




RTO: GENERAL COMMITTEE

SUBJECT: ALL-WAY STOP - LARKIN DRIVE AND DUNSMORE LANE

WARD: WARD 1

PREPARED BY AND KEY CONTACT: J. MACDONALD, C.E.T.  TRANSPORTATION TECHNOLOGIST (EXT. 5178) 

SUBMITTED BY: D. FRIARY 
DIRECTOR OF ROADS, PARK, and FLEET

GENERAL MANAGER APPROVAL: R. J. FORWARD, MBA, M.Sc., P. Eng. 
GENERAL MANAGER OF INFRASTRUCTURE & GROWTH MANAGEMENT

CHIEF ADMINISTRATIVE OFFICER APPROVAL: C. LADD
CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED MOTION

1. That Traffic By-law 80-138 Schedule "S" "Providing for the Erection of Stop Signs at Intersections" be amended by adding the following:

<u>"Larkin Drive and Dunsmore Lane</u>	Northbound and Southbound on Larkin Drive and Eastbound and Westbound on Dunsmore Lane"
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PURPOSE & BACKGROUND

2. On November 17, 2014, City Council adopted a motion regarding the intersection of Dunsmore Lane and Larkin Drive as follows:

"That staff in the Roads, Parks and Fleet Department review the intersection of Dunsmore Lane and Larkin Drive to improve traffic movements and sightlines and report back to General Committee with respect to any corrective actions that may be required."
3. Larkin Drive is a two (2) lane local roadway with a sidewalk on the west side, with a traffic volume of less than a 1,000 vehicles per day and a pavement width of 8.5 metres. Please refer to Appendix "A".
4. Dunsmore Lane is a two (2) lane local roadway with sidewalks on the south side, with a daily volume of less than a 750 vehicles per day and a pavement width of 8.5 metres. Please refer to Appendix "A".

ANALYSIS

5. The OTM warrant is based on volume, collision history, and stopping sight distance of the intersection. There are two (2) variations of Minimum Volume Warrants identified in the OTM based on the classification of the roadway. The variations are Minor Roadways (Local Roadways) and Major Roadways (Collector and Arterial Roadways). Larkin Drive is classified as a local roadway and therefore the Minor Roadway Minimum Volume Warrant was used. Each component of the All-Way Stop Warrant has the ability to satisfy the warrant independently.

- **Volume** - the total number of vehicles entering an intersection during the peak hour as well as the percentage of vehicles on the minor street during the peak hour.
- **Collision History** - reviews collisions over a three-year period which are correctable through All-Way Stop control (i.e. right angle and turning type collisions) and which are reported to the Barrie Police Service.
- **Stopping Sight Distance** - the distance required for a driver to see ahead in order to stop, if necessary.

A traffic count was completed on January 29, 2015, for the purpose of completing an All-Way Stop warrant. The results of the investigation are summarized below:

Description	All-Way Warrant	Recorded Data	Satisfied All-Way Warrant	
			Yes	No
Part 1a – Total Volume Peak Hour Traffic Volume ⁽¹⁾	Greater than 350 vehicles in peak hour ⁽²⁾	133 vehicles in the peak hour		
Part 1b – Volume Split Percentage of Traffic on Dunsmore Lane (Minor Street)	Greater than 25% ⁽²⁾	26 vehicles (20%)		X
Part 2 – Collisions Intersection Collision History	Average four per year over three years	3 collisions over a 3-year period		X
Part 3 – Visibility Stopping Sight Distance from Dunsmore Lane (east leg)	Less than 65m	40 metres	X	

- There have been three (3) correctable collisions over the past three (3) years. Based on the Ontario Traffic Manual warrant analysis of four (4) correctable collisions over three (3) years, this warrant is 75% satisfied.
- Residents were split 50/50 regarding the implementation of the All-Way Stop at the intersection of Larkin Drive and Dunsmore Lane. The residents in favour of the All-Way Stop noted concerns of vehicles parking on-street blocking sight lines and speeding issues.
- After review of the intersection of Larkin Drive and Dunsmore Lane staff recommend an All-Way Stop be installed as there are restricted sight lines, and the collision history warrant is 75% satisfied.
- Staff recommend that Traffic By-law 80-138 Schedule "S" "Providing for the Erection of Stop Signs at Intersections" be amended by adding the following:

<u>"Larkin Drive and Dunsmore Lane"</u>	Northbound and Southbound on Larkin Drive and Eastbound and Westbound on Dunsmore Lane"
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- Barrie Fire and Emergency Services and Municipal Law Enforcement do not oppose the recommended motion.

ENVIRONMENTAL MATTERS

11. At a typical All-Way Stop location, the following vehicle emissions are released each year:
- 657 kg (1,448 lbs) of hydrocarbons (HC);
 - 8,760 kg (19,312 lbs) of carbon monoxide (CO);
 - 675 kg (1,448 lbs) of nitrogen oxides (NOx); and
 - 65,700 kg (144,842 lbs) of carbon dioxide (CO₂).

ALTERNATIVES

12. There is one alternative available for consideration by General Committee:

Alternative #1 General Committee could decide not to install the All-Way stop at Larkin Drive and Dunsmore Lane.

This alternative is not recommended as there are restricted sight lines on the east leg of Dunsmore Lane looking northbound on Larkin Drive and the collision history warrant is 75% satisfied.

FINANCIAL

13. The cost associated with the recommended motion would be approximately \$300 and can be accommodated within the 2015 Operating Budget.

LINKAGE TO COUNCIL STRATEGIC PRIORITIES

14. The recommendation included in this Staff Report is related to well-planned transportation to improve roadway safety as identified in the 2014-2018 Strategic Plan.

APPENDIX "A"

