



# INFORMATION REPORT

<b>TO:</b>	Mayor and Members General Issues Committee
<b>COMMITTEE DATE:</b>	January 14, 2015
<b>SUBJECT/REPORT NO:</b>	King Street Transit Only Lane Pilot Project (PW11079g) - (City Wide) (Outstanding Business List Item)
<b>WARD(S) AFFECTED:</b>	City Wide
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<b>SUBMITTED BY:</b>	Gerry Davis, CMA General Manager Public Works Department
<b>SIGNATURE:</b>	

## Council Direction:

In 2008, the City of Hamilton received twenty nine million eight hundred thousand dollars (\$29.8 million) from Metrolinx "Quick Wins", to be used for municipal capital expenditures for Transit Vehicles and Infrastructure, to support A-Line and B-Line improvements. A package of several projects was selected to build ridership along the A and B-Lines including a potential Transit Only Lane (TOL). As part of the Rapid Ready report, February 2013, a King Street TOL Pilot Project was recommended. On May 22, 2013 Council approved the establishment of the King Street TOL, to be funded from Metrolinx Quick Wins Reserve. Staff was directed to report back to the General Issues Committee at the conclusion of the one year pilot program.

The TOL became operational on October 23, 2013. The design includes utilization of one westbound travel lane for all-day dedicated transit only purposes. Beginning at Mary Street through to Bay Street, the second lane from the northerly curb is dedicated, allowing for parking, loading, bus stops and right turns in the northerly curb lane. At Bay Street, the TOL transitions to the northerly curb lane through to east of Dundurn. The project is described in more detail in Public Works Report PW11079d.

This report summarizes the pilot project results.

## Information:

### *Transit Investment and Policy Implications*

Strategic Objective 1.4 of the Corporate Strategic Plan is to "Improve the City's transportation system to support multi-modal mobility and encourage inter-regional connections". This includes the following Strategic Actions:

- (i) Complete the design and develop an implementation and financial plan for the delivery of higher-order transportation and enhanced transit service, including all-day GO Transit service and rapid transit.
- (iii) Develop an integrated, multi-modal, public transportation program, including implementation of rapid transit, conventional transit, active transportation (e.g. pedestrian, cycling) and the associated transportation demand management (TDM) plan.
- (v) Development of a strategy to enhance conventional transit service levels within the A Line and B Line corridors.

This project also aligns with a number of public transportation and built environment initiatives. Of specific note are:

- HSR Transit Operational Review (2010), which recommends that the City implement transit priority measures to reduce transit vehicle travel time, improve schedule adherence and service reliability.
- The Big Move Regional Transportation Plan, which promotes the use of transit priority measures and identifies Quick Wins as a means to introduce A and B-Line improvements.
- Improving Health By Design in The Greater Toronto-Hamilton Area - A Report of Medical Officers of Health In The GTHA, May 2014 - Indicates that, for the GTHA: "Overall, it is estimated that increases in public transit use and modest increases in active transportation would result in the prevention of three hundred and thirty eight (338) premature deaths per year, with an associated economic benefit of two point two billion dollars (\$2.2 billion)."
- Urban Hamilton Official Plan - Policy 4.4.9.1 Rapid transit may be developed in a staged manner whereby various transit priority measures may be implemented to improve the quality of transit service in terms of speed and reliability as an interim stage in the long-term development of a full rapid transit network.

The goal is a transportation network that maximizes quality of life with benefits that support a vibrant and equitable society, a complete and compact community form, a dynamic and efficient economy, and a healthy natural environment. The Transportation Master Plan 2007 (TMP) includes an approved transportation strategy which places a high emphasis on significantly improving transit services, providing options for "active transportation" in combination with road capacity optimization before looking to road expansion. Targets were set to measure modal split changes and transit ridership as per the following table.

**Table 1 - Transportation Master Plan Targets**

	<b>Existing (2001)</b>	<b>Near-Term Target (2011)</b>	<b>Long-Term Target (2021-2031)</b>	<b>Current Status (2011 TTS)</b>
Estimated daily vehicle kilometres of Travel	4.8 Million KM	4.3 Million KM	3.8 Million KM	n/a*
Share of daily trips made by single-occupant drivers	68%	58%	52%	<b>67%</b>
Share of daily trips made by using municipal transit	5%	9%	12%	<b>7%</b>
Share of daily trips made by using walking or cycling	6%	10%	15%	<b>6%</b>
Annual transit rides per capita	40	60	80-100	<b>45.1**</b>

\*The 2011 TTS has released limited data to give a current status update.

\*\*Canadian Urban Transit Assoc. Statistic

Today, transit measures sit at approximately 45 rides per capita and 7% transit modal split. This suggests the City is lagging behind significantly in meeting its goals.

As documented in Rapid Ready (PW13014), increased investment in transit is essential moving forward if the City's goals and objectives are to be met. Not investing in public transportation poses a significant risk to the City. Not achieving modal share targets will result in increased congestion and associated delays, an even greater need to invest more in roads, and failure to realize health, social and environmental benefits. For example, based on modelling done for the 2007 TMP, if current auto mode share trends continue, most of the escarpment crossings in Hamilton will be well over capacity by 2031. In addition, many downtown streets including King Street would operate at a poor level of service with volume exceeding capacity.

A modern, attractive and cost-effective public transit system includes service that people can depend on and one that gets them to their destination as quickly as possible. When transit vehicles are caught in general traffic, the attractiveness and efficiency of the service can be significantly reduced. Transit Priority Measures give transit vehicles priority over general traffic. Completely segregated transit lanes provide the highest level of service, and are reflective of the ultimate plans for rapid transit in the City.

The purpose of the King Street TOL pilot is to evaluate the success, acceptance, and function of a transit only lane, to help assess the viability of future rapid transit. A number of technical and stakeholder aspects are part of this evaluation. Details are provided in the Appendices to this report.

### *Monitoring Activities*

Transit Operations - Schedule adherence was tracked to determine if the TOL had a positive effect on transit service in the area. The data shows that the TOL had an overall positive impact on transit travel times along King Street. This is an encouraging result given that the TOL pilot is only two kilometres long. If the TOL were expanded along the Main-King-Queenston corridor these positive effects would be expected to increase, resulting in greater overall reliability. In addition, approximately thirty transit operators were surveyed to obtain feedback on the TOL operations. From the results, 93% of operators found that the TOL made transit operations easier. For more details see Appendix D.

Transit Ridership - The most recent ridership counts for the Main-King-Queenston corridor suggest that transit ridership along the corridor has grown by approximately 20% over five years (2009 to 2014), or an average of about 4% per year. Ridership in the Main-King-Queenston corridor accounts for approximately 42% of the system wide ridership. Between 2009 and 2013 transit ridership across the HSR system grew by 4% (from 20,930,770 to 21,817,842), an average of approximately 1% per year. Based on the data, the Main-King-Queenston corridor carries a significant proportion of transit ridership in the City and ridership in this corridor is growing at a faster rate than the overall system. There is evidence that, from a transit ridership perspective, greater investment in this corridor is warranted.

Traffic Analysis - An analysis of traffic impacts related to the TOL was undertaken and is included in Appendix E. To summarize, traffic along King Street has been affected by the installation of the TOL. The installation and the first 3 months had the greatest impact to the overall operations, however through assistance from Traffic Engineering and operational changes, overall improvements were able to be completed. Motorist delays still occur through the peak periods, however, during the afternoon rush hour (most congested time period), on average, it takes just over five minutes longer to drive through the corridor. Pending approval of this report, staff would evaluate potential improvements to signal operations to continue to improve the overall operations throughout the corridor.

Collision data was also collected for the pilot project (see Appendix F). Evaluation of this data revealed that collisions primarily followed the historical collision patterns for the designated segments. While some increase can be observed for 2014, this data is a small sample size and it is difficult to identify or correlate collision data specifically to the operation of the TOL.

On Street Parking - The TOL design resulted in a net gain in the number of parking spaces and included an upgrade to pay and display kiosks in the area west of Bay Street. In addition, parking west of Bay Street was relocated from the north curb lane to the south. Businesses have indicated that this relocation has had a negative impact on them. Limited data is available to determine if on-street parking usage was directly affected. Data available for the area on King Street from Caroline to Queen does suggest that parking usage is down significantly (69%) as

compared to the previous year). It is inconclusive if this is related to the installation of the new kiosks or the TOL, or a combination.

**Enforcement and Driver Adherence** - As part of the introduction of the TOL an education component was conducted during the first few weeks of operation. During the Winter of 2013 - 2014, the pavement markings for the TOL became compromised as a result of unfavourable weather conditions during the installation and post installation. This resulted in less than ideal driver adherence to the TOL. Pavement markings were reapplied and enhanced April 2014. Furthermore, additional signage was installed to improve driver awareness and adherence. The pavement markings for the TOL were applied using latex paint because it was a one year pilot project. Should the TOL remain or be expanded consideration should be given to using durable markings wherever possible. Hamilton Police Service advised verbally that their records indicate 21 violations of the TOL were issued to May 13, 2014. Generally, driver adherence to the TOL has been reasonable based on observations and bus operator input.

**Literature Review and Survey of Other Transit Agencies** - A literature review and survey of several North American transit agencies was undertaken investigating the impacts of TOLs on adjacent businesses, as detailed in Appendix E. There are many variations of TOLs in operation and measurable data on business impacts resulting from dedicated bus lanes was limited and often focused on impacts during construction. However, there is some evidence that businesses can benefit from sustainable street design improvements including TOLs.

#### *Input from Stakeholders and Public Perception*

Numerous public comments have been received during the operation of the TOL. All comments were documented and the following is a brief summary of the issues. Overall, 205 submissions were received, a summary of which is included in Appendix A.

**Cyclists** - 26 individual comments have been received asking why cyclists are not permitted to use the TOL. One submitter also included an online petition. The strategy during design was to encourage cyclists to use parallel routes. Cyclists were specifically not allowed in the TOL as the purpose is to test a fully dedicated transit lane. Furthermore, shared bus-bike lanes are not recommended where bus volumes exceed twenty buses/hour. There are over 31 HSR buses regularly using the TOL in a peak hour with potential for an additional 38 "Upper" route buses in some segments. In the design of shared bus-bike lanes it is also recommended that the lanes be wide enough for buses and cyclists to safely pass one another (i.e. four to five metre width). As the TOL varies from 3.5 to 4.2 metres in width it does not meet this condition. Accordingly, staff do not recommend shared bus-bike lanes. Completion of the downtown cycling network should continue to be reviewed and implemented through the Cycling Master Plan process. A summary of Cycling Issues is included as Appendix G.

**Impacts to Traffic and Parking** - 79 comments were submitted that traffic in the core was congested, particularly during the first few weeks of operation. An

analysis of traffic conditions is provided above. Sixteen comments were received with questions about changes to parking.

Businesses King Street West BIA - Businesses west of Bay Street have provided comments that they are opposed to the TOL, which is having an adverse impact on their businesses, particularly due to the relocation of parking to the south side of King Street, west of Bay Street. Comments and petitions from the King Street West BIA are attached as Appendix B. Fourteen comments from the general public were received in relation to this topic.

International Village BIA - Comments from the International Village BIA are attached as Appendix C. According to the submission, out of 38 businesses, nine businesses are in support of the bus lane, eight are unaffected and 21 are not in support.

Taxis - Prior to implementing the TOL, staff consulted with the two main taxi companies in the City. While the taxi companies would prefer unimpeded use of the TOL, the option to allow taxis to enter the TOL to load and unload passengers was determined to be the best compromise. Since the opening of the TOL the Ontario Taxi Workers Union has contacted the City to state that their preference is to have full use of the TOL.

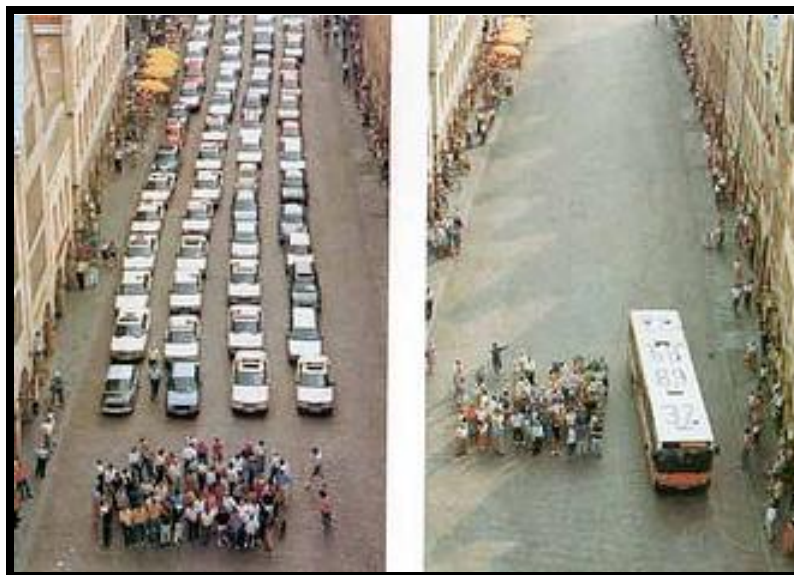
Transit Passengers - 61% of transit operators surveyed observed positive feedback from passengers (see Transit Operators Survey, included as Appendix D).

While positive feedback was received from transit passengers during the pilot project, general public acceptance of the TOL, particularly auto drivers and some business owners, has not been strong. This may be expected given the relatively low level of traffic congestion conditions in Hamilton currently. While there is growing evidence of improved Downtown vitality, including a greater focus on transit and pedestrian activity, businesses have expressed that they are still reliant upon access by private auto.

### *Analysis*

With the adoption of the Rapid Ready report, Council endorsed moving forward with an integrated, multi-modal transportation strategy including a greater emphasis on transit investment and a complete streets approach. When designing and operating street networks this strategy requires that all modes of travel are accommodated. The philosophy requires us to think about how we move and accommodate people, not vehicles. The figure below illustrates this concept by showing the road capacity required to carry the same number of people in one bus as compared to single occupancy vehicles.

**Figure 1 - Illustration of Road Capacity Required - Car Compared to Bus**



Source: *Bus vs car road capacity*, n.d. photograph, viewed 10 December 2014,  
<<http://www.planetizen.com/node/67722>>.

According to data collected during the pilot, at the King Street and Bay Street intersection, during the morning rush hour, there was a volume of 1,190 vehicles recorded in three general purpose lanes. By comparison, there were approximately 1,104 passengers during the morning peak hour traveling in the one TOL. Therefore, one lane dedicated to transit can be as effective in moving people as two or three general vehicle lanes.

While the TOL pilot project has proven to be controversial, the TOL is an important and strategic step in developing the City's long term transportation network and accommodating growth and development. As the City and downtown core continue to grow and evolve public opinions will likely change to favour public transportation and transit oriented development. The TOL has shown positive results for transit operations and represents an important part of a proactive approach to travel demand, in advance of congestion due to growth.

In addition to the foregoing, as indicated earlier in this report, the City received twenty nine million eight hundred thousand dollars (\$29.8 million) from Metrolinx for "Quick Wins" projects to grow ridership along the A and B Lines. Both the A and B-Line rapid transit projects are identified in the Big Move as fifteen year projects and the T-Line (Centre Mall, Limeridge Mall, Ancaster) is recognized as a 25 year project. The B-Line Light Rail Transit planning, design and engineering (30% design) work has been completed and submitted to Metrolinx. The TOL illustrates the City's long term commitment to growing transit in Hamilton which may better position the City for further funding.

### *Financial Effects*

This project is funded from Metrolinx Quick Wins Reserve #108047. Overall, a budget of \$300,000 was allocated to Transit Priority Measures. To date actual expenditures on the King Street TOL project have been approximately \$184,000. Previous expenditures on Transit Priority Initiatives are \$88,000, accounting for total expenditures of \$272,000. Sufficient funds are available in Metrolinx Quick Wins Reserve #108047 to cover the revisions to the design recommended in this report.

Should Council decide to remove the TOL there would be an additional cost of \$100,000. Sufficient funds are available in Metrolinx Quick Wins Reserve #108047 to cover the removal costs.

### *Alternatives*

#### *Alternative 1 - Maintain the TOL*

The first alternative is to maintain the TOL. There are two variations of this alternative.

##### *a) Retain With Refinements*

Under this scenario, the TOL would remain status quo. Staff would continue to evaluate potential improvements such as to signal operations including transit priority, to improve the overall operations throughout the corridor. Staff would also report back to Committee in Q2 2016 with potential opportunities for extending the TOL.

Staff would support this option.

##### *b) Modify the Design West of Bay Street:*

As noted above, businesses in the area west of Bay Street have indicated that the relocation of parking to the south curb lane has had an adverse impact on business. Parking revenues have proven to be reduced in the area. The BIA has indicated that they would prefer the TOL to be located in the second lane from the north curb and parking reinstated in the north curb lane. While this design is not as preferred from an operational perspective, the TOL could be modified to the second lane from the north curb. Due to seasonal constraints for applying pavement markings, modifications couldn't be undertaken until the Spring 2015. Staff would also evaluate potential improvements to signal operations at the same time, including transit priority, to continue to improve the overall operations throughout the corridor.

Staff would support this option.

#### *Alternative 2 - Extend the Pilot Period*

The pilot project has resulted in an enhanced understanding of the challenges and opportunities relating to the implementation of transit priority measures in Hamilton. There are valuable lessons learned from the pilot that will be incorporated into ongoing transportation planning processes such as the Transportation Master Plan Review and the Ten Year Local Transit Strategy. The Ten Year Local Transit Strategy will be presented to Council in Q1 2015 in conjunction with the 2015 budget process. The



Transportation Master Plan Review is expected to be complete in Q1 2016. Given that these are two key transportation planning strategies, of which the TOL may have a significant influence, Council could extend the pilot period pending the outcome of these two initiatives. Under this scenario, Council would extend the pilot and direct staff to report back after the Transportation Master Plan Review.

Staff would support this option.

*Alternative 3 - Discontinue the Transit Only Lane*

The third Alternative is to direct staff to remove the TOL. As indicated in the Financial Section of this report, there would be an additional cost of \$100,000 to remove the TOL. It should also be noted that there are seasonal constraints for removal of the TOL, due to the need to restore pavement markings. This cannot be done until the weather permits in the Spring 2015.

Staff would not recommend this option.

The 2015 Pan American /Para pan American Games will be occurring between July 11 and July 26, 2015. McMaster University will be used as an athletes' satellite location for the soccer tournament during the 2015 games. It is expected that as many as six hundred and forty (640+) athletes, training staff, officials, etc., involving sixteen teams will be housed at McMaster and will be travelling daily between the university campus, training sessions and the stadium. This could result in eight (8+) shuttle buses running along the Main-King corridor each day.

The TOL is supported by the Pan Am organizers, (TO2015), Ministry of Transportation of Ontario (MTO), who are undertaking the transportation organization for the games, and the City's Pan Am staff; as McMaster University will be an athlete's Satellite Village and access for training needs and games is part of the Games Route Network. Organizers have requested that Council consider allowing the TOL to remain, at least until after the July 2015 games.

If Council decides to discontinue the TOL, then staff could be directed to allow it to remain until after the 2015 Pan American/Parapan American Games to facilitate transport between satellite housing at McMaster University and the stadium.

**Attachments to Report PW11079g**

Appendix "A"	Stakeholder Comments Summary
Appendix "B"	King Street West BIA Submission
Appendix "C"	International Village BIA Submission
Appendix "D"	King Street Transit Only Lane Pilot Project Transit Analysis
Appendix "E"	Cole Engineering - Traffic and Travel Time Monitoring Report King Street Reserved Bus Lane
Appendix "F"	King Street Transit Only Lane Pilot Project Collision Data
Appendix "G"	King Street Transit Only Lane Pilot Project Cycling Issues