

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON NOVEMBER 29, 2016
FROM:	KELLY SCHERR, P. ENG., MBA, FEC MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	RIVERSIDE DRIVE AND BEAVERBROOK AVENUE INTERSECTION

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services and City Engineer, the following report **BE RECEIVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

For additional information, please refer to the following committee report:

1. October 6, 2014 – Civic Works Committee Item 9: [Riverside Drive and Beaverbrook Avenue Intersection Improvement](#).

2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of **Strengthening Our Community** by ensuring the safe and efficient movement of traffic, goods and people.

BACKGROUND

At its October 14, 2014 meeting, Council pass the following resolution:

“That the matter of the potential installation of traffic lights at Beaverbrook Avenue and Riverside Drive **BE REFERRED** back to the Civic Administration for further review and report back at a future date. (2014-T05/T07) (9/16/CWC)” (File Number 24, High Density Traffic Zone Safety Issues at Beaverbrook Avenue and Riverside Drive, CWC Deferred Matters List)

Traffic flow on Beaverbrook Avenue at the Riverside Drive intersection has grown from an average annual daily traffic (AADT) of 4,500 in 2007 to 6,000 in 2016 which is consistent with development in the area. Riverside Drive is a 2-lane arterial road with an AADT of 20,000. It should be noted that traffic volumes on these two roads has stabilized at the above values for the last three years. In 2015, a westbound right-turn lane was constructed which as alleviated some of the congestion at Beaverbrook Avenue by creating more gaps in the traffic.

DISCUSSION

Traffic signals are designed to ensure a safe and orderly flow of traffic, provide safety for pedestrians and/or vehicles while crossing a busy intersection and help lessen the severity and frequency of collision between vehicles entering intersections from different directions. However, traffic signals can be detrimental to the operational efficiency of our roadway system and can increase the number of traffic collisions.

The installation of traffic control signals are recommended at intersections where the traffic volume or collision data indicates that their installation is needed to address operational and/or safety issues. The Ontario Traffic Manual (OTM) specifies the warrant process that is followed by the City of London. This process takes into consideration the volume of traffic/pedestrian using the intersection, the delay experienced by side street traffic/pedestrians and the collision history of the intersection while still acknowledging that traffic control signals can be detrimental to the operational efficiency of our roadway system.

Traffic studies have been conducted over the last few years at the Riverside Drive/Beaverbrook Avenue intersection. The following is a summary of the 2016 traffic signal analysis:

Justification	Compliance
Minimum Volume Warrant:	57 % ⁽¹⁾
Delay Warrant:	92 % ⁽¹⁾
Combination Warrant:	not met ⁽¹⁾
Collision Experience:	60 % ⁽²⁾

Notes:

1. The Minimum Volume Warrant or the Delay Warrant must exceed 100 % or both must exceed 80 %.
2. There have been 12 reported collisions in the last three years. Nine collisions were of a type susceptible to prevention by a traffic signal. The collision warrant requires an average of five preventable collisions per year for three years.

An analysis of the pedestrian volume was also conducted which identified 25 pedestrians crossing Riverside Drive during the peak eight (8) hours. The OTM warrant for an intersection pedestrian signal requires a minimum of 200 pedestrians crossing.

The impact that the installation of a traffic signal has on the operation of the road should also be considered when a traffic signal is being considered. During peak times a traffic signal may assist Beaverbrook Avenue traffic entering onto Riverside Drive; however, during off-peak times it may take longer for drivers to wait for a green signal compared to the existing stop control. The flow of traffic on Riverside Drive can also

be significantly impacted with the installation of a traffic signal. The operation of an intersection can be expressed as Level of Service (LOS). LOS A is ideal and indicates free-flow conditions. LOS F is the worst and indicates that intersection operations are failing and congestion and delays are significant. Signalizing the Riverside Drive/Beaverbrook Avenue intersection would improve the southbound left-turn from a LOS F to LOS E. The LOS of Riverside Drive would drop from LOS A to LOS B and the overall operation of the intersection would decrease from a LOS A to LOS D. An analysis of the traffic volumes indicate that during the afternoon peak times, the length of the westbound queue of vehicles waiting at a red signal would average at 184 m; however, the queue would extend to 340 m at times. The analysis showed that similar queues would be experienced by eastbound traffic during the morning peak traffic times.

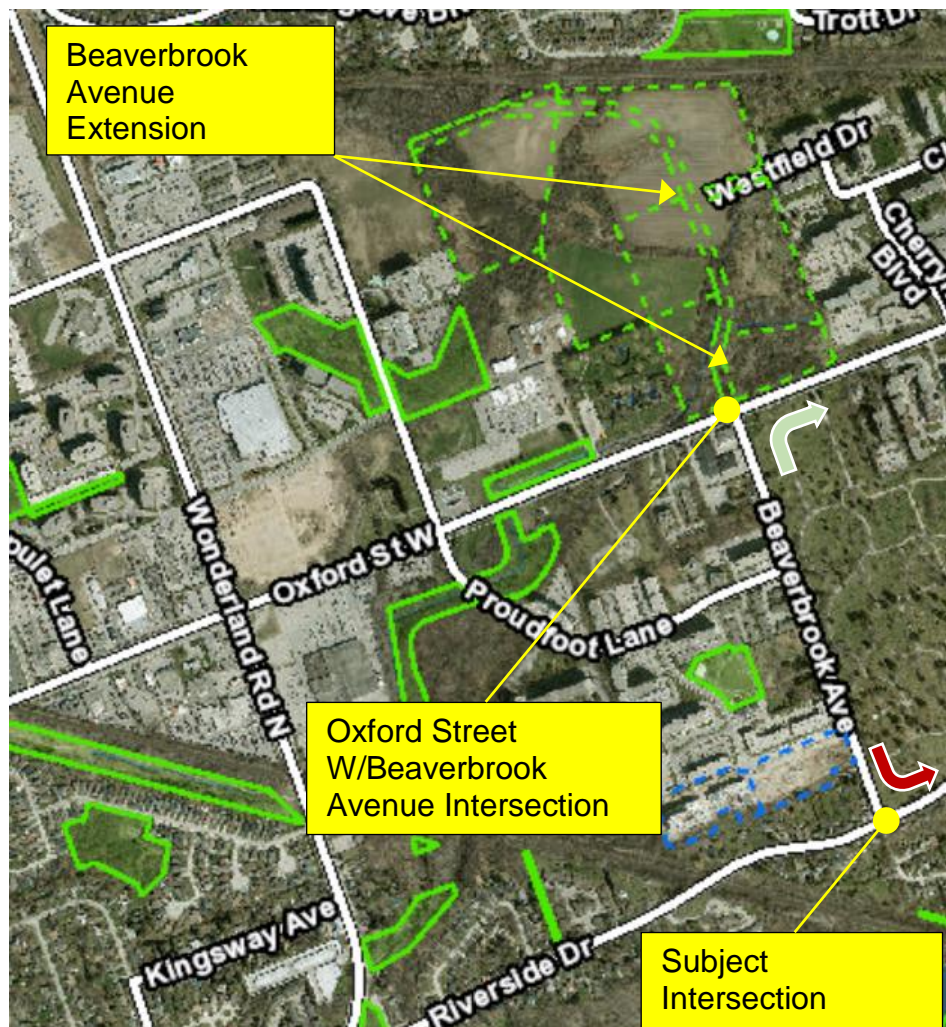


Figure 1: Area Plan

Based on the above, neither a traffic signal nor intersection pedestrian signal is recommended at this time. It should be noted that, traffic currently turning left at the Beaverbrook Avenue and Riverside Drive intersection can travel easterly using the Oxford Street W and Beaverbrook Avenue intersection (Figure 1) if drivers are concerned with turning left at Riverside Drive. Improvements to the Oxford Street W and Wharncliffe Road N intersection that are scheduled for 2017 will help mitigate concerns about traffic delays on Oxford Street W.

CONCLUSION

An analysis of the Riverside Drive and Beaverbrook Avenue intersection showed that a traffic signal was not warranted from a traffic volume or collision history perspective. The review also demonstrated that the signalization of this intersection while providing

some relieve to Beaverbrook Avenue would significantly impact the flow of traffic on Riverside Drive creating greater overall delays.

A traffic signal at the Beaverbrook Avenue and Riverside Drive intersection is not recommended at this time. It should be noted that new developments are proposed north of Oxford Street W that include the extension of Beaverbrook Avenue (Figure 1). As Beaverbrook Avenue is extended and the new development occurs, traffic volumes will be reassessed and the need for a traffic signal will be re-evaluated.

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