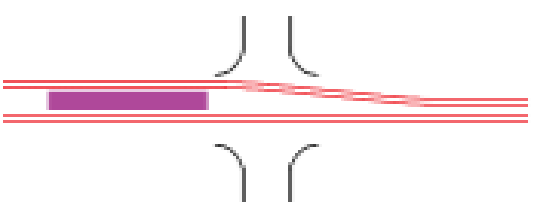
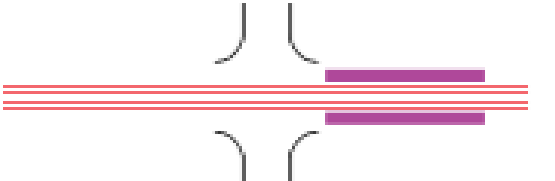
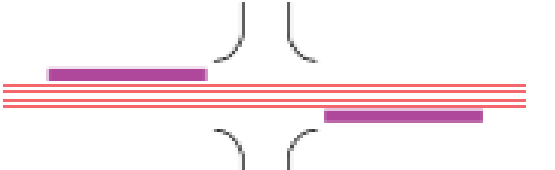
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**Figure 1.2: Stop Types**

Platform Configuration Types	Stations
<p><b>Central-Island Platform</b></p> 	<ul style="list-style-type: none"> <li>• McMaster (north side)</li> <li>• Longwood (west side)</li> <li>• Queen (west side)</li> <li>• Wentworth (east side)</li> <li>• Sherman (east side)</li> <li>• Scott Park</li> <li>• Gage Park</li> <li>• Ottawa (west side)</li> <li>• Kenilworth (west side)</li> </ul>
<p><b>Parallel-Side Platforms</b></p> 	<ul style="list-style-type: none"> <li>• Dundurn (west side)</li> <li>• Mary (west side)</li> <li>• Wellington (east side)</li> <li>• Queenston (off-street)</li> </ul>
<p><b>Far-Side Platforms</b></p> 	<ul style="list-style-type: none"> <li>• James</li> </ul>

**Platform Length**

Platform lengths have been increased to 65m to accommodate two (2) car LRVs when ridership requires them.

**Platform Width**

The standard platform width is set at 3.5m for far-side or parallel-side platforms, and 4.5m for central-island platforms to maintain right-of-way requirements. When necessary, platform widths will be increased based on ridership assessments; and where necessary, to reduce property impacts, platform widths may be reduced to 2.5m (the minimum width for AODA compliance).

### **Platform Height**

Platforms will be approximately 300mm high above rail level, allowing level boarding and easy access for passengers with mobility impairments, strollers, etc.

### **Platform Ramps**

Access ramps to the platforms are designed with a 1:20 slope to meet the exterior paths of travel requirements under the Design of Public Spaces Standards (*Accessibility Standards for the Built Environment, AODA*). Typically, ramps will only be available at the intersection end of the platform to facilitate and control access to the signalized crosswalk and reduce interaction with LRVs. Where appropriate to meet passenger demands, ramps at opposite ends may also be provided.

### **Guideway Separation**

The centre guideway where the LRT is located is separated from regular traffic lanes by a mountable curb. The curb (design details to be determined) is intended to restrict regular traffic access to the guideway, while permitting emergency vehicle access to cross the tracks or use the guideway in emergencies.

### **Traffic Lane Width**

The centre-running design has a single traffic lane in each direction on either side of the guideway. This single lane is 4.0m wide to permit traffic to make right turns into and out of side streets without encroaching on the guideway. Where necessary, lanes may be reduced to 3.5m, with a minimum of 3.3m if multiple lanes are present.

### **Sidewalk Width**

Sidewalk widths are 2.5m with a minimum 1.5m at obstruction points. To comply with AODA requirements, minimum 1.5m clearances must be maintained at all times, and are permissible only at locations of obstructions and not for significant distances. These minimums will also apply to platform clearances when placing benches, signs, shelters, poles, ticket vending machines and any other platform features.

### **Light Rail Vehicle Type**

Based on the use of modern low floor LRVs approximately 30m long and 2.65m wide, capable of operating in both directions singly or coupled with multiple passenger doorways on both sides.

### **Powering the LRVs**

Overhead lines will be fed from a number of traction power substations (TPSS) along the route. These will take power from the grid and transform it to the power used by the LRVs. A power study is to be carried out to confirm the actual requirement for TPSS locations and rating, to enable the specific site requirements to be determined.

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### **Designing for Different Road Vehicles Types**

Intersections are designed to accommodate the variety of vehicles expected on the streets along the LRT routes. This includes:

- Large tractor and semi-trailer - at truck route intersections;
- Standard bus/truck - at U-turns;
- Buses (all types) - for HSR bus routes; and,
- Standard delivery trucks – at all intersections.

### **Property Impacts**

Where possible, the design has been amended to reduce property impacts, while maintaining the integrity of the ‘rapid, reliable and safe’ design, with the following measures, in priority order:

- alignment adjustments;
- platform configuration changes;
- reduced lane width, if multiple lanes;
- reduced sidewalk width, but not below AODA minimum requirements;
- reduced lane width, if single lane; and,
- reduced platform width.

### **Operations, Maintenance and Storage Facility (OMSF)**

The 2011 EPR did not include an OMSF location; therefore, after review and evaluation of a number of possible sites (those considered previously and new locations), a preferred location was identified in the vicinity of Chatham Street and Frid Street, east of Longwood Road. LRV access to the site will be via shared running on Longwood Road and Frid Street, from a junction at Main Street West. Functional requirements for the site include:

- Development of connecting tracks from the LRT mainline to the storage yard tracks;
- Maintenance buildings;
- Daily service area;
- Maintenance-of-way facilities, traction power substation, and repair shop/facility building. These facilities could be implemented either as stand-alone facilities or integrated in the maintenance building;
- Stabling area;
- Administration facilities and parking;
- Accommodation for up to 40 LRVs;
- Traction power substation; and,
- Stormwater management facility.

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### **Frid Street Extension**

To accommodate the OMSF site development, it is proposed that the alignment of the Frid Street extension be shifted to the northern boundary of the OMSF property, to create a more contiguous area for the OMSF. The revised alignment, impacts and recommendations are identified in Sections 2, 4 and 6 of Appendix "A" to Report PED17056.

### **CP Rail Crossing**

To ensure the integrity of the LRV operation with minimal delays, a grade separation of the CP rail spur on King Street East, east of Gage Street is proposed. This underpass will allow the LRVs to pass under the CP rail spur without delay. Road traffic and pedestrian crossings will remain at grade.

A number of options were considered to minimize utility and property impacts, including alignments within or outside the road allowance, and with LRVs over or under the rail crossing. The preferred alignment and underpass design is identified in Section 2 of Appendix "A" to Report PED17056.

### **McMaster Terminus**

The western end terminus of the LRT at McMaster has been re-configured to provide a stop on Main Street West integrated into the McMaster side of the road. This change to the terminus at McMaster will:

- Increase the distance between the terminal platform and the Canadian Centre for Electron Microscopy (CCEM) facility to reduce Electromagnetic Field (EMF) impacts on the facility;
- Enable the design and construction of an expanded bus terminal to accommodate both GO transit buses as well as HSR busses;
- Facilitate a possible future westerly extension of the LRT; and,
- Better integrate with McMaster University long-term plans.

### **Queenston Terminus**

With the change in the proposed terminus from Eastgate Square, the development of a new terminus and bus facility at the Queenston Traffic Circle was required. Further details are contained within Section 2 of Appendix "A" to Report PED17056.

### **High-Order Pedestrian Connection to Hamilton GO Centre**

Concept designs for the High-Order Pedestrian Connection have been developed, connecting the Hamilton GO Centre on Hunter Street to the B-Line. The connection will use Hughson Street from the Hamilton GO Centre to King Street East and Gore Park. Hughson Street is closed at King Street (south) except for service vehicles, which will be permitted to exit via the south leg of King Street to James Street South. Further details including the concept plan regarding this pedestrian connection are contained within Section 2 of Appendix "A" to Report PED17056.

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### **LRT Operations**

For the TPAP-approved project, the LRT operations and the complementary changes to bus transit operations were set out in the Integrated Systems Operations Plan (ITSOP). The LRT operations were updated to reflect the changes to the LRT route, including:

- The new eastern terminus of the B-Line located at Queenston Traffic Circle;
- The new centre running alignment; and,
- The proposed OMSF location.

The B-Line service is designed to operate at 6-minute headways, providing a capacity of 1,300 on-board passengers at the peak point in the peak direction during the peak hour. For coupled LRV units, this capacity increases to 2,600 passengers. During off-peak hours, headways may be longer in accordance with demand.

### **Changes to Bus Transit Services**

Proposed changes to accommodate LRT are generally consistent with the original approved plan. Amended bus routes and services were developed by the City of Hamilton to complement the LRT service. These include:

- Withdrawing bus services replaced by LRT on the B-Line;
- Changes to bus routings arising from the changes to road layouts;
- Use of the new bus terminals at McMaster University and Queenston; and,
- Increased service levels to reflect growth over time.

Details are included in subsequent sections of Section 2 of Appendix “A” to Report PED17056.

### **Traffic Circulation**

There are two principal changes to traffic circulation along the route:

- The conversion of King Street from one-way westbound to two-way traffic over most of the length between Dundurn Street and The Delta (noting that some sections remain one-way westbound or become one-way eastbound); and,
- The prohibition of left turns at many of the side street intersections along the route; these becoming right-in/right-out only.

The removal of left turns and introduction of right turn only intersections are mitigated by the provision of left turn and U-turn lanes at the main road intersections where all movements are permitted.

### **Traffic Modeling**

Extensive traffic modeling has been completed and was used to determine the anticipated impacts on the traffic network up to 2031 with or without LRT. Generally, traffic volumes are expected to increase throughout the network related to population and employment growth, resulting in intersection congestion at various points in the network.

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A variety of measures were introduced to the network to achieve a functional 2031 Business As Usual (BAU) network. Generally, there are two principal impacts resulting from introducing the LRT alignment as proposed:

- The significant reduction in westbound capacity on King Street east of the 403 to the Queenston Traffic Circle would divert traffic to parallel routes, particularly Cannon and Barton, but also the Hunter / Aberdeen corridor; and,
- Turning restrictions to and from the LRT alignment funnels demand to key intersections that permit full moves or U-turns.

The principal corridors for the diversion of traffic depend on the distance to be travelled within the LRT corridor: the longer the travel distance, the further traffic will tend to divert. For example, trips from beyond the corridor to the east could divert as far north as Burlington Street, while trips from within the corridor may only divert as far as Barton Street and Cannon Street; trips within the downtown area also divert to Hunter Street and Aberdeen Avenue.

This diversion of traffic and the resulting patterns create congestion in several areas:

- Main Street West Segment
  - Maintaining three eastbound traffic lanes results in traffic volumes within the capacity of the roadway and the intersections.
- King/Dundurn
  - Considerable pressure on the route from the parallel streets back to the intersection of King Street with Dundurn Street to access Hwy 403 and King Street West. While some of the diverted traffic uses York Boulevard to and from the east, and some uses Aberdeen Avenue to and from the west, a considerable amount of traffic still seeks a path to King Street to access Hwy 403 and west Hamilton.
- Downtown and International Village
  - Intersections through the Downtown and the International Village see a reduction in the overall intersection level of service with increased congestion. Due to volume reduction on certain traffic movements some intersection level of services are improved.
- Delta Area
  - The convergence of Main Street East and King Street East at the Delta results in considerable congestion in both the BAU and LRT scenarios.
- Off-Corridor Impacts
  - Diversion of traffic from the LRT corridor causes a substantial increase in traffic along Cannon and Barton Streets, as well as York Boulevard from Queen/Cannon through Dundurn Street.

The output of the traffic model has identified the appropriate mitigation measures required on the peripheral network. The changes in road layout, traffic circulation and access routing have been assessed using accepted practice traffic modeling tools.

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In summary, these have demonstrated that the preferred scheme results in a general decline in the operational performance of the municipal road network, particularly at intersections, due to the reduction in capacity on the corridor for other motorized road users. However, alternative corridors, such as Barton Street, King Street East, Cannon Street and Wilson Street, generally have sufficient capacity to accommodate the level of re-assigned traffic. More detailed mitigation measures and changes to transportation network are identified in Section 2, 4 and 6 of Appendix “A” to Report PED17056.

### **Environmental Studies**

The previously completed environmental studies have also been updated to reflect proposed design changes and additional project details. The studies completed as part of this addendum process are as follows:

- Stage 1 Archaeological Assessment and Cultural Heritage Resource Assessment;
- Noise and Vibration Study;
- Air Quality Study; and,
- Natural Heritage Study (eg. aquatic ecosystems, vegetation and wildlife).

All of these studies are discussed in Sections 3, 4 and 6 of Appendix “A” to Report PED17056, including the findings, results and mitigation measures, which are all attached within.

## **ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN**

### **Community Engagement & Participation**

*Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.*

### **Economic Prosperity and Growth**

*Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.*

### **Healthy and Safe Communities**

*Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.*

### **Clean and Green**

*Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.*

### **Built Environment and Infrastructure**

*Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.*

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*OUR Vision: To be the best place to raise a child and age successfully.*

*OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.*

*OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.*

**APPENDICES AND SCHEDULES ATTACHED**

Appendix "A" – Hamilton Light Rail Transit (LRT) 2017 Environmental Project Report  
(EPR) Addendum

TH:PJ:cw