



Hamilton

INFORMATION REPORT

TO:	Mayor and Members General Issues Committee
COMMITTEE DATE:	May 31, 2018
SUBJECT/REPORT NO:	Hamilton Light Rail Transit (LRT) Project Update (PED18116) (City Wide)
WARD(S) AFFECTED:	City Wide
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SUBMITTED BY:	Kris Jacobson Acting Director, LRT Project Coordination Planning and Economic Development Department
SIGNATURE:	

Council Direction:

Not applicable.

Information:

The Request for Proposals (RFP) for the Hamilton Light Rail Transit (LRT) project was issued to three short-listed proponents on April 13, 2018. All three proponents are actively developing proposals according to the procurement delivery model for the project; Design, Build, Finance, Operate and Maintain (DBFOM). With the issuance of the RFP the project has officially entered the procurement phase.

This information report will provide an overall update on the project, identify new design features and alterations from the 2017 Environmental Project Report (EPR) Addendum, as well as provide some insight as to how impacts associated with construction staging, phasing and schedule will be mitigated.

Background

In December 2011, the Ontario Ministry of Environment approved an EPR for the B-Line LRT project. The project was comprised of a route extending from McMaster University to Eastgate Square running along Main Street West, King Street West, King Street East, Main Street East and Queenston Road, with a combination of side/centre running LRT.

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On May 26, 2015, the Ontario Government announced \$1 B in funding to cover 100% of the capital construction costs associated with the project with the understanding that future operations, maintenance and lifecycle rehabilitation costs will be shared between the City and the Province (i.e. Metrolinx).

Throughout 2016 and 2017, the 2011 EPR was updated to reflect changes in scope and alignment. These changes were primarily related to the Operations, Maintenance and Storage Facility (OMSF) as well as a shift in alignment to a centre running guideway for most of the corridor. Public Information Centres were held in September 2016 and January 2017 to inform and seek input from the public and affected stakeholders.

On April 26, 2017, Council approved the Hamilton B-Line LRT Environmental Project Report (EPR) Addendum. Approval from the Ministry of the Environment and Climate Change (MOECC) was subsequently received on August 2, 2017. The approved routing and stop locations are illustrated in Figure 1.1.

On April 13, 2018, Infrastructure Ontario (IO) and Metrolinx issued the RFP to three shortlisted proponents. The shortlisted teams were selected based on the evaluation criteria identified in a Request for Qualifications (RFQ) process that began in February 2017.

Figure 1.1: Hamilton LRT Project Route Map



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Project Schedule / Procurement Phase

With the issuance of the RFP on April 13, 2018, the project has officially entered the procurement phase. The three shortlisted proponents that will bid on the project were selected based on their experience, ability and financial capacity to deliver a project of this size and scope. The shortlisted proponents and their prime team members include:

- **CityLine Transit Group**

Equity Providers: ACS, Aecon, CRH, TIAA;
Constructors: Dragados, Aecon, Dufferin;
Design Team: Parsons, HDR, Amec, RDHA; and,
Operation, Maintenance and Rehabilitation Team: ACS, Aecon, CRH, Serco.

- **Ei8ht Transit**

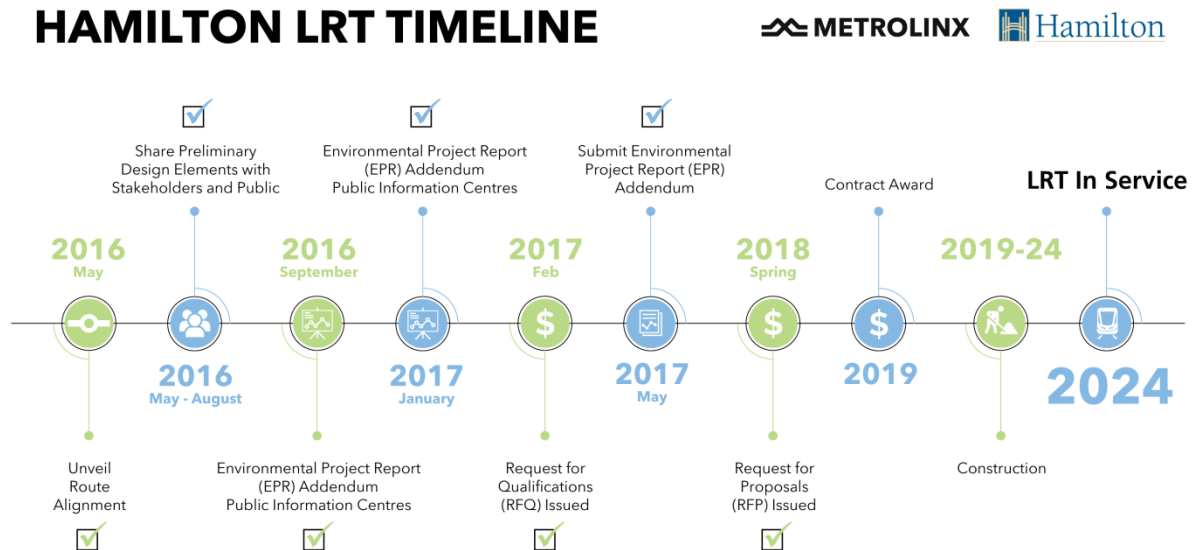
Equity Providers: EllisDon, Fluor, Bombardier;
Constructors: Fluor Canada, EllisDon Civil, Bombardier;
Design Team: WSP/MMM, Hatch, Gh3, Bombardier; and,
Operation, Maintenance and Rehabilitation Team: EllisDon Facilities Services,
Bombardier.

- **Mobilinx**

Equity Providers: Astaldi, John Laing, Hitachi-Ansaldo, Amico, Transdev;
Constructors: Astaldi, Hitachi-Ansaldo, Amico, Bot;
Design Team: IBI, Hitachi-Ansaldo, Daoust Lestage, Morrison Hershfield, Exp
Services, Arcadis; and,
Operation, Maintenance and Rehabilitation Team: Transdev, Hitachi-Ansaldo,
Astaldi.

All three proponents have been invited to respond to the RFP and have begun preparing proposals that will detail how they plan to deliver all aspects of the project. Contract award is expected in 2019 with construction starting later that year. Figure 1.2 illustrates the project schedule.

Figure 1.2: Project Schedule



Design Modifications/Alterations

Subsequent to the approval of the EPR Addendum on April 26, 2017, the project team has been working to advance and refine the proposed design. Given the complexities and confines of the corridor, various issues and concerns were identified through this process that necessitated changes to the original design. While the general layout of the original design remains largely unchanged, there are a few areas along the corridor where the alignment was adjusted in order to accommodate constraints. These modifications include the following:

Eastgate Square Stop

The stop at the Eastgate Square terminus has been shifted from the centre of Queenston Road to the north side of Queenston Road adjacent to the mall. This shift in location will reduce the need for users to cross Queenston Road to access sidewalks and improve the pedestrian connection between the LRT, Eastgate Square and the current HSR Bus Terminal located on the Eastgate Square property. The alignment of Queenston Road between Centennial Parkway and Kenora Avenue is also improved by shifting the stop to the north side of the road.

Queenston Road between Parkdale Avenue and Strathearne Avenue

Queenston Road between Parkdale Avenue and Strathearne Avenue has been reduced to one traffic lane in each direction. The original design called for two traffic lanes per direction. The intent of this change is to encourage westbound “through” traffic on Queenston Road to divert from the LRT corridor at Parkdale Avenue (an arterial road) rather than at Strathearne Avenue (a local residential road). This mitigation strategy will help reduce the potential for westbound “through traffic” on Queenston Road from using Strathearne Avenue and the local neighbourhood streets west of Parkdale Avenue.

King Street from the Delta to Gage Avenue

Through this section, the LRT guideway, including the underpass at the CP rail spur, has been shifted to the north side of King Street and will be “side running”. This shift in alignment will reduce the impacts to properties on the south side of King Street and allow for two westbound traffic lanes between the Delta and Gage Avenue. This increase in westbound traffic capacity will improve traffic operations at the Delta and provide a better traffic lane balance for westbound travel; especially during construction.

International Village

The look and feel of International Village will be similar to the current Gore Park design of a “naked street” space that removes the differentiation between the sidewalk and the roadway to create shared space for all forms of transportation (a special pedestrian only area will be demarcated with urban braille). Patterned and coloured concrete will be used for the shared space, including sidewalks, roadway and guideway in order to highlight the special character of the area. Landscape planting beds, raised planters and street trees will be incorporated into the design where possible. This shared space treatment will also be extended to include the closed sections of Mary Street, Walnut Street North and Ferguson Street North between King Street and the east/west alley on the north side of International Village.

As per the original design, King Street will operate with one eastbound traffic lane through this section (no westbound traffic flow). In order to improve pedestrian mobility and safety at the King Street/Wellington Street intersection as well as discourage “through” traffic from John Street to Wellington Street, King Street will terminate at Spring Street. Under this scenario, all eastbound traffic on King Street will be routed southbound on Spring Street to Main Street. To accommodate this movement, Spring Street will change from a one-way northbound road to a one-way southbound road. Access to Wellington Street will still be permitted for larger vehicles such as trucks and maintenance vehicles however such access will be limited and controlled.

Hughson Street from King Street to Main Street

Similar to International Village, Hughson Street from King Street to Main Street will be similar to the current Gore Park design of a “naked street” space. Patterned and coloured concrete will be used for the shared space which will appear and flow as a natural extension of Gore Park. Enhanced wayfinding signs will also be placed along Hughson Street between King Street and Hunter Street to create a formalized pedestrian connection between the LRT and the Hamilton GO Centre.

King Street from John Street to Bay Street

Through this section, the LRT guideway has been shifted to the south side of King Street and will be “side running” in order to accommodate two westbound traffic lanes. Under the original design, only one westbound traffic lane was proposed. The addition of a second traffic lane through this section will improve mobility and accessibility through the corridor; especially for existing transit routes accessing the MacNab Transit Terminal. The addition of the second traffic lane will also improve connections between the major commercial, recreational, employment, residential and institutional land use anchors located in the Downtown.

King Street West from Strathcona Avenue to Dundurn Street

Through this section, the LRT guideway has been shifted to the south side of King Street and will be “side running”. This shift in alignment mitigates property impacts and allows for greater westbound traffic capacity at the intersection of King Street and Dundurn Street.

Longwood Road Bridge

The Longwood Road Bridge will be reconstructed as part of this project in order to support the LRT run-in tracks to the OMSF. The new bridge will be widened to accommodate sidewalks on both sides of the road and a bi-directional cycletrack on the east side of the road that will connect to the existing cycletrack/multi-use path south of Frid Street. The current bridge structure only has one sidewalk on the east side of the road.

Other Elements

In addition to specific design modifications mentioned above, several other design elements will be incorporated throughout the length of the corridor. These include:

- Urban Braille sidewalks;

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- Enhanced pedestrian crosswalks at all stops and throughout the downtown. These crosswalks will be similar to the standard currently used in Gore Park (concrete crosswalk with urban braille banding);
- Victorian themed pedestrian scale street lighting (poles and bollards) from West Avenue to Queen Street;
- All stops will be designed using a combination of steel, glass and wood canopy structures and will generally provide weather protection. All stops will be fully accessible (level boarding) and integrated into the adjacent pedestrian system (crosswalks and sidewalks); and,
- The Overhead Catenary System (OCS) poles will generally run down the centre of the guideway (middle of the road) to minimize the number of span wires crossing the road as well as interference/obstructions on adjacent sidewalks. The OCS poles will be black.

Construction Staging/Phasing Constraints

Unlike conventional construction projects where the general sequencing of work is set by the City prior to tender, the DBFOM procurement model requires the proponents to develop a staging and phasing plan based on the proposed scope of work and various operating and sequencing constraints. Rather than explicitly stating or directing how the project will be constructed, the specifications contained within the RFP provide the proponents with the flexibility to develop a plan that maximizes work efficiency but also respects the performance and operating boundaries set by the City. The ultimate goal for all parties is to find the right balance between maximizing efficiency (time to construct) while minimizing disruption (impact on residents and stakeholders).

The performance rules and operating constraints developed for this project focus on maximizing access to property (i.e. keeping roads and sidewalks accessible and functional during construction) and minimizing the length of potential road closures in both time and space. The following list outlines a number of the rules and constraints that all proponents must comply with when developing their construction staging and phasing plan (as per the RFP):

- Emergency, pedestrian and vehicular access to all road sections and properties must be maintained at all times;
- As specified by the City, the minimum number of traffic lanes through a work zone must be available and maintained at all times (the number of required lanes varies depending upon the road section);
- Where the minimum number of required traffic lanes can't be maintained due to construction constraints, the road will be considered "closed";
- Where a road is considered "closed", emergency, pedestrian and vehicular access must be maintained however "through" traffic may be limited or restricted;

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- Road closures have a maximum duration of 12 months and will only be permitted once during construction (per road section);
- Capacity restrictions or closures of north/south arterial roads crossing the work zone will be limited in both time (maximum of two weeks) and frequency (twice per 12 month period); and,
- Adjacent or interrelated north/south arterial roads shall not be closed at the same time.

It is important to note that the above referenced rules and constraints represent a generalized consolidation of those contained within the RFP document and is intended to provide an idea of how construction staging and phasing will be controlled. At a high level, the goals are to ensure that:

- Access to homes and businesses is provided at all times;
- Construction is focussed and continuous through an area; and,
- The surrounding road system remains functional to accommodate diversion.

Construction Delay Mitigation & Warranties

The Project Agreement (PA) between Metrolinx and the successful proponent will contain a number of protections to control and mitigate construction delay, correct performance and quality issues and ensure that all infrastructure is constructed in accordance with applicable standards and regulations. With respect to municipal infrastructure, the City will be granted full inspection rights and will review and approve all infrastructure prior to being put in service. All new City infrastructure will be protected by a two year warranty which is standard on all City road construction projects.

With respect to construction delays, the successful proponent is required to identify and commit to a “Substantial Completion” date as part of their proposal submission. The successful proponent will also be required to submit progress reports and construction schedules on a regular basis and must identify and remedy potential delays. Failure to correct schedule deficiencies in a timely manner will result in monetary deductions that will escalate over time. The City, through Metrolinx, can also claim for actual/verifiable damages incurred as a result of any delay or action by the successful proponent.

While the PA will contain a number of controls and deductions to mitigate potential construction delays, the financing component of the DBFOM procurement model creates accountability within the proponent’s consortium to achieve the desired outcomes. Unlike conventional construction projects where payments are made on a monthly basis for actual work performed, under the DBFOM procurement model, most of the money (approximately 50% of total construction cost) is not released until the project achieves “Substantial Completion”. As the proponent must secure 100% of the capital value of the project prior to the start of construction, the cost of carrying this

money (interest payments) over the duration of the project incentivizes the proponent to complete the project on-time. Delays of even a few months can have a significant impact on the proponent's finances.

Furthermore, as the proponent is also responsible for operations and maintenance (OM), any delays during construction will ultimately delay the start of the OM period and the monthly payments associated with this work. As OM will be programmed to start at a specific point in time (after Substantial Completion), any delays in timing will most likely result in the proponent having to carry additional costs (beyond financing) associated with idle OM programs (e.g. labour, material, equipment, energy, insurance etc.). Again, depending on the length and scope of the delay, the financial impact could be significant. As such, unlike traditional procurement models, the pressure to complete the project "on time" is generated by the proponent itself in addition to the controls and deductions included in the PA. Under the DBFOM procurement model, the proponent is incentivized to complete the project in a timely manner or risk the financial impacts associated with delays.

Property Acquisition

Over the past 12 months, the Property Acquisition Unit (PAU) has been actively purchasing properties within the corridor. Although the final number of property requirements continues to fluctuate based on design refinements, approximately 300 properties will require partial purchases (a few metres or less). While most property impacts will be small, approximately 90 full property purchases are required. These full property purchases are typically required around stops where the road must be widened to accommodate the stop platform and vehicle turning lanes.

To this point, the PAU has been focussed on full property purchases and has been negotiating with property owners on a "willing seller, willing buyer" basis. To date, 22 properties have been purchased while negotiations are active with several others. The acquisition of smaller parcels will begin this year with the goal of having all property secured by the start of construction. Although reasonable efforts will be made to negotiate voluntary purchases with all affected property owners, expropriation will most likely be required. If necessary, this process will begin at some point over the next 12 months.

Community Engagement

The LRT team has engaged and consulted with various organizations, external agencies, stakeholders and the general public. Since May 2016, individual meetings have been held with over 100 stakeholder and community groups, such as Rotary Clubs, Business Improvement Areas (BIAs), Chambers of Commerce, and neighbourhood associations. The LRT team has participated in over 60 community events such as the Dundas Cactus Festival, Winona Peach Festival, Supercrawl, Ancaster Fair, and Hamilton Public Library March Break events, engaging with over 9,000 attendees, to date.

On April 30, 2018, the Hamilton LRT Community Connectors began their fifth canvass since the program launched in 2016, visiting over 1,400 properties along the LRT route. The Community Connectors, made up of a diverse group of individuals from across the City, are committed to informing, educating and engaging residents, property and business owners on our journey to implement LRT. This program is a “made in Hamilton” strategy that has become a model for community and property outreach and has been adopted as a best practice for other major Metrolinx infrastructure projects like the Hurontario LRT project. Appendix “A” to Report PED18116 illustrates the broad reach and effectiveness of the program.

Next Steps (12 Month Look Ahead)

Over the next 12 months, City staff will be facilitating the procurement process with Metrolinx by responding to inquiries (Requests for Information) and meeting with the proponents at regular intervals to assist in the development of their proposal submissions. Subsequent to a successful bid submission and evaluation process, contract award is expected in 2019. Construction will start later that year.

Appendices and Schedules Attached

Appendix “A” – Community Connector Canvass Data Overview

TH:KJ:clt

HAMILTON LIGHT RAIL TRANSIT



COMMUNITY CONNECTOR CANVASS DATA OVERVIEW

The City of Hamilton launched the LRT "Community Connector" Program, in partnership with Metrolinx, in May 2016. The Community Connector team, made up of a diverse group individuals from across our city, is committed to visiting every affected property (nearly 1,400) along the corridor twice per year for the duration of the project. Their role is to inform, educate and engage property owners and also gather feedback that will help inform the LRT plans.



1379 PROPERTIES ALONG THE LRT CORRIDOR



963 #commercial
416 #residential



**NEXT CANVASS
> SPRING 2018**