



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
 Corporate Assets and Strategic Planning Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	March 20, 2017
SUBJECT/REPORT NO:	Interim Safety Measures on Aberdeen Avenue from Queen Street to Longwood Road (PW17021) (Ward 1)
WARD(S) AFFECTED:	Ward 1
PREPARED BY:	Robert Declair Project Manager, Signals and Systems 905-546-2424 Extension 4391 Martin White, C.E.T. Manager, Traffic Operations & Engineering 905-546-2424 Extension 4345
SUBMITTED BY:	John Mater, C.E.T. Associate General Manager and Director of Transportation Division Public Works Department
SIGNATURE:	

RECOMMENDATION

- (a) That an Intersection Pedestrian Signal be installed on Aberdeen Avenue at Cottage Street at a cost of approximately \$100,000, subject to funding being approved through the 2018 Capital Budget approval process;
- (b) That the traffic calming measures proposed in Appendix A be approved for implementation in 2017, at a cost of approximately \$80,000, to be funded from the 2017 Ward 1 Area Rating funds, No. 4241509108;
- (c) That a Pedestrian Crossover (Type D), be installed in 2017 at a cost of approximately \$10,000, at the southbound to westbound right turn channel at Queen Street and Aberdeen Avenue, and that the installation be funded through the Red Light Camera reserve No.112203.

EXECUTIVE SUMMARY

On April 27, 2016 Council approved the following Notice of Motion:

“7.11 An Amendment to Item 21 of the General Issues Committee Report 15-025, respecting the Full Review of Aberdeen Avenue from Queen Street to Longwood Avenue, respecting the Safety and Operational Characteristics of the Roadway, as approved by Council on December 9, 2015

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That Item 21 of the General Issues Committee Report 15-025, respecting the Full Review of Aberdeen Avenue from Queen Street to Longwood Avenue, respecting the Safety and Operational Characteristics of the Roadway, as approved by Council on December 9, 2015 be amended by adding a sub-section (b), to read as follows:

21. Full Review of Aberdeen Avenue from Queen Street to Longwood Avenue, respecting the Safety and Operational Characteristics of the Roadway (Item 9.1)

(a) That staff, in consultation with all affected Ward Councillors, be directed to undertake a full review of Aberdeen Avenue from Queen Street to Longwood Avenue, respecting the safety and operational characteristics of the roadway; with specific reference to and harmonization with the recommendations and principles of the updated Transportation Master Plan; with a focus on improvements to meet the request for a more complete street- and pedestrian-friendly design, including consideration for a road diet, and the recommendations put forward by the Kirkendall Neighbourhood Association Working Group regarding Aberdeen Safety and Road Improvement, and report to the Public Works Committee; and,

(b) That the appropriate staff be directed to work with the affected Ward Councillors on interim safety measures along Aberdeen Avenue, during the full review of Aberdeen Avenue from Queen Street to Longwood Avenue, respecting the safety and operational characteristics of the roadway.”

In order to address the revised motion, Traffic Operations & Engineering staff have reviewed the operation of Aberdeen Avenue from Longwood Road to Queen Street.

Aberdeen Avenue between Queen Street and Longwood Road is classified as an urban, minor arterial roadway in the City of Hamilton Urban Official Plan. Aberdeen Avenue is a four lane roadway which connects the Queen Street Hill Mountain access (Becketts Drive) to Highway 403 and it provides a connecting link to the west end of the City; McMaster Innovation Park; McMaster University; Mohawk College; Hillfield Strathallan School; and both St Joseph’s Hospital Sites. Currently traffic signals control the right-of-way at the intersections of Aberdeen at Longwood Road; Dundurn; Locke; Kent and Queen Streets. Traffic volumes along Aberdeen Avenue in a 24 hour period average approximately 19,000 vehicles per day. The westerly end of Aberdeen Avenue is classified as an Emergency Detour Route (EDR) during emergency road closures on Highway 403. Aberdeen Avenue is expected to become an alternative route to King Street once the LRT is built and westbound traffic is displaced from King Street. In December 2015 Council directed staff to review Aberdeen Avenue subsequent to completion of the Transportation Master Plan Update (TMP). In April 2016 Council further directed staff to work with the ward Councillor to provide interim safety measures on Aberdeen Avenue, prior to the permanent review after the release of the updated TMP.

To identify interim safety measures staff reviewed the Aberdeen Task Force Report of November 2015 and also reviewed several other specific requests submitted by local residents.

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Based on the results of this review, staff recommend the following interim measures:

- a. Installation of an Intersection Pedestrian Signal on Aberdeen Avenue at Cottage Avenue in 2018, to assist pedestrians to cross Aberdeen Avenue.
- b. Interim Improvements at various locations along Aberdeen Avenue as listed in Appendix A. Subject to approval of the recommendations in this report, Parking and By-law Services Division will prepare and submit the corresponding by-law amendment required to make the changes, under delegated authority.
- c. Installation of a Pedestrian Crossover (Type D) in 2017 at the southbound to westbound channelized right turn lane at Aberdeen Avenue and Queen Street, including modifications to the pavement markings to narrow the travel lane through the channelized portion of the roadway.

Alternatives for Consideration – See Page 8

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: The estimated total cost to implement the three (3) recommendations is \$190,000 as detailed below:

- Pedestrian Signal on Aberdeen at Cottage – Capital Block funding \$100,000 in 2018
- Interim Improvements at various locations along Aberdeen Avenue as listed in Appendix A. Ward 1 area rating funding No. 4241509108; \$80,000 in 2017
- Pedestrian Crossover at Aberdeen Avenue and Queen Street – Red Light Camera Reserve No. 112203, funding \$10,000 in 2017

Staffing: There are no staffing impacts.

Legal: None

HISTORICAL BACKGROUND

In November 2015 the Kirkendall Neighbourhood Association prepared a report entitled Aberdeen Road Diet – Community Task Force Report. This report included numerous suggestions to address traffic safety concerns on Aberdeen Avenue. On April 27, 2016 Council approved an Amendment of Item 21 of the General Issues Committee Report 15-025 respecting the Full Review of Aberdeen Avenue from Queen Street to Longwood Road, respecting the Safety and Operational Characteristics of the Roadway, as approved by Council on December 9, 2015. The approved Amendment directed staff to work with the affected Ward Councillors on interim safety measure along Aberdeen Avenue, respecting the safety and operational characteristics of the roadway.

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The Kirkendall Neighbourhood Association report was reviewed by staff, along with other suggestions provided by area residents with the intent of identifying any interim measures which could be implemented to address safety concerns of the residents.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

By-law amendments are required to change parking restrictions and to implement lane designation changes.

RELEVANT CONSULTATION

The Councillors from Ward 1, 2 & 8 have been consulted on the completion of this report and their comments have been incorporated into the final recommendations.

In addition, various area residents have provided comments and suggestions related to how Aberdeen Avenue can be improved to address their concerns. These comments have been accommodated in the overall review that staff has completed.

Consultation has been held with City staff in Operations, Transit, Transportation Management and Engineering Services in the Public Works Department; LRT office, Parking Operations and Initiatives Planning in the Economic Development Department; Emergency Services (EMS and Fire) in the Community Services Department.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

The following are improvements suggested in both the Kirkendall Neighbourhood Association report and residents suggestions. Specific improvements are supported by staff.

- There is no controlled Pedestrian Crossing of Aberdeen Avenue between Dundurn Street and Locke Street, however, since there is a bus stop at Cottage Avenue it was suggested that a Pedestrian Crosswalk be installed at this location.

Staff have reviewed this location and recommend that an Intersection Pedestrian Signal be installed at this location. The estimated cost of this installation is \$100,000 and is recommended to be funded through the 2018 Capital Budget request process

- There were concerns expressed related to vehicle speeds and pedestrian safety at the southbound to westbound channelized right turn slot at Queen Street and Aberdeen Avenue. It was suggested that if a Pedestrian Crossover is not suitable; that the channel be narrowed with knock-down sticks or planters or the channel be removed completely and right turns be processed through the traffic signals.

Staff recommends the installation of a Pedestrian Crossover at this location in 2017 and staff will also design modifications to narrow the travel lane through the channelized portion of the roadway utilizing pavement markings. The estimated

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cost of this Pedestrian Crossover installation is \$10,000 and is recommended to be funded by the Red Light Camera Reserve No. 112203.

- At the intersection of Aberdeen Avenue at Dundurn Street there is a request to have the traffic revert to a regular traffic signal operation and remove the “split phasing” during off peak hours. The split phasing for eastbound and westbound traffic was installed at this intersection in late 1998 to address numerous accidents involving eastbound and westbound left turns and the lack of separate left turn lanes. Prior to 1998 this signal had regular traffic signal phasing. In the 11 year period prior to the introduction of split phasing there were 64 collisions involving eastbound and westbound left turns. In the 17 year period since this phasing was installed there has been two (2) accidents related to eastbound and westbound left turns. While this split phasing is not the most efficient operation it has improved the safety at this intersection.

In order to maintain the safety of eastbound and westbound left turns staff support the remarking of the lanes on Aberdeen Avenue which would result in the creation of opposing eastbound and westbound left turn lanes as shown in Appendix B. This remarking would result in the current eastbound centre lane being designated for “Left Turns only”. Opposing this lane would be a westbound left turn lane. This would result in one eastbound through/right turn lane. Under this lane configuration the split phasing could be removed and conventional phasing provided. This is anticipated to reduce overall delays for pedestrians and drivers and improve the operation of the intersection.

- Pedestrian Crossing at Aberdeen Avenue at Dundurn Street – to cross at this intersection, pedestrians are required to activate a push-button for all crossings. It was suggested that the push-buttons be removed and the pedestrian displays automatically be provided with the vehicle displays. Alternatively a pedestrian scramble phase was suggested and detection for bicycles.

Staff concurs that in conjunction with the removal of the split phasing, the pedestrian push-buttons can be removed and the “walks” displayed automatically.

The conditions at Aberdeen Avenue and Dundurn Street are not suitable for a Pedestrian Scramble phase operation and staff does not support this operation.

- Aberdeen Avenue at Dundurn Street - the eastbound green light seems too long for the amount of traffic. In conjunction with the split phasing removal; Traffic Operations and Engineering will adjust the signal timing to better suit eastbound traffic flow especially in the afternoon peak period.
- Aberdeen Avenue - allow parking along the south side during off peak hours. This suggested option has been reviewed however it is likely to create congestion for eastbound traffic and staff do not support this suggestion as an interim measure.

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Staff do support the removal of the No Stopping restrictions 4pm to 6pm, Monday to Friday on the north side of Aberdeen Avenue between Dundurn Street and Studholme Road. The provision of parking on the north side of Aberdeen Avenue west of Dundurn Street during the peak periods will provide a buffer between pedestrians on the sidewalk and moving vehicles and will also benefit local businesses. The Operations Division of the Public Works Department has reviewed this measure and reports that parked vehicles in the north curb lane may impede waste collection from the curb lane and may impact snow storage and removal and street sweeping operations.

- Aberdeen Avenue at Dundurn Street northwest corner radius - due to the small corner radius vehicles often jump the curb when turning right thereby creating safety concerns for pedestrians on the sidewalk. It was suggested that knock-down sticks be installed. Staff has confirmed that the curb radius in this corner is very small and is approximately 3.5 m. The other corners have larger radii. The reason for this small radius is that prior to 2012 a large wood hydro pole was located in this corner. This pole prevented motorists from mounting the sidewalk however the pole sustained continuous damage by vehicles sideswiping the pole. In late 2011 this pole was removed and replaced with two separate poles further from the roadway. The long term solution is to increase the corner radii similar to the northeast corner. This will allow vehicles to make right turns and minimize the potential for vehicles to ride up over the curb. As a temporary measure two knock-down sticks have been installed. A radius change will be considered with the road resurfacing planned for the area.
- Aberdeen Avenue at Queen Street – It was suggested to increase the northbound to westbound left turn green arrow timing to double its current length. Currently the northbound to westbound left turn signal is 34 seconds long during the morning peak period. Staff have reviewed the operation and in November 2016 implemented a special timing plan during the morning peak period. This special plan increases the northbound to westbound advance green by 11 seconds to provide a total advance green time of 45 seconds. Observations indicate that the new special timing plan has reduced the southbound delay on Beckett Drive/Queen Street during the morning peak hour. It should be noted however that during the special timing plan the southbound and eastbound directions do experience some increased delays.
- Turning radii at Streets Crossing Aberdeen Avenue.

Several streets along Aberdeen Avenue, such as Mountain Avenue have larger radii than most intersections along Aberdeen Avenue. The concern is that these larger radii allow for higher turning speeds and longer crossing distances for pedestrians to cross the roadway. Staff has reviewed the Mountain Avenue intersection and confirms that the radii are larger than others in the area. These corner radii can be reviewed and reduced when Aberdeen Avenue is resurfaced.

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The following suggestions were reviewed; however, staff is not recommending any action on these suggestions at this time.

- Cycling Infrastructure on Aberdeen Avenue - five (5) proposals was reviewed to reduce traffic lane widths, remove traffic lanes and to add bicycle lanes in order to encourage slower vehicle speeds. As per the West Hamilton Bicycle Network Review (2006), the cycling infrastructure in this area was designed to avoid installing bicycle lanes on Aberdeen Avenue. The Cycling Master Plan (CMP) does not identify bicycle lanes on Aberdeen Avenue between Studholme Road and Queen Street. The only bicycle lane that is identified in the CMP for Aberdeen Avenue is the short segment between Longwood Road and Studholme Road. The CMP does include the recently installed bicycle lanes on Charlton Avenue and Herkimer Street to make an east-west primary connection through this neighbourhood. The creation of the Charlton Avenue and Herkimer Street bicycle lanes encouraged cyclists to use these bicycle lanes instead of Aberdeen Avenue.
- Staff reviewed all the remaining proposals however many of the lane widths being suggested were below minimum standards for vehicular and bicycle traffic safety. The removal of traffic lanes will reduce roadway capacity to unacceptable levels. Given the severity of the impacts of the suggested lane configurations and removals, these proposals were not considered to be within the realm of interim safety measures along Aberdeen Avenue and would require much more extensive review and design.
- Westbound traffic congestion on Aberdeen Avenue at Longwood Road – vehicles in the curb lane destined to Highway 403 block the flow of westbound to northbound right turning traffic. It is suggested that the westbound curb lane be designated for westbound right turning vehicles only. Staff has reviewed this request and while it is technically feasible a decision on this matter should be delayed until the potential impacts of LRT construction and operation have been determined since a single westbound lane will limit the capacity. In addition, this location is designated for a future roundabout which will assist in improving the overall operations at this intersection and improve safety.
- Aberdeen Avenue - reduce speed limit to 40km/h, and simultaneously decreased lane widths to 3.0 metres. Lane widths of 3.0 m are not adequate for transit buses and larger vehicles. Lane widths of less than 3.3 m create problems for trucks and buses and in particular the side mirrors on these vehicles can contact each other or other street infrastructure such as poles. Aberdeen Avenue is an arterial road and as such a 40 km/h speed limit is not appropriate for an arterial road operation.

Staff has reviewed the pedestrian and bicycle collision history on Aberdeen Avenue between Longwood Road and Queen Street for the 10 year period of 2005 to 2015. Over this 10 year period there have been 12 pedestrian related

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collisions and 3 bicycle related collisions reported. Staff will continue to monitor collision rates on Aberdeen Avenue. Below is a table that summarizes the collision history.

Collision History on Aberdeen Avenue from Queen Street to Longwood Road

Year	Total Collisions	Pedestrian-Vehicle Collisions	Bicycle Collisions
2005	8	1	0
2006	9	0	0
2007	21	2	1
2008	16	1	1
2009	17	2	0
2010	18	1	0
2011	17	0	0
2012	15	2	0
2013	12	0	0
2014	16	1	1
2015	15	2	0

ALTERNATIVES FOR CONSIDERATION

A simple alternative would be not to implement short term temporary safety measures on Aberdeen Avenue. Alternatively, several other measures were suggested by residents; however, these measures would require more extensive review, design, consultation and budget. Given the task of identifying interim short term measures, staff did not pursue these measures at this time. Staff recommends that those items be included in the overall review of Aberdeen Avenue which has been identified to be commencing at the completion of the LRT traffic impact study and completion of the TMP.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

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APPENDICES AND SCHEDULES ATTACHED

Appendix A – Aberdeen Avenue Interim Improvements

Appendix B – Lane Marking Modifications – Aberdeen Avenue at Dundurn Street