



Hamilton

CITY OF HAMILTON

**PUBLIC WORKS DEPARTMENT
Transportation Division**

TO: Mayor and Members General Issues Committee	WARD(S) AFFECTED: CITY WIDE
COMMITTEE DATE: December 4, 2013	
SUBJECT/REPORT NO: Five Year Plan Regarding Two-Way Street Conversions (PW13097) - (City Wide) (Outstanding Business List Item)	
SUBMITTED BY: Gerry Davis, CMA General Manager Public Works Department	PREPARED BY: Alan Kirkpatrick (905) 546-2424, Extension 4173
SIGNATURE:	

RECOMMENDATION

- (a) That Report PW13097, responding to a staff direction for a five (5) year strategy on the conversion of the City’s one-way street network, be received and included as a priority initiative in the first phase of the Transportation Master Plan (TMP) Update, to identify conversion priorities, benefits, impacts and costs related to conversion of one-way to two-way streets and identifying funding sources related to implementation of approved streets to be converted and report back in Q2 - 2014;
- (b) That “Two-Way Street Conversions” be identified as completed and removed from the General Issues Committee Outstanding Business List.

EXECUTIVE SUMMARY

This report has been prepared in response to Council direction to identify a five (5) year strategy on the conversion of one-way to two-way streets in the City, and identify whether street conversions can be implemented with departmental budgets and those that are currently unfunded.

Staff will be undertaking an update of the 2007 City-Wide Transportation Master Plan (TMP) and include as a priority initiative, a first phase to look specifically at the issue on

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one-way to two streets that can be converted with a detailed review of the entire road network including conversion priorities, benefits, impacts and cost of these proposed changes. The matter of converting roads to two-way traffic operations includes numerous issues that need detailed review and consideration, public input, stakeholder input and budget considerations. As this subject is to be included in the TMP as a significant component and priority initiative, staff is suggesting that this matter be referred to that process to ensure it is done in a comprehensive manner.

Alternatives for Consideration - See Page 8

FINANCIAL / STAFFING / LEGAL IMPLICATIONS

Financial: No specific funding is presently identified for the conversion of any specific roadway conversion from a one-way to two-way traffic operation.

Staffing: N/A

Legal: Legal staff would become involved to confirm traffic/parking by-law amendments that would be required to implement any traffic operational conversion.

HISTORICAL BACKGROUND

The issue of one-way streets being converted to two-way traffic operations streets has been gaining momentum recently along with the concept of the City implementing a Complete Street design approach to the City's street network.

A Complete Street design concept can take several forms and does not necessarily reflect a "one-design-fits-all" outcome. The philosophy would suggest a street be designed and operated to balance the competing needs of all road users, including safe access for pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities. The outcome hopefully results in a safer, more active environment and provides for a more livable local community. Increasing safety and walkability for transit users in particular has been highlighted as an important part of increasing transit ridership. As a whole, these policies have aimed at raising the profile of other modes, relative to the automobile and health, social, economic, and environmental benefits that can be attained through a more balanced approach to mobility.

The City is working with the community on the elements of a Complete Street design, and will be referred to in the upcoming consideration of the bi-directional Bike Lane Pilot project on Cannon Street and the City-Wide TMP Update.

In 2012, the City hosted a Complete Streets Transportation Summit. As a result of the summit, a number of interest groups are carrying on with their own review and analysis of possible improvements to roads within their communities, including intersection and mid-block crossing facilities and one-way to two-way street traffic conversion options, including factors of:

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- Traffic calming and enhanced walkability supporting vibrant and livable local communities.
- Impacts on retail/commercial areas and whether the conversion will be beneficial to them.

All of these issues will be carried forward for consideration to make sure any one-way to two-way traffic operation conversion projects are successful.

Two Way Conversions

The issue of converting the City's one-way street network to two-way traffic flow has been an on-going matter for some time. The initial start to the conversion of City streets from two-way to one-way conversion was in 1924. The history of one-way and two-way streets can generally be broken down into five (5) major time periods:

- 1924 - Hamilton's first one-way streets were converted. This consisted of four (4) short sections of narrow roadway within the downtown area between King William Street and Main Street.
- 1940s to early 1950s - Growing traffic concerns in Hamilton pushed the city to seek remedies. Schemes tried included a rush hour parking plan, road widening and more one-way operation.
- 1956 to 1957 - After consulting Wilbur and Smith Associates on the city's traffic woes, the City of Hamilton went forward with converting a large portion of its downtown streets network to one-way operation (See Appendix "A").
- Late 1950s and the 1960s - Expansion of the one-way street network continued despite growing dissatisfaction, particularly from business owners in the downtown who experienced a steep decline in business as a result of the system.
- 1990s to present - The City of Hamilton is investigating further methods of revitalizing the downtown's prosperity and liveability. Reverting roadways to two-way traffic operation has been considered for further investigation to accomplish the downtown's transformation. Since 2001, several roads, or portions thereof have since been converted to two-way traffic operation, including James Street, John Street, York Boulevard/Wilson Street, Caroline Street and MacNab Street, from Cannon Street to Burlington Street, as recently as June 2013.

Appendix "A" illustrates a diagram of the original one-way street network. Appendix "B" illustrates that current status of two way conversions.

Issues to be considered in one-way to two-way street traffic operation conversions

Although many people have suggested that the conversion of one-way streets back to two-way traffic operations is just the conversion aspect, staff has pointed out that there are numerous factors to be investigated when considering this matter including, but not limited to:

- Is the conversion of an individual street reasonable or does the Couplet or the adjacent "paired" street also needs to be converted? Does this require a network review or just the conversion of one-street?

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- What are the anticipated impacts of the proposed change:
 - Business access/driveways
 - Less confusion for visitors
- What are the anticipated collision statistics resulting from the conversion
- Identifying intersection improvements including the range of reconstruction to corner radius improvements
 - Conversion of every traffic control signal
 - Street signage
 - Pavement markings
- Impacts of reducing traffic speeds and traffic flow (progression between signalized intersections) on a two-way street compared to the current condition resulting in a change to travel time.
- Provision of left turn traffic lanes
- Impacts to on-street parking: loss/gain
- Potential for Economic/Business uplift along the converted road
- Need for additional railway crossing gates, that may currently only face one direction
- Roadway capacity changes: less traffic lanes on streets in one direction (possibly made up on the adjacent street)
- Impacts related to the future implementation of Light Rail Transit (LRT) and/or rapid transit
- Impacts to municipal services/utilities, including winter control activities, garbage collection and other operations and maintenance services
- Impacts to Transit:
 - Potential for increased travel times
 - Providing transit service in the other direction
 - Additional infrastructure, i.e. transit shelters
- Impacts to Cycling network
- Impacts to Pedestrians and Walkability
 - The City is promoting a “Complete Street” philosophy to improve the City’s Walkability environment
- Comments from Stakeholders
 - Business/BIA
 - Emergency Services
 - City’s Operation and Maintenance and waste collection
 - Goods movement/deliveries; access to properties
 - Public opinion
- What is the anticipated cost to implement the conversion
- Is there a priority/order to implement conversions

The Downtown Transportation Master Plan five (5) year review (August 2008) identified the following streets to be converted from one-way to two-way and completion dates of these projects are noted in the chart below.

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Completed / Planned Conversions

Road Name	From	To	<u>Date Implemented/</u>	Reference
James Street North	Main Street East	Murray Street West	<u>2002</u>	DTMP (2001)
James Street South	St. Joseph's Drive	Main Street East	<u>2005</u>	DTMP (2001)
John Street North	Main Street East	Strachan Street East	<u>2002</u>	DTMP (2001)
John Street South	Jolley Cut	Main Street East	<u>2005</u>	DTMP (2001)
York Boulevard/Wilson Street*	Bay Street North	Victoria Avenue North	<u>2010</u>	DTMP (2001)
Hess Street South	Herkimer Street	Jackson Street West	<u>2004</u>	Durand TMP (2002)
Hess Street South	York Boulevard	Barton Street West	2007-2012	DTMP (2001/07)
Caroline Street South	Herkimer Street	Main Street West	<u>2004</u>	Durand TMP (2002)
Caroline Street South	Main Street West	York Boulevard	<u>2012 (Main to King)</u> 2007-2012	DTMP (2001/07)
Charlton Avenue East	John Street South	James Street South	<u>2005</u>	DTMP (2001)
St. Joseph's Drive	John Street South	James Street South	<u>2005</u>	DTMP (2001)
Bold Street	James Street South	Queen Street South	2007-2012	DTMP (2001/07) (parking demand)
Duke Street	James Street South	Queen Street South	2007-2012	DTMP (2001/07) (parking demand)
King William Street	John Street North	Wellington Street North	2007-2012	DTMP (2001/07)
Rebecca Street	John Street North	Wellington Street North	2007-2012	DTMP (2001/07)
McNab Street North	Cannon Street West	Guise Street West	(2013) 2007-2012	DTMP (2001/07) & NETMP
Hughson Street North	Wilson Street	Barton Street East	2007-2012	DTMP (2001/07)
Park Street North	York Boulevard	Barton Street West	2007-2012	DTMP (2001/07)

In addition to these conversions, additional roads have been brought forward for consideration:

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Future Conversions under Consideration

Road Name	From	To
Queen Street North	York Boulevard	Stuart Street
Queen Street North	Main Street West	York Boulevard
Queen Street South	Herkimer Street	Main Street West
Bay Street North	Main Street West	Cannon Street West
Bay Street South	Herkimer Street	Main Street West
Cannon Street West/Wilson Street	Bay Street/ Queen Street	Sherman Avenue North
Wilson Street	Victoria Avenue North	Sherman Avenue North
Victoria Avenue North	Burlington Street	Barton Street
Wellington Street North	Burlington Street East	Ferrie Street East
Wentworth Street North	Delaware Avenue	Barton Street East
Sanford Avenue South	Delaware Avenue	Barton Street East
Sherman Avenue North	Wilson Street	Burlington Street East
Birch Avenue	Wilson Street	Burlington Street East
Locke Street South	Main Street West	King Street West
Catherine Street South	Not specified	Not specified
Mary Street	Not specified	Not specified
Main Street West	Dundurn Street	King Street East
King Street West *	Dundurn Street	Main Street East

*- King Street two-way conversion discussion has been deferred for the time being as it is being considered in the proposed B-Line Light Rail Transit (LRT) planning process

There are approximately ninety (90) one-way streets in the City. There are many issues to be considered when reviewing roads for conversion from one-way to two-way traffic operations, particularly major collector and arterial roads, as there are numerous issues to be considered when looking at individual roads in isolation compared to a wider scope of the adjacent streets and the overall transportation network. When addressing a large number of roads as noted, it would be prudent to study them from a larger network perspective during the decision making process. The upcoming City-wide TMP will include a priority initiative phase to review all the one-way streets in the network and determine conversion priorities, benefits, impacts and costs of converting one-way streets from this wider perspective.

POLICY IMPLICATIONS/LEGISLATED REQUIREMENTS

Municipal Class Environmental Assessment Process

The Class Environmental Assessment (EA) study follows the planning and design process of the Municipal Engineers Association (MEA) Municipal Class Environmental Assessment (EA), October 2000, as amended in 2007 and 2011. This document does not require EA's for one-way or two-way conversions if there is no physical construction included.

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However, as a multitude of roads would be looked at for possible changes and the degree of works are unknown, it would be recommended that this subject be referred to the upcoming City-Wide TMP Update project, which is including, as a priority, the complete review of all one-way to two-way traffic operational conversions and budget needs. The specific requirement of this EA process depends on the type of project, its complexity and the significance of environmental impacts.

RELEVANT CONSULTATION

The issue of converting one-way streets to two-way traffic operations can be controversial and the input from a wide variety of residents and stakeholders would be included in the City-Wide TMP process so that all aspects are vetted. No specific public consultation has been undertaken for this subject at this time. Staff is aware that several communities and neighbourhoods have taken an interest in this subject and have completed some audits and other investigations on their own. These community initiatives have generally been focussed on one or two neighbourhood streets but did not review the wider network. The material that the community groups have gathered will be useful background material to be included in the City-Wide TMP Stage 1 review. In addition to Public Information Centres (PIC) that will be included as part of this TMP Update process, neighbourhood representatives will also be able to get involved in focus group and workshops to share their knowledge and observations from the work they have done.

ANALYSIS / RATIONALE FOR RECOMMENDATION

Consideration for Two-Way Conversions

The following are additional considerations related to the topic of converting a road from one-way to two-way traffic operation:

Transportation Operations - Multi-modal Level-of-Service (LOS) Review:

- Transit Operations (LOS)
- Bicycle Accommodation (LOS)
- Pedestrian Accommodation (LOS)
- On-street Parking impacts
- Motor Vehicle Traffic LOS (includes Goods Movement and side street impacts)

Public Health/Safety:

- Emergency Vehicle Response
- Road Safety Review (including collision exposure / severity of collisions / operating speeds)

Maintenance/Operations:

- Service delivery implications - e.g. waste pick-up, snow removal, on-street parking, transit stops, truck routes, etc.

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- Infrastructure requirements - e.g. traffic signals, pavement markings, signs, geometric improvements, etc.

Public Perception (Managing Expectations):

- Economic Impacts (e.g. merchants along corridors, goods movement industry)
- Fear of change from status quo (e.g. Change for improving conditions not for the sake of change - Public Perception vs. Public Interest)

Other Considerations:

- Impacts to Rapid and Local Transit Corridors
- Impacts to Bicycle Route Network and Pedestrian Mobility
- Consistency with other City Plans
- Environmental/Health Impacts (e.g. Air Quality impacts, Chronic Disease/Injury prevention, etc.)
- Method to determine priorities for implementation
- Alternatives to two-way conversion to accommodate a complete streets approach
- Cost

Key Performance Indicators (KPI):

1. Minimize Risk to All Road Users
 - Collision stats
2. Best Balance for All Travel Modes
 - Traffic volumes
 - Travel time
 - Parking/loading zones
3. No change or Improvement of Overall Service Delivery
4. Ease of Implementation (e.g. Priorities, Benefits, Impacts and Costs)

Additional factors in the TMP considerations:

- Define and document the goals of the study and the structure of the decision-making criteria at the beginning of the community involvement process. For example, criteria could include that no on-street parking can be lost unless off street spaces are available within a certain distance; or that sidewalks must be retained at a certain minimum width, or that private property will not be taken.
- Identify the potential conflicts between the study goals and those of the business community, local residents, citywide residents, and those in the general plan.
- Utilize state-of-the-art methods to analyze the complex trade-offs between potential improvements within that system.

ALTERNATIVES FOR CONSIDERATION

The Committee may not wish to refer this matter to the first phase of the City-Wide TMP Update process, but instruct staff to proceed with detailed design and implementation of converting specific streets from one-way to two-way traffic operations. If directed, staff would proceed with these instructions and report back to Committee with budget costs for the implementation as there are no funds currently identified for street conversions.

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Staff does not support this approach as a more comprehensive review of the overall transportation network, to be undertaken in the TMP, would provide a full analysis of the priorities, benefits, impact and costs to the network.

The Committee could instruct staff to proceed with detailed design and implementation of converting specific streets from one-way to two-way traffic operations. Staff would also mention to the Committee that consideration of converting major roads, particularly in the area of the Pan Am Stadium should be deferred to a time period after the Games in July 2015. Converting local roads would not present the same problems as converting major roads.

ALIGNMENT TO THE 2012 - 2015 STRATEGIC PLAN

Strategic Priority #1

A Prosperous & Healthy Community

WE enhance our image, economy and well-being by demonstrating that Hamilton is a great place to live, work, play and learn.

Strategic Objective

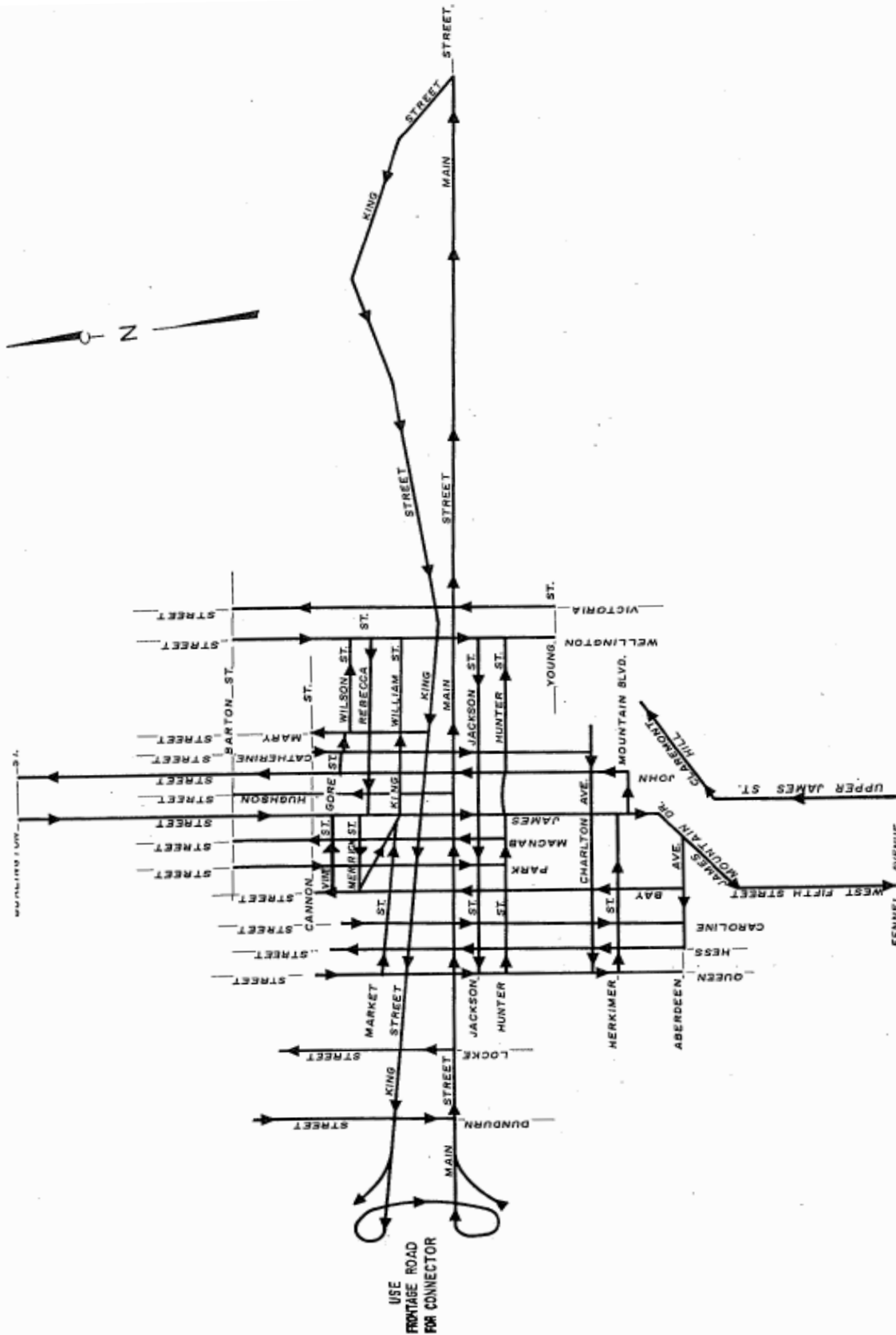
- 1.2 Continue to prioritize capital infrastructure projects to support managed growth and optimize community benefit.
- 1.3 Promote economic opportunities with a focus on Hamilton's downtown core, all downtown areas and waterfronts.
- 1.4 Improve the City's transportation system to support multi-modal mobility and encourage inter-regional connections.
- 1.5 Support the development and implementation of neighbourhood and City wide strategies that will improve the health and well-being of residents.
- 1.6 Enhance Overall Sustainability (financial, economic, social and environmental)

APPENDICES / SCHEDULES

- Appendix "A" Original One-Way Street Network Plan
Appendix "B" Status of Planned/Completed Two Way Conversions
(an enlarged copy will be on display at the December 4th meeting)

ORIGINAL ONE-WAY STREET NETWORK PLAN

FIGURE 17



ULTIMATE ONE-WAY STREET PLAN

HAMILTON, ONTARIO

Five Year Plan Regarding Two Way Street Conversion

- Completed Conversions
- Planned Conversions
- - - Future Conversions

