
TO:	GENERAL COMMITTEE
SUBJECT:	TRAFFIC SENSOR DETECTORS
WARD:	5, 8 AND 9
PREPARED BY AND KEY CONTACT:	M. CHARLEBOIS, C.E.T. SENIOR TRANSPORTATION TECHNOLOGIST (EXT. 5145)
SUBMITTED BY:	D. FRIARY DIRECTOR OF ROADS, PARKS AND FLEET
GENERAL MANAGER APPROVAL:	R. FORWARD, MBA, M.Sc., P.Eng., GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT
CHIEF ADMINISTRATIVE OFFICER APPROVAL:	M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED MOTION

1. That Staff Report RPF001-18 regarding traffic sensor detectors be received for information purposes.

PURPOSE & BACKGROUND

2. During the Infrastructure, Investment and Development Service Committee on Monday, October 17, 2017 there was a deputation from a resident requesting staff investigate vehicle detection loops at the following signalized intersections:
 - Dunlop Street West at Miller Drive/Tiffin Street (northbound and southbound movements);
 - Yonge Street at GO Entrance (westbound movements);
 - Maplevue Drive East at Bayview Drive (southbound movements).
3. The deputation sited concerns specifically related to motorcycle detection at the above noted intersections.
4. The City of Barrie's current practice is to utilize vehicle detection loops at signalized intersections which is common industry-wide.
5. Vehicle detection loops are low-voltage electrical wires that are embedded in the roadway at the stop bar of signalized intersections. The detection loop will measure the change in magnetic field from a metallic vehicle passing over them and ultimately change the signals to allow that vehicle to proceed.
6. Proper placement of the vehicle detection loop in the pavement, as well as alignment of the vehicle over the loop is critical to provide accurate detection.

ANALYSIS

7. Staff, in collaboration with our traffic signal maintenance contractor, have investigated the concerns at the three identified intersections above. The investigation included verification that the vehicle detection loops have been placed correctly, visual inspection for any possible damages to the wiring and/or roadway surface, as well as sensitivity settings of the vehicle detection loops.
8. It has been identified that the intersection of Dunlop Street West at Tiffin Street/Miller Street is currently under the operation of temporary traffic control signals and temporary microwave vehicle detection sensors to facilitate construction. Therefore, investigation and testing of the vehicle detection loops cannot be completed at Dunlop Street West at Tiffin Street/Miller Drive until construction is complete and the permanent vehicle detection loops are restored. Staff did confirm the temporary microwave detection at this location is working. Microwave Sensors are mounted on the traffic poles and similar to home security sensors, they detect motion in a defined area.
9. The vehicle detection loops at the intersection of Yonge Street at GO Entrance were tested for continuity and the results were within tolerance. All vehicle detection loops had no visible damage and the sensitivity was increased, where possible, for each vehicle detection loop in order to accommodate the lower metallic content and footprint of motorcycles.
10. The vehicle detection loops at the intersection of Mapleview Drive East and Bayview Drive were tested for continuity and the results were within tolerance. All vehicle detection loops had no visible damage and the sensitivity was increased, where possible, for each vehicle detection loop in order to accommodate the lower metallic content and footprint of motorcycles.
11. Currently, semi-annual inspections are completed at all City of Barrie signalized intersections as required by the legislated Provincial Minimum Maintenance Standards. As part of these inspections we have also included a detection loop inspection in an effort to provide a higher level of customer service while proactively identifying failed vehicle detection loops.

ENVIRONMENTAL MATTERS

12. There are no environmental matters related to the recommendation.

ALTERNATIVES

13. There are no alternatives available for consideration by General Committee.

FINANCIAL

14. There are no financial concerns related to the recommendation.

LINKAGE TO COUNCIL STRATEGIC PRIORITIES

15. The information included in this Staff Report is specifically related to goals identified in the 2014-2018 Strategic Plan.
 - Well Planned Transportation – Improve our road network