
TO: GENERAL COMMITTEE

SUBJECT: ALL-WAY STOP AT THE INTERSECTION OF INNISFIL STREET AND BROCK STREET

WARD: 2

PREPARED BY AND KEY CONTACT: M. KAVECKAS, TRANSPORTATION OPERATIONS TECHNOLOGIST, EXT. 4876

SUBMITTED BY: M. BANFIELD, RPP, DIRECTOR OF DEVELOPMENT SERVICES

GENERAL MANAGER APPROVAL: A. MILLER, RPP, GENERAL MANAGER OF INFRASTRUCTURE AND GROWTH MANAGEMENT

CHIEF ADMINISTRATIVE OFFICER APPROVAL: M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RECOMMENDED MOTION

1. That Traffic By-law 2020-107, Schedule 19 "Providing for the Erection of Stop Signs at Intersections" be amended by adding the following:

"Innisfil Street and Brock Street Northbound and Southbound on Innisfil Street and Eastbound and Westbound on Brock Street"

PURPOSE & BACKGROUND

2. Staff have received motion 21-G-020 which states: "That Staff in the Development Services Department investigate the feasibility of installing an All-Way Stop at Brock Street and Innisfil Street and report back to General Committee."
3. Innisfil Street and Brock Street are both two lane roadways with pavement widths of 8.5 metres and urban cross-sections. The existing traffic operations requires vehicles travelling east/west on Brock Street to stop at Innisfil Street. Please refer to Appendix "A" for a map of the study area.

ANALYSIS

4. Staff have investigated the intersection of Innisfil Street and Brock Street to determine if an All-Way Stop is warranted based on criteria within the Ontario Traffic Manual (OTM) Book 5 – Regulatory Signs.
5. The OTM warrant is based on volume, collision history, and stopping sight distance at the intersection. There are two classes of Warrants identified in the OTM: each class is based on the classifications of roadways; Minor Roadways (local streets) and Major Roadways (collectors and arterials). Road classification is determined by using the City of Barrie Official Plan, Schedule D – Road Plan.
6. Based on the classification of Innisfil Street being a minor collector, the Major Roadways warrant is used. Each component of the warrant can satisfy an All-Way Stop independently.
 - **Volume** - the total vehicle volume on all approaches exceeds 500 vehicles per hour for the highest 8 hours recorded, combined with 200 vehicles/pedestrians entering the minor street per hour for the same 8 hours recorded.

- **Collision History** – Reviews high collision frequency. There must be an average of four collisions per year over a three-year period. Only collisions that are correctable through All-Way Stop control (i.e., right angle and turning type collisions) and reported to the Barrie Police Service are considered for the review.
- **Stopping Sight Distance** - the distance required for a driver to see ahead to stop, if necessary.

7. A traffic count was completed on March 4, 2021, 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	500 vehicles every hour for the busiest 8 hours	534 vehicles in the peak hour – 339 average vehicles over the busiest 8 hours		X
Part 1b – Volume Split Traffic Volume entering on Brock Street (Minor Street)	Greater than 200 vehicles/pedestrians per hour over the busiest 8 hours	126 vehicles/pedestrians in the peak hour – 103 vehicles/pedestrians over the busiest 8 hours.		X
Part 2 – Collisions Intersection Collision History	Average four per year over three years	15 collisions over a 3-year period	X	
Part 3 – Visibility Stopping Sight Distance from Brock Street	Less than 105m	No restrictions measured at the intersection		X

8. An All-Way Stop questionnaire survey was prepared and mailed to 20 property owners on Innisfil Street and Brock Street. See table below for results of the survey.

INNISFIL STREET AND BROCK STREET ALL-WAY STOP SURVEY	RESPONSE RECEIVED	PERCENTAGE OF RESPONSES
Option A - Leave as is (traffic along Brock Street stops at Innisfil Street)	0	0%
Option B – Install an All-Way Stop at Innisfil Street and Brock Street	7	100%
TOTAL (Out of 20)	7	35%

9. After analysing the turning movement count, the PM peak at 3:45 pm – 4:45 pm had over 500 vehicles entering the intersection. However, over the course of the busiest 8 hours of the count, there was an average of 339 vehicles with only a max of 126 vehicles entering from Brock Street (minor street – with stop control).

10. Collision history was investigated at the intersection. From January 1, 2018, to the current date, there have been 20 collisions reported to the Barrie Police Services. 15 of those collisions were correctable by an All-Way Stop (right angle, turning type movements). This high collision frequency satisfies the intersection collision warrant.

11. Area residents were sent questionnaires regarding whether they would want to see full stop control at the intersection or have the existing conditions left as is. There was a 35% response rate with all responses in favour of installing the All-Way Stop. Residents noted that they have viewed collisions at the intersection which was confirmed from Barrie Police Services collision reports.
12. After review of the intersection of Innisfil Street and Brock Street, staff recommend an All-Way Stop be installed as the collision history shows there is a high frequency of collisions that could potentially be reduced from the installation of an All-Way Stop. This will assign right-of-way control at the intersection which will increase safety.
13. Based on a high collision frequency which satisfies the collision warrant, 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:

"Innisfil Street and Brock Street Northbound and Southbound on Innisfil Street and Eastbound and Westbound on Brock Street"
14. Barrie Fire and Emergency Services and Municipal Law Enforcement do not oppose the recommended motion.

ENVIRONMENTAL AND CLIMATE CHANGE IMPACT MATTERS

15. There are no environmental and/or climate change impact matters related to the recommendation.

ALTERNATIVES

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

Alternative #1 General Committee could decide not to install the All-Way stop at Innisfil Street and Brock Street.

This alternative is not recommended as there is a high collision frequency at the intersection where the collision warrant (Part B) has been satisfied.

FINANCIAL

17. The cost associated with the recommended motion would be approximately \$750.00 and can be accommodated within the 2021 Operating Budget.

LINKAGE TO COUNCIL STRATEGIC PRIORITIES

18. The recommendation included in this Staff Report support the following goals identified in the 2018-2022 Strategic Plan:
 - a) Improving the ability to get around Barrie

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19. The recommended motion will increase traffic operation and safety by clearly assigning the right-of-way between vehicles approaching the intersection from Innisfil Street and Brock Street. Installing the All-Way Stop should reduce right angle or turning collisions to ensure safe and efficient travel.

APPENDIX "A"

