
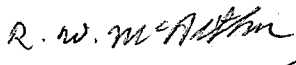

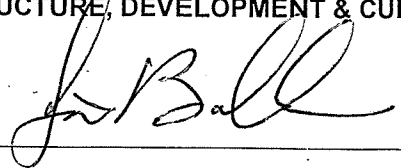

TO: GENERAL COMMITTEE

SUBJECT: ALL-WAY STOP – CARLEY CRESCENT AND ESTHER DRIVE

PREPARED BY AND KEY CONTACT: J. MACDONALD
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SUBMITTED BY: R. W. MCARTHUR, P. Eng. 
DIRECTOR OF ENGINEERING

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

CHIEF ADMINISTRATIVE OFFICER APPROVAL: JON M. BABULIC, 
CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED MOTION

1. That an All-Way Stop not be installed at the two intersections of Carley Crescent and Esther Drive.

PURPOSE & BACKGROUND

2. On August 23, 2010, City Council adopted motion 10-G-318 which stated:

“Staff in the Engineering Department investigates the feasibility of implementing traffic calming measures for the south intersection of Carley Crescent and Esther Drive including but not limited to the installation of an all-way stop sign at the intersection, and report back to General Committee.”
3. In an effort to provide Council with background information, the approved All-Way Stop Request Policy and the Ontario Traffic Manual (OTM) All-Way Stop Warrant Guidelines will be made available in the Councillor's Lounge and has been summarized in Appendix “A”.
4. Esther Drive is a two (2) lane local roadway, with a traffic volume of less than a 1,200 vehicles per day and a pavement width of 8.5 metres.
5. Carley Crescent is a two (2) lane local roadway, with a daily volume of less than a 500 vehicles per day and a pavement width of 8.5 metres.
6. City Council has the authority to install All-Way Stops at most intersections throughout the City.

ANALYSIS

7. In order to address the above Motion, staff performed the following traffic studies and analysis at the subject intersection:
 - a) Existing intersection characteristics – traffic and parking control/conditions;
 - b) All-way stop warrant analysis;
 - c) Speed study; and
 - d) Survey of residents in the vicinity of the intersection, as per the City's All-Way Stop Policy.

8. Existing Intersection Characteristics:

LOCATION (See Appendix "B")	INTERSECTION CONTROL	INTERSECTION TYPE	SPEED LIMIT
Carley Crescent and Esther Drive	Esther Drive is the through street and traffic on Carley Crescent stops.	3-legged intersection	40 km/h

9. The following chart summarizes the result of the Ontario Traffic Manual (OTM) warrants, resident surveys, and speed surveys conducted at the proposed intersection. The OTM warrant sets minimum criteria for traffic volume on all intersection approaches and the collision history of the intersection over a three-year period to determine whether an All-Way Stop should be installed at an intersection (see Appendix "A").

Summary of Technical and Survey Data

LOCATION	OTM WARRANT SATISFIED	SPEED SURVEY DATA	RESIDENT SURVEY	STAFF RECOMMEND
Carley Crescent and Esther Drive	No	Esther Drive 85 th percentile – 45 km/h Average – 40 km/h	Surveyed – 55 Opposed – 8 In Favour – 11	No

10. In review of the technical and surveyed data staff does not recommend the installation of an All-Way Stop at either intersection of Carley Crescent and Esther Drive.
11. On January 17, 2011, Council approved a traffic calming policy for local and minor collector roadways. The roadways identified within this report will be added to our list for roadways to be investigated. If the roadway(s) meet the warrants for temporary or permanent measures, they will be ranked for consideration in future budgets.
12. Barrie Police Services and Barrie Fire and Emergency Service do not support the installation of an All-Way Stop as it does not satisfy the OTM All-Way Stop Warrant.

ENVIRONMENTAL MATTERS

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

ALTERNATIVES

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

Alternative #1

General Committee could authorize the installation of an All-Way stop at either intersection of Carley Crescent and Esther Drive.

This alternative is not recommended as the subject intersection does not satisfy the Ontario Traffic Manual All-Way Stop Warrant.

FINANCIAL

15. There are no direct financial implications associated with the recommended motion.

LINKAGE TO COUNCIL STRATEGIC PRIORITIES

16. The 2010-2014 Council's Strategic Priorities have not been established as of the time of writing of this report.

APPENDIX "A"

CARLEY CRESCENT AND ESTHER DRIVE (North Intersection)

All-Way Stop Warrant Data Summary

Description	Recorded Data	All-Way Warrant	Satisfied All-Way Warrant	
			Yes	No
Part 1a – Total Volume ⁽¹⁾ Peak Hour Traffic Volume ⁽²⁾	308 vehicles	Greater than 350 vehicles		X
Part 1b – Volume Split ⁽¹⁾ Percentage of Traffic on Carley Crescent (Minor Street)	26 vehicles (7%)	Greater than 25%		
Part 2a – Collisions ⁽³⁾ Intersection Collision History	1 collisions over a 3 year period	Average 4 per year over 3 years		X
Part 2b – Visibility Stop Sight Distance from Carley Crescent ⁽⁴⁾	No restrictions.	Less than 65m		X

CARLEY CRESCENT AND ESTHER DRIVE (South Intersection)

All-Way Stop Warrant Data Summary

Description	Recorded Data	All-Way Warrant	Satisfied All-Way Warrant	
			Yes	No
Part 1a – Total Volume ⁽¹⁾ Peak Hour Traffic Volume ⁽²⁾	292 vehicles	Greater than 350 vehicles		X
Part 1b – Volume Split ⁽¹⁾ Percentage of Traffic on Carley Crescent (Minor Street)	99 vehicles (34%)	Greater than 25%		
Part 2a – Collisions ⁽³⁾ Intersection Collision History	0 collisions over a 3 year period	Average 4 per year over 3 years		X
Part 2b – Visibility Stop Sight Distance from Carley Crescent ⁽⁴⁾	No restrictions.	Less than 65m		X

Speed Survey Summary – Esther Drive

Description	Recorded Data	Posted Speed
85 th Percentile Speed on Esther Drive ⁽⁵⁾	45 km/hr	40 km/hr
Average Speed on Esther Drive	40 km/hr	40 km/hr

Resident Survey Data

Description	Total	Percentage
Number of Residents Surveyed	55	100%
Number of Responding Residents	19	33%
Residents Opposed to All-Way Stop	8	42% of responding residents
Residents in Favour of All-way Stop	11	58% of responding residents

NOTE:

- (1) Both conditions for Part 1a - Total Volume and Part 1b - Volume Split needs to be met to satisfy the volume portion of the warrant.
- (2) Peak Hour Volume is the maximum number of vehicles that pass through the intersection during a one-hour period.
- (3) Collisions history reviews collisions over a three-year period, which are only correctable through All-Way Stop control (i.e. right angle and turning type collisions) and which are reported to the Barrie Police Services.
- (4) Stopping sight distance required for a driver to see ahead in order to stop if necessary.
- (5) 85th percentile speed is the speed below which 85 percent of the vehicles are travelling along a roadway. The speed study was conducted on November 18, 2010.
- (6) The traffic count data was collected on October 28, 2010, with the speed data collected on November 18, 2010.

APPENDIX "B"



LEGEND:



Study Area

DATE:

November 2010

SCALE:

NTS

