



Hamilton

# INFORMATION REPORT

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	April 19, 2017
<b>SUBJECT/REPORT NO:</b>	Impact on City Infrastructure of the Light Rail Transit (LRT) Project (PW17036/PED17087) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
<b>PREPARED BY:</b>	Gary Moore (905) 546-2424, Extension 2382  Paul Johnson (905) 546-2424, Extension 6396
<b>SUBMITTED BY:</b>	Gary Moore, P.Eng. Director, Engineering Services Public Works  Paul Johnson Director, LRT Project Coordination Planning and Economic Development
<b>SIGNATURE:</b>	

**Council Direction:**

Not applicable.

**Information:**

At the March 28, 2017 Special General Issues Committee (GIC) meeting questions were raised about the impact of the Light Rail Transit (LRT) project on City infrastructure and what upsizing of utilities may be anticipated as part of the construction along this corridor. Further questions regarding this subject were also received by the LRT Office in advance of the April 19, 2017 Special GIC meeting. This information report provides details regarding the scope of the infrastructure work associated with the LRT project, the current condition of the assets along the LRT corridor, the opportunity for cost savings related to upsizing City infrastructure and some general statements on the overall benefit to the City of this infrastructure work.

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➤ Scope of Infrastructure Work along the LRT Corridor

There are approximately 44 lane kilometres of roadway, 26 kilometres of sewer pipe and 22 kilometres of watermain within the proposed LRT Corridor. It is anticipated that almost 100% of the roadway (sidewalks, light standards, road surfaces) and pipes (water and sanitary, storm and combined sewers) would need replaced or relocated as part of final design and construction phase of the LRT project. In addition, the current LRT alignment has the “run-in” tracks for the Operations Maintenance and Storage Facility (OMSF) traveling along Longwood Road, likely necessitating the replacement of the Longwood Road Bridge.

The OMSF component of the LRT project will also include the construction of the Frid Street extension through the McMaster Innovation Park lands.

The above referenced infrastructure investments represent a value of approximately \$200M.

➤ Current State of the Infrastructure

The roadway infrastructure (roads, sidewalks, light standards) are in various stages of their lifecycle. It is difficult to put a value against what would be gained by their replacement prior to end of life, however, it can be assumed that the corridor would be resurfaced at least once over the next 20 years representing a value of over \$2.0M in road resurfacing costs. A conservative estimate would be that sidewalks represent an asset value in excess of \$2.0M and it can be expected that at least 20-25% of this value would be gained through the replacement.

The condition of the underground infrastructure is relatively good. Most of the pipes that were in poor condition have already been lined or rehabbed. If you consider that this infrastructure would have been expected to last up to 100 years, the value the City would gain from the “like for like” replacement of these pipes would be low – in the 15-20% range, of the estimated \$130M–\$160M value of these assets.

The Longwood Road Bridge is 62 years old and expected to need significant repairs or replacement within 10 years.

➤ Upsizing of Underground Infrastructure to Accommodate New Growth

To deal with existing and future storm conditions and to address new growth along the LRT corridor, the existing system would need to be upsized or enhanced with additional capacity of some form. If the City was to undertake this work on its own, it is estimated that the cost for this additional capacity on a standalone basis, that is, to do only this upsizing, would be an estimated \$150–\$180M as virtually all the existing pipes would need to be replaced in order to make room. However, since most pipes would need to be relocated to accommodate the LRT construction, the cost to upsize would only be incremental as Metrolinx would assume the “like for like” relocation costs. This incremental cost is estimated to be in the order of \$30 to \$35M.

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The existing system of pipes (both water and sewer) has been assembled over many years and is not necessarily the most optimal arrangement of pipes. Preliminary engineering reviews and discussions between City and Provincial staff have identified that there are significant portions of the system where multiple pipes could be consolidated into a single sewer or watermain system. There is a strong potential that savings realized by Metrolinx through the City's agreement to the consolidation and subsequent reduced relocation costs could offset some or all of the City's upsizing costs.

➤ Key Benefits to City Infrastructure of the LRT Project

The infrastructure benefits of the LRT project for the City vary depending on the type of infrastructure identified. A summary of the benefits are as follows:

- The Longwood Road Bridge replacement that is likely to be a part of the LRT project would be a significant benefit to the City as this bridge is 62 years old and requires significant work over the next 10 years.
- The location of OMSF provides some significant benefits for the City including:
  - The Frid Street extension (from Longwood Road to Chatham Street) which has been planned since 2006 through the Kirkendall Traffic Management Plan. An Environmental Assessment was completed in 2008 but the City was unable to proceed due to costs/land acquisition;
  - As a result of property acquisition by Metrolinx there will be the opportunity to move forward on a Combined Sewer Overflow (CSO) tank connection needed underground between the Royal Stroud CSO and the Main-King Street CSO to manage stormwater flow; and,
  - New developments will now be possible in the area.
- For surface infrastructure the benefits to the City vary along the corridor. At a minimum it would be anticipated that the corridor would be resurfaced at least once over the next 20 years representing a value of over \$2.0M in road resurfacing costs.
- For underground infrastructure the key benefit to the City is the opportunity to optimize the arrangement of the pipes and address upsizing along the corridor to assist the City in accommodating future growth and deal with existing and future storm conditions. If this upsizing can be funded through the LRT (through the savings on consolidation), this would increase the financial benefit.

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