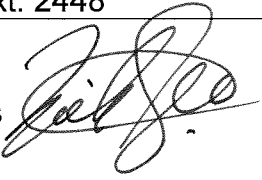
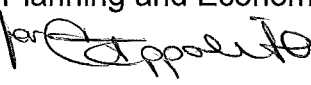




Hamilton

# INFORMATION REPORT

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	May 31, 2018
<b>SUBJECT/REPORT NO:</b>	Operation and Maintenance of the Hamilton Light Rail Transit (LRT) System (PED18117/FCS18058) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Bryan Boodhoo (905) 546-2424 Ext. 7164 Carla Ippolito (905) 546-2424 Ext. 2448
<b>SUBMITTED BY:</b>	Mike Zegarac General Manager Finance and Corporate Services 
<b>SIGNATURE:</b>	Kris Jacobson Acting Director, LRT Project Coordination Planning and Economic Development Department 

### Council Direction:

Council requested an update on the future estimated operation and maintenance (OM) costs associated with the Hamilton Light Rail Transit (LRT) project.

### Information:

On February 25, 2013, the *Rapid Ready Expanding Mobility Choices in Hamilton* report (PW13014) (Rapid Ready) was submitted to Council. Rapid Ready estimated that LRT would have an incremental cost impact of between \$8.7 M and \$12.0 M per year for non-transit municipal services, such as snow clearing, road maintenance, waste collection, and a net levy impact of between \$2.9 M and \$3.5 M for transit.

### Executive Summary

This report updates high-level cost estimates from Rapid Ready for the potential OM impact of LRT, as summarized in the following table:

**SUBJECT: Operation and Maintenance of the Hamilton Light Rail Transit (LRT) System (PED18117/FCS18058) (City Wide) – Page 2 of 7**

Cost Category	Estimated Net Levy Impact	
	Low Estimate 2017 (\$000's)	High Estimate 2017 (\$000's)
Municipal Services (excluding transit)	\$2,000	\$9,800*
Transit (with LRT operational)*	\$3,200	\$3,900
<b>TOTALS</b>	<b>\$5,200</b>	<b>\$13,700</b>
* Adjusted 2% per annum from Rapid Ready, 2013 to 2017, for inflation.		

The current estimated 2017 OM levy impact for municipal services, not including transit, ranges from approximately \$2 M to \$9.8 M with an estimated FTE count of 11.10. The current estimated levy impact for transit is in the range of \$3.2 M to \$3.9 M. The transit levy estimate updated the figures presented in Rapid Ready using a 2% per annum inflationary factor.

More precise cost estimates will be available after the award of the LRT contract. At that time, staff will have better details of the design of the LRT, construction phasing and finalized costs from the successful proponent relating to OM costs of the LRT. It is also anticipated that OM agreement between the City and Metrolinx will be finalized by that time.

1. Results

OM Costs are split into two categories: 1) the costs to municipal services excluding transit (Municipal Services) and 2) costs for transit, whether it is buses or LRT.

(a) Municipal Services

For Municipal Services, the updated estimated levy impact is \$2.0 M, which is \$7.8M lower than the estimate provided in Rapid Ready (in 2017 \$s). It is also estimated that an additional 11.10 full time employees (FTEs) would be required for these municipal services, which is similar to what was estimated in Rapid Ready. Estimates were lower than those presented in Rapid Ready for the following reasons:

1. Design Optimization: The design proposal, in the approved 2017 Environmental Project Report (EPR) Addendum, has fewer side running sections and fewer dead-end streets and turning restrictions, which allow for better vehicle circulation and turning movements. Additionally many of the

**SUBJECT: Operation and Maintenance of the Hamilton Light Rail Transit (LRT) System (PED18117/FCS18058) (City Wide) – Page 3 of 7**

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concerns previously expressed by City operating departments have been addressed through design modifications. These design modifications include, for example, ensuring that the guideway is accessible to emergency service vehicles through the use of mountable curbs and designated access and crossover points;

2. **Scope Changes:** The current design proposal is more advanced than previous versions. Accordingly, staff better understand potential operating concerns and challenges. Earlier estimates provided in 2011 and 2013 assumed enhanced service levels and an expanded area extending at least one block north and south of the corridor, based on previous design proposals; and,
3. **Level of Service:** Current estimates assume City crews are only responsible for the OM outside of the LRT guideway, and that the successful proponent will be responsible for OM within the LRT guideway. The earlier estimates provided in 2011 and 2013 assumed City crews would be responsible for all OM services both inside and outside the LRT guideway.

For the current costing exercise, the following municipal services (excluding transit) were reviewed:

- Roads: Winter and Summer Maintenance;
- Waste Management: garbage, blue box, organics collection;
- Forestry and Horticulture: Tree maintenance, traffic islands and hanging baskets;
- Traffic: Signal Maintenance, Sign install & maintenance, pavement markings;
- Street Lighting: maintenance and operation within City-owned street;
- Parks and Cemeteries;
- Parking Enforcement and School Safety ;
- Parking Operations: parking meters and revenue generation;
- Licensing and By-Law Enforcement; and,
- Water and Wastewater Operations.

For the current costing project, there were significant levy impacts associated with the maintenance of roads, both summer and winter, as well as the loss of parking revenues due to the removal of parking meters along the corridor. These cost drivers were consistent with those presented in 2011 and 2013. For winter maintenance, the cost impact is due to the projected need for increased snow removal throughout the corridor, as opposed to snow clearing with on-road storage. For summer maintenance, it is projected that weekly service would be performed daily as well as during off-peak hours and at night to minimize traffic disruption and ensure the corridor is free of debris.

**SUBJECT: Operation and Maintenance of the Hamilton Light Rail Transit (LRT) System (PED18117/FCS18058) (City Wide) – Page 4 of 7**

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Details of each municipal service, assumptions and estimated levy impacts are set out in Appendix "A" to Report PED18117/FCS18058.

(b) Transit

Since the Request for Proposal for the LRT has been released, there is a limited amount of analysis on OM that can be done without prejudicing the Province of Ontario's procurement process.

Accordingly, the cost estimates provided in this report simply update the findings previously presented in Rapid Ready through the use of a 2% per annum inflationary factor. Using this method, the estimated 2017 OM net levy impact for transit ranges from \$3.2 M to \$3.9 M.

2. Process

(a) Municipal Services

An OM Steering Committee (OMSC) and an OM Working Group (OMWG) were convened in Fall 2017 to re-examine the potential OM impacts of LRT on Municipal Services. The OMSC consisted of directors representing each of the Municipal Services, as well as Labour Relations and Finance while the OMWG consisted of managers, business affairs associates and other representatives from those areas. This costing project was divided into three phases:

- Phase 1: Estimated current 2017 budget along the corridor: Operating Divisions generally do not track costs on a street-by-street basis and, as such, do not have separate budgets dedicated to the LRT corridor. As an initial step, staff reviewed their current operating practices and budgets and estimated a baseline cost using the 2017 Council Approved Budget for the services they provide within the LRT corridor. This budget breakdown exercise was different for all working groups due to the unique nature of each service delivery. Methodologies, however, were reviewed by Finance & Administration staff and the LRT Project Office to ensure reasonableness and consistency;
- Phase 2: Estimates 2017 budget with LRT in operation: The OMWG members were asked to determine what their 2017 Budget estimate would have been (higher, lower or the same) assuming the LRT was fully constructed and operational. To assist with this exercise, the LRT Project Team met one-on-one with each Working Group to describe the current design concept and help develop future operating scenarios and strategies; and,

- Phase 3: Estimated costs during construction period: The OMSC and OMWG will estimate the impact of LRT construction on Municipal Services when the details of construction phasing become available through the Request for Proposal (RFP) process.

(b) Transit

Since the RFP for the LRT has been released, there is a limited amount of analysis on OM that can be done without prejudicing the Province of Ontario's procurement process. The proponents are working on OM costing as part of their bids, which will inform an OM cost-sharing agreement between Metrolinx and the City of Hamilton. A more accurate estimate can be provided once these two processes have been completed.

Additionally, HSR staff is currently undertaking a systematic review of the City's transit network, which will result in a new Transit Master Plan (TMP). The TMP will guide how transit services will be provided in the future. The TMP will address routing, scheduling, level of service and integration throughout the City and with LRT and other modes of transportation. More accurate OM estimates for transit outside the LRT corridor will be available once the TMP is established.

3. Background Reports

On October 13, 2011, the *Conventional, Rapid and Inter-Regional Transit* report (CM11016/PW11064/PED11154/FCS11072) (Conventional, Rapid and Inter-Regional Transit Report) was presented to General Issues Committee (GIC). The OM estimated costs presented at that time indicated:

Cost Category	Estimated Levy Impact	
	Low Estimate 2011 (\$000's)	High Estimate 2011 (\$000's)
Municipal Services (excluding transit)	\$8,700	\$12,020
B-Line LRT Operating Cost Estimate	\$7,800	\$13,500
<b>TOTALS</b>	<b>\$16,500</b>	<b>\$25,520</b>

**SUBJECT: Operation and Maintenance of the Hamilton Light Rail Transit (LRT) System (PED18117/FCS18058) (City Wide) – Page 6 of 7**

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The assumptions used to develop these cost estimates included the following:

- Responsibility for both operations and maintenance of the LRT system, including all services within the LRT guideway would be borne by the City;
- A significant portion of the system would be side running between Dundurn Street and the Queenston Traffic Circle, complicating access to and from side streets;
- Enhanced winter control activities, including snow removal along the corridor, neighborhood streets and alleyways and a reduction of on-street snow storage capacity in a larger geographical area;
- Enhanced parking enforcement services along the corridor; and,
- 22 LRT vehicles would be used (currently projected at 18 at commencement of service, but subject to the procurement process and later increases based on ridership demand).

On February 25, 2013, the *Rapid Ready- Expanding Mobility Choices in Hamilton* Report (PW13014) was submitted to GIC. The OM cost estimates presented at that time indicated the following:

Cost Category	Estimated Net Levy Impact	
	Low Estimate (\$000's)	High Estimate (\$000's)
Municipal Services (excluding transit)	\$8,700	\$12,020
Transit (with LRT operational + Revenue)*	\$2,900	\$3,500
<b>TOTALS</b>	<b>\$11,600</b>	<b>\$15,520</b>
* OM Costs for Transit are net, after deducting for projected revenue.		

Notably, unlike the previous Conventional, Rapid and Inter-Regional Transit Report which included gross OM costs for B-Line LRT specifically, Rapid Ready included net OM costs for transit. The gross costs for B-Line LRT in Rapid Ready range from approximately \$11.2 M to \$14. 5M, and were included in the Transit net OM cost calculation.

**SUBJECT: Operation and Maintenance of the Hamilton Light Rail Transit (LRT) System (PED18117/FCS18058) (City Wide) – Page 7 of 7**

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The assumptions used to develop the estimates in Rapid Ready included the following:

- The Municipal Services cost estimates were carried forward from the 2011 report;
- The LRT design and routing was consistent with the 2011 report;
- The low estimate assumed 16 LRT vehicles operating at 6 minute headways, no change in ridership and a 33% service hour reduction on the King and Delaware routes due to redundancy with LRT; and,
- The high estimate assumed 22 LRT vehicles operating at 4 minute headways, an 8% system wide increase in ridership and a 33% service hour reduction on the King and Delaware routes due to redundancy with LRT.

Next Steps

Staff will report back after the next key LRT project milestones are met, the award of the LRT contract, when proposed design, contract phasing and OM costs on the LRT guideway are known.

Staff will also report back with updates on the principles of an OM agreement with Metrolinx.

**Appendices and Schedules Attached**

Appendix "A" – LRT OM Levy Impact Estimate – Municipal Services (excluding Transit)

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## LRT O&M COSTING EXERCISE - MUNICIPAL SERVICES (Excluding Transit)

PHASE 2				
Municipal Service	ASSUMPTIONS/JUSTIFICATION	2017 B-LINE CORRIDOR LEVY IMPACTS	2017 CORPORATE LEVY IMPACTS	FTE IMPACTS
<b>Forestry:</b> Storm Damage Response, Tree Maintenance, Tree Planting	Assumption: Currently we maintain 9,110 annual Diameter at Breast Height cms along the LRT corridor. The assumption is that there will be a 90% decrease in trees along the corridor once LRT is implemented. Although there is a proposed reduction along the corridor, the Corporate levy impact to the City will not change. Through existing funding and the "loss of tree canopy" component of the permit that will be issued under By-law 15-125, the tree maintenance costs are effectively just moved out of the LRT corridor but still a cost to the City.	-\$89,630.00	\$0.00	0.00
<b>Horticulture:</b> Traffic Island Beautification & Hanging Baskets	Assumption: Currently we maintain 1,417m2 of Traffic Islands & 132 Hanging Baskets along the corridor. The assumption is that there will be a 95% decrease in traffic island beautification along the corridor and a 100% decrease in hanging baskets along the corridor with LRT implementation. Even though there is a reduction in costs along the LRT corridor, this will be offset by an increase in traffic island inventory & hanging baskets in other areas of the ward/city.	-\$352,720.00	\$0.00	0.00
<b>Parks &amp; Cemeteries:</b> Christmas Displays	Assumption: Christmas displays will be done elsewhere OR labour hours will be reallocated as necessary to Winter Park Activities eg. trash collection (budget is primarily labour).	-\$102,210.00	\$0.00	0.00
<b>Streetlighting:</b> Maintenance & operations of ROW streetlighting	Assumption: The majority of street lighting infrastructure is planned to be attached to the LRT Overhead Catenary System (OCS) poles and the Project Specific Output Specification (PSOS) documentation places the ownership and operation of this infrastructure on ProjectCo/Metrolinx and not the City. Based on this the maintenance responsibilities for street lighting in the LRT corridor will be considerably reduced. Assumed 100 poles remain as City assets along the LRT corridor. This also assumes electricity expenses will be paid for by ProjectCo. Reductions are as follows: <b>Labour (\$12,400) + Contractual (\$67,800) + Electricity (\$197,300)</b>	-\$277,500.00	-\$265,000.00	0.00
<b>Traffic:</b> Traffic Signal Maintenance, Sign Installation & Maintenance, Pavement Markings, Admin	Assumption: Traffic Signal Maintenance: Currently have 52 Full Signals and 8 Ped Signals along the Corridor. With LRT, Signal Mix has been changed. Reduced Full Signals by 10 and Increased Ped Signals by 12. City Levy impact = 0 due to labour hours being reallocated.	-\$34,000.00	\$0.00	0.00
	Assumption: Traffic Sign Installation & Maintenance : No change	\$0.00	\$0.00	0.00
	Assumption : Pavement Markings : The use of "plastics vs paint" will change, thereby shifting labour hours from City to contractual work. The number of ladder crosswalks is expected to increase as is other plastic work. Lane line "paint" work is expected to decrease.	\$25,330.00	\$43,920.00	0.00



## LRT O&M COSTING EXERCISE - MUNICIPAL SERVICES (Excluding Transit)

PHASE 2				
Municipal Service	ASSUMPTIONS/JUSTIFICATION	2017 B-LINE CORRIDOR LEVY IMPACTS	2017 CORPORATE LEVY IMPACTS	FTE IMPACTS
<b>Roads:</b> Winter - salting, plowing, anti-icing, snow removal, hired equipment Summer - pothole repairs, drainage, sidewalk repair	Assumption Winter: Due to lane restrictions, snow removal instead of ploughing becomes essential along the corridor. Therefore, 2 dedicated crews required for afterhours (ie. 8 Operators and 2 Lead Hands with 2 - 4X4 crew cabs with plow&hopper). Summer: Nightly sweeping along the corridor instead of weekly to ensure LRT corridor is kept free from debris. Maintenance work would be conducted during LRT shutdown hours, to avoid traffic congestion during the days. Alternative is to continue to provide road maintenance during the day regardless of traffic implications. (4 operators + 1 Lead Hand, Sweeper) <b>Labour increase: \$ 547,030 + Equipment \$93,210</b>	\$640,250.00	\$640,250.00	7.10
<b>Waste Mgmt:</b> Curbside garbage collection, organics L&Y, blue box, automated blue carts , public space litter containers, power sweeping/washing in the downtown core	Assumption: Addition of 2 - 1 tonne Stake Trucks with tipper required for International Village and small space accessibility for all streams of pickup (ie. garbage, organics, leaf & yard, Recycling Blue Box cart, Call-in Bulk, Commercial Garbage, Public Space containers and Illegal Dumping )	\$30,000.00	\$60,000.00	0.00
<b>Licensing &amp; By-law:</b> Annual renewal fees for Licensing	Assumption: In regards to demolition of properties and its impact on Licensing Fees, the information was based on the SDG Environmental Impact Report. There is no report of any demolition from Queenston Traffic Circle to Eastgate Square. Based on this information, 13 business licenses would be lost due to demolition resulting in approx. \$ 20,250 in loss revenue. This does not include the loss of license fees due to construction at this time.	\$20,250.00	\$20,250.00	0.00
<b>Parking Enforcement &amp; School Safety:</b>	Assumption: Parking Enforcement - no change: with the implementation of LRT, there will still be parking regulations along the corridor that will need to be enforced via both internal and contract staff. There is a risk of more enforcement needed if the priority of corridor parking regulations take precedence or additional regulations are implemented (This is a change in service delivery and will therefore require Council approval).  School Crossing Guard - no change: With the implementation of LRT, the crossing points are still required due to existing school walking patters and existing Schools. There are yearly reviews of existing crossing points with potential changes in walking patterns. These points may be altered or traffic design may also alter crossing locations.	\$0.00	\$0.00	0.00
<b>Parking Operations:</b>	Assumption: Based on 522 Parking Meters being removed. This includes the removal of meters along the sidestreets as well.	\$615,000.00	\$615,000.00	0.00
<b>Rapid Transit Office &amp; Staff:</b>	Assumption: City Staff required to manage the LRT operating contract.	\$0.00	\$500,000.00	4.00
		<b>\$474,770.00</b>	<b>\$1,614,420.00</b>	<b>11.10</b>
<b>25% CONTINGENCY</b>			<u>\$403,600</u>	
			<u><b>\$2,018,020.00</b></u>	