



CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Transportation Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	January 15, 2018
SUBJECT/REPORT NO:	Lincoln Alexander Parkway and Red Hill Valley Parkway Transportation and Safety Update (PW18008) (City Wide) (Outstanding Business List Item)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	David Ferguson, C.E.T. (905) 546-2424, Extension 2433 Martin White, C.E.T., (905)546-2424, Extension 4345
SUBMITTED BY:	Jennifer DiDomenico Acting Director of Transportation Public Works Department
SIGNATURE:	

RECOMMENDATION

- (a) That staff be directed to continue to implement the short and medium term collision counter measures as noted in Appendix A, as previously approved by City Council in report PW15016.
- (b) That staff undertake an annual detailed collision analysis of both the LINC and RHVP, and report to Public Works Committee as part of the Hamilton Strategic Road Safety Program Annual Report.
- (c) That Hamilton Police Services be requested to continue to undertake regular speed and aggressive driving enforcement on both the LINC and RHVP, and that the results be reported annually to the Public Works Committee as part of the Hamilton Strategic Road Safety Program Annual Report.
- (d) That staff undertake an annual traffic count program on the Lincoln Alexander Parkway (LINC) and the Red Hill Valley Parkway (RHVP) and report back to Public Works Committee annually with the data as part of the Hamilton Strategic Road Safety Program Annual Report.
- (e) That median barriers be installed on the LINC and the RHVP in co-ordination with any future widening of the facilities.
- (f) That Public Works report back to the Public Works Committee in 2020, to provide an update of overall operating conditions on the LINC and RHVP, with a focus on

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Ministry of Transportation Ontario (MTO) activity on Highways 403 and Queen Elizabeth Way (QEW) widening; truck activity; safety and information on the need for widening.

- (g) That the following Outstanding Business List Items be removed from the Public Works Outstanding Business List.
1. Expansion of Redhill Valley Parkway (RHVP) and Lincoln Alexander Parkway (LINC) (PW16084) (City Wide) (Item 8.1)
 - (d) That the matter respecting the Expansion of the Redhill Valley Parkway (RHVP) and Lincoln Alexander Parkway remain on the Outstanding Business List of the Public Works Committee and also be referred to the consideration of the development of the Transportation Master Plan.
 2. Status Report about Issues Relating to the LINC and Red Hill Valley Parkway
 - (a) That staff be directed to bring back an Information Report to the Public Works Committee respecting the status of installing medians/other barriers on the LINC and Red Hill Valley Parkway (RHVP) that the report contain information about the cost of such measures.
 3. Traffic Incidents on the LINC and Red Hill Valley Parkway

That staff from Traffic Operations be directed to consult with the Hamilton Police Service to bring forward a plan to report annually on fatal incidents on the LINC and RHVP and that the report identify causes of the incidents.

EXECUTIVE SUMMARY

The Lincoln Alexander Parkway (LINC) opened in 1997 and was subsequently followed by the opening of the Red Hill Valley Parkway (RHVP) in 2007. Since January 2013, there have been a total of ten motions issued from Council related to these facilities, of which five remain outstanding. The purpose of this report is to address each of these outstanding motions and consolidate them into one report.

Motion: Expansion of Redhill Valley Parkway (RHVP) and Lincoln Alexander Parkway (LINC) (PW16084) (City Wide) (Item 8.1) (Public Works Committee, October 3, 2016)

- (d) That the matter respecting the Expansion of the Redhill Valley Parkway (RHVP) and Lincoln Alexander Parkway remain on the Outstanding Business List of the Public Works Committee and also be referred to the consideration of the development of the Transportation Master Plan.

The consideration for widening the LINC and RHVP can be considered under a number of different operating conditions. These conditions can include capacity issues, improved goods and services movements and for safety improvements.

Based on roadway geometrics, it is estimated that the capacity of the RHVP is 3000 vehicles/hour/direction (1500 vehicles/lane) and 4000 vehicles/hour/direction (2000 vehicles/lane) for the LINC. A review of traffic volumes taken from the permanent count stations operated by City of Hamilton staff on the RHVP (2015) and the LINC (2017), indicates that the volume/capacity (V/C) is less than 1.0 during all times of the day. A roadway has reached full capacity when the V/C ration has reached a level of 1.0.

The RHVP and LINC could be widened to accommodate an additional lane in each direction on both facilities; however there are a number of factors to consider. The current restrictions at the connection points of Highways 403 and QEW are problematic. Providing additional lanes on the Parkways would have minimal benefit given the congestion at the Provincial Highway connection points.

The City of Hamilton has previously requested the MTO investigate and include the need for widening the Highways 403 and QEW through Provincial Capital programming. This has recently been further supported by the Planning and Economic Development Department in which it was identified that congestion of the Provincial facilities has negative impacts to the Economic Growth of the City of Hamilton (PED16161(a)).

On March 24, 2017, the City of Hamilton received written notice from the Honourable Steven Del Duca, Minister of Transportation, (Appendix B) noting that both Highway 403 and QEW have been identified for one additional lane per direction and is subject to environmental assessments and approvals before implementation. The timing to initiate the next phases will be dependent on further review and prioritization of the expansion needs across the province. Minister Del Duca has committed to ensure that City of Hamilton staff will be invited to participate in the studies related to the design of these facilities.

The widening of these facilities will provide opportunities to improve connectivity between the Parkways and Provincial Highways.

Staff will continue to monitor traffic patterns including traffic volumes, MTO progress, truck activity, vehicle speeds and the requirement for widening in order to coordinate potential widenings with MTO improvements on the 403 and QEW. Staff will further report back to Public Works Committee regarding this issue on an annual basis identifying operation patterns as part of the Hamilton Strategic Road Safety Program Annual Report.

Motion: Status Report about Issues Relating to the LINC and Red Hill Valley Parkway Public Works Committee, February 27, 2017)

- (a) That staff be directed to bring back an Information Report to the Public Works Committee respecting the status of installing medians/other

barriers on the LINC and Red Hill Valley Parkway (RHVP) that the report contain information about the cost of such measures.

Motion: Traffic Incidents on the LINC and Red Hill Valley Parkway (Public Works Committee, February 27, 2017)

That staff from Traffic Operations be directed to consult with the Hamilton Police Service to bring forward a plan to report yearly on fatal incidents on the LINC and Red Hill Valley Parkway and that the report identify causes of the incidents.

Both of these motions have been consolidated as they are both a result of concerns with safety and collision patterns along the facilities. In 2015 two detailed Traffic Safety reports were commissioned to study both facilities as a result of ongoing collision concerns, with a specific focus on median crossover collisions. The results of these studies were considered by Public Works Committee and Council in report PW15-016.

The reports identified that there is an over representation of incidents that occur on the LINC under dry road conditions and on the RHVP under wet road conditions. As a result of a number of cross-over fatal collisions, there has been public debate on the need to install median barriers along both the LINC and RHVP.

Both Safety reports identified that collisions are occurring as a result of speeding, aggressive driving, following too close, distracted driving and driving too fast for weather conditions. Recent enforcement completed by Hamilton Police Services identified that over ninety percent of all violations issued were directly related to speeding. In addition, the Police Chief and Ontario Provincial Police have identified that speeding, aggressive driving and distracted driving are the leading causes of fatal collisions in Ontario.

Public Works report PW15-016, identified that the installation of short, medium, and long term collision counter measures (Appendix A) could address some of the driver behaviour issues that are causing collisions to occur. As identified in Appendix A, the City of Hamilton is in the process of obtaining Variable Message Board signs (VMS) which will be placed on the LINC and RHVP and will allow staff to display messages to raise awareness of the posted speed limit and operating conditions. In addition, staff have begun the process for the review and design of a queue end warning system which will assist in notifying motorists when slower moving traffic is ahead and provide a warning to reduce speed.

The Engineering Division has scheduled the repaving of the LINC and RHVP between 2018 and 2021, Traffic Operations and Engineering staff have submitted scope to the project to include recessed reflective markers (cats eyes), durable and wider pavement markings and shoulder rumble strips. Implementation of these measures will assist in providing positive guidance for motorists as well as provide a physical warning should a vehicle drift into the shoulder area and assist in reducing potential collisions.

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Crossover collisions represent five percent of the total number of collisions that occur on the LINC and three percent of the total number of collisions that occur on the RHVP. The installation of barriers would greatly reduce the likelihood of crossover incidents occurring; however there are other potential impacts that may arise and cause a continued safety issue. In addition, the installation of barriers does not directly address the primary root cause of the collisions, speeding, aggressive and distracted driving. These driver behaviour issues must be addressed or collisions will continue to occur.

As the LINC is currently built with a curbed centre median and the RHVP with a grass swale median, both facilities would need to be properly designed by an Engineer to ensure for a safe and appropriate installation. Should the need for widening be supported through the process, staff recommends that appropriate median barriers be designed and installed in co-ordination with future reconstruction and widening of both the LINC and RHVP.

As per the recommendation in report PW15-016, staff recommends the continued implementation of the short-term and medium-term collision counter measures as identified in Appendix A. Implementation of these counter measures will continue to assist in addressing the collision patterns that have been identified and assist in reducing the number of collisions occurring.

It is further recommended that the Hamilton Police Services be requested to continue regular enforcement on both the LINC and RHVP, and that collision and enforcement statistics specific to these facilities be included in the annual Hamilton Strategic Road Safety Program Annual Report.

There are two additional outstanding motions:

- (1) Speed Limit Reduction Feasibility Study on the Lincoln Alexander Parkway (LINC) and the Red Hill Valley Parkway (RHVP) (Item 9.3) (Public Works Committee, August 17, 2017).

That staff from Traffic Operations and Engineering be directed to study the Feasibility and safety benefits of reducing the speed limit on the Lincoln Alexander Expressway (LINC) and the Red Hill Valley Parkway (RHVP) from 90 km/h to 80km/h and report the finding back to the Public Works Committee in one year's time.

This work is planned to be reviewed and completed in conjunction with the review and design of a queue end warning system. It is expected that Public Works will report back to Public Works Committee in 2018.

- (2) Photo Radar on the Lincoln M. Alexander Parkway and the Red Hill Valley Parkway (Added Item 10.1) (Public Works Committee, November 14, 2016)
 - (a) That, when provincial legislations permitting the establishment of photo radar is in place, staff be directed to consider establishing Community Safety Zones in the City of Hamilton; and

- (b) That staff be directed to report to the Public Works Committee on the actions required to establish photo radar, conforming with forthcoming Provincial Legislation, in Community Safety Zones; and
- (c) That consideration be given to making the Lincoln M. Alexander Parkway and the Red Hill Valley Parkway a Community Safety Zone for the purpose of establishing photo radar speed enforcement.

Discussions on the development of the Provincial Regulations associated with the implementation of Automated Speed Enforcement are ongoing with the Province of Ontario and other Provincial Municipalities. When details of the program become available from the Province, staff will follow up with a report to Public Works Committee in 2018.

Alternatives for Consideration – Page 11

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: Staff will continue to utilize the Red Light Camera Reserve account (112203) for the implementation of the short-term and medium-term counter measures as previously approved by City Council.

There are no further funding requirements as part of this report.

Staffing: There are no additional staffing needs as part of this report.

Legal: There are no Legal implications as a result of this report.

HISTORICAL BACKGROUND

The Lincoln Alexander Parkway (LINC) opened in 1997 and was subsequently followed by the opening of the Red Hill Valley Parkway (RHVP) in 2007. Since January 2013, there have been a total of 10 motions issued from Council related to these facilities, of which 5 remain outstanding.

These motions have focused specifically on two areas, widening of the LINC and RHVP and the safety operations of both Parkways.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

There are no Policy Implications as a result of this report.

RELEVANT CONSULTATION

Traffic Operations and Engineering staff have consulted with Public Works staff in Transportation Management, Operations Division, and Engineering Services, Hamilton Police Services and external Consultants.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

Motion: Expansion of Redhill Valley Parkway (RHVP) and Lincoln Alexander Parkway (LINC) (PW16084) (City Wide) (Item 8.1) (Public Works Committee, October 3, 2016)

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- (d) That the matter respecting the Expansion of the Redhill Valley Parkway (RHVP) and Lincoln Alexander Parkway remain on the Outstanding Business List of the Public Works Committee and also be referred to the consideration of the development of the Transportation Master Plan.

The consideration for widening the LINC and RHVP can be considered under a number of different operating conditions. These conditions can include capacity issues, improved goods and services movements and for safety improvements.

Based on roadway geometrics, it is estimated that the capacity of the RHVP is 3000 vehicles/hour/direction (1500 vehicles/lane) and 4000 vehicles/hour/direction (2000 vehicles/lane) for the LINC. A review of traffic volumes taken from the permanent count stations operated by City of Hamilton staff on the RHVP (2015) and the LINC (2017), indicates that the volume/capacity (V/C) is less than 1.0 during all times of the day. A roadway has reached full capacity when the V/C ration has reached a level of 1.0.

Peak Period Traffic Volumes and V/C Ratios on the LINC & RHVP

LINC W/B			LINC E/B	
Hour	W/B Volume	V/C	E/B Volume	V/C
6-7 am	3,458	0.87	3,211	0.80
7-8 am	3,615	0.90	3,416	0.85
1-2 pm	3,350	0.84	3,226	0.81
2-3 pm	3,674	0.92	3,712	0.93
3-4 pm	3,671	0.92	3,878	0.97
4-5 pm	3,468	0.87	3,679	0.92
5-6 pm	2,926	0.73	2,966	0.75

RHVP S/B			RHVP N/B	
Hour	S/B Volume	V/C	S/B Volume	V/C
7-8 am	-	-	2,152	0.72
8-9 am	-	-	2,097	0.70
9-10 am	-	-	2,036	0.68
3-4 pm	2,175	0.73	-	-
4-5 pm	2,793	0.93	-	-
5-6 pm	2,774	0.93	-	-
6-7 pm	2,709	0.90	-	-
7-8 pm	2,825	0.94	-	-

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The RHVP and LINC could be widened to accommodate an additional lane in each direction on both facilities; however there are a number of factors to consider. The current restrictions at the connection points of Highways 403 and QEW are problematic. Providing additional lanes on the Parkways may relieve the peak hour congestion that occurs on both the RHVP and LINC, but with the congestion at the Provincial Highway connection points, the widening would only create increased congestion and queuing, longer travel times, increased driver frustration, potential increase in collisions and increased delays along both Parkways and extended peak traffic periods.

The City of Hamilton has previously requested the MTO, investigate and include the need for widening the Highway 403 and QEW through Provincial Capital programming. This has recently been further supported by the Planning and Economic Development Department in which it was identified that congestion of the Provincial facilities has negative impacts to the Economic Growth of the City of Hamilton (PED16161(a)).

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Collision History of LINC-RHVP 2008-2014

Year	Total Collisions LINC	Fatal Collisions on LINC	Number of Crossover Collisions on LINC	Total Collisions RHVP	Fatal Collisions on RHVP	Number of Crossover Collisions on RHVP
2008	42	0	3	43	1	0
2009	54	1	6	37	0	1
2010	40	0	4	51	0	1
2011	60	0	1	71	0	3
2012	65	1	3	67	1	1
2013	67	0	2	80	0	1
2014	61	1	3	71	0	4
Total	389	3(2)	22	420	2(1)	11

Note: (x) represents the number of fatal collisions from a crossover collision

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Public Works report PW15-016, identified that the installation of short, medium, and long term collision counter measures (Appendix A) could address some of the driver behaviour issues that are causing collisions to occur. As identified in Appendix A, the City of Hamilton is in the process of obtaining Variable Message Board signs (VMS) which will be placed on the LINC and RHVP and will allow staff to display messages to raise awareness of the posted speed limit and operating conditions. In addition, staff have begun the process for the review and design of a queue end warning system

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As the LINC is currently built with a curbed centre median and the RHVP with a grass swale median, both facilities would need to be properly designed by an Engineer to ensure for a safe and appropriate installation. Should the need for widening be supported through the process, staff recommends that appropriate median barriers be designed and installed in co-ordination with future reconstruction and widening of both the LINC and RHVP.

As per the recommendation in report PW15-016, staff recommends the continued implementation of the short-term and medium-term collision counter measures as identified in Appendix A. Implementation of these counter measures will continue to assist in addressing the collision patterns that have been identified and assist in reducing the number of collisions occurring.

It is further recommended that the Hamilton Police Services be requested to continue regular enforcement on both the LINC and RHVP, and that collision and enforcement statistics specific to these facilities be included in the annual Hamilton Strategic Road Safety Program Annual Report.

There are two additional outstanding motions:

- Speed Limit Reduction Feasibility Study on the Lincoln Alexander Parkway (LINC) and the Red Hill Valley Parkway (RHVP) (Item 9.3) (Public Works Committee, August 17, 2017)
- That staff from Traffic Operations and Engineering be directed to study the Feasibility and safety benefits of reducing the speed limit on the Lincoln Alexander Expressway (LINC) and the Red Hill Valley Parkway (RHVP) from 90 km/h to 80km/h and report the finding back to the Public Works Committee in one year's time.

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This work is planned to be reviewed and completed in conjunction with the review and design of a queue end warning system. It is expected that Public Works will report back to Public Works Committee in 2018.

Photo Radar on the Lincoln M. Alexander Parkway and the Red Hill Valley Parkway (Added Item 10.1) (Public Works Committee, November 14, 2016)

- (c) That, when provincial legislations permitting the establishment of phot radar is in place, staff be directed to consider establishing Community Safety Zones in the City of Hamilton; and
- (d) That staff be directed to report to the Public Works Committee on the actions required to establish photo radar, conforming with forthcoming Provincial Legislation, in Community Safety Zones; and
- (e) That consideration be given to making the Lincoln M. Alexander Parkway and the Red Hill Valley Parkway a Community Safety Zone for the purpose of establishing photo radar speed enforcement.

Discussions on the development of the Provincial Regulations associated with the implementation of Automated Speed Enforcement are ongoing with the Province of Ontario and other Provincial Municipalities. When details of the program become available from the Province, staff will follow up with a report to Public Works Committee in 2018.

ALTERNATIVES FOR CONSIDERATION

There are no alternatives for consideration.

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement & Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community.

Healthy and Safe Communities

Hamilton is a safe and supportive city where people are active, healthy, and have a high quality of life.

Built Environment and Infrastructure

Hamilton is supported by state of the art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

APPENDICES AND SCHEDULES ATTACHED

Appendix A – List of Counter Measures

Appendix B – Letters from Minister of Transportation Ontario