



**DEVELOPMENT SERVICES  
MEMORANDUM**

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**TO: GENERAL COMMITTEE**

**FROM: M. KAVECKAS, TRANSPORTATION OPERATIONS TECHNOLOGIST**

**NOTED: M. BANFIELD, RPP, DIRECTOR OF DEVELOPMENT SERVICES**

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

**M. PROWSE, CHIEF ADMINISTRATIVE OFFICER**

**RE: INSTALLATION OF A THREE-WAY STOP – PENETANGUISHENE ROAD AND INDIAN ARROW ROAD**

**DATE: SEPTEMBER 13, 2021**

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The purpose of this Memorandum is to provide members of Council with a response to the following Council motion 21-G-019:

**“INSTALLATION OF A THREE-WAY STOP – PENETANGUISHENE ROAD AND INDIAN ARROW ROAD**

That staff in Development Services Department investigate the feasibility of installed a three-way stop at Penetanguishene Road and Indian Arrow Road and report back to General Committee.”

The existing traffic operations at Penetanguishene Road (Minor Collector) and Indian Arrow Road (Local) require vehicles travelling east on Indian Arrow Road to stop at Penetanguishene Road. Please refer to Appendix “A” for a map of the study area.

Staff have investigated the intersection of Penetanguishene Road and Indian Arrow Road to determine if an All-Way Stop is warranted based on criteria within the Ontario Traffic Manual (OTM) Book 5 – Regulatory Signs.

The OTM warrant is based on volume, collision history, and stopping sight distance at the intersection. There are two (2) classes of Minimum Volume Warrants identified in the OTM; each class is based on the classifications of roadways; Minor Roadways (Local Roadways) and Major Roadways (Collector and Arterial Roadways). A road classification is determined by using the City of Barrie Official Plan, Schedule D – Road Plan.

Based on the classification of Penetanguishene Road being a minor collector, the Major Roadways warrant would typically be used. However, Penetanguishene Road between Blake Street and Crestwood Drive operates as a local roadway. As a result, the Minimum Roadway Warrant will be used as it requires lower thresholds of traffic volume. Each component of the All-Way Stop Warrant can satisfy the warrant independently.

- **Volume** - The total vehicle volume on all approaches exceeds 350 vehicles for the highest hour recorded, and the volume split does not exceed 75/25 for three-way control.
- **Collision History** – Reviews 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 in order to stop if necessary.



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A traffic count was used for the purpose of completing and All-Way Stop warrant. The count was completed on March 4, 2021. The results of the investigation are summarized below:

Description	All-Way Warrant	Recorded Data	Satisfied All-Way Warrant	
			Yes	No
<b>Part 1a – Total Volume</b> Hourly Traffic Volume	Greater than 350 vehicles over the busiest hour	84 vehicles in the peak hour		
<b>Part 1b – Side Street Volume</b> Volume of Traffic on Indian Arrow Road (Minor Street)	Volume split does not exceed 75/25 for three-way stop control	16 vehicles on side street (24%)		X
<b>Part 2 – Collisions</b> Intersection Collision History	Average 4 per year over 3 years	0 collisions over a 3-year period		X
<b>Part 3 – Visibility</b> Stopping Sight Distance from Indian Arrow Road	Less than 105m	No restrictions		X

*\*A 2% Growth Factor has been applied to all Traffic Volumes.*

An All-Way Stop questionnaire survey was prepared and mailed to 18 property owners on Penetanguishene Road and Indian Arrow Road. See table below for results of the survey.

Penetanguishene Road and Indian Arrow Road All-Way Stop Survey	Response Received	Percentage of Responses
<b>Option A</b> - Leave as is (traffic along Indian Arrow Road stops at Penetanguishene Road)	1	10%
<b>Option B</b> – Install an All-Way Stop at Penetanguishene Road and Indian Arrow Road.	9	90%
<b>TOTAL</b> (Out of 18)	<b>10</b>	<b>56%</b>

Property owners expressed vehicles speeding being the main reason for the request for stop control. Staff have considered this concern, however, do not support the installation of an All-Way Stop for this purpose as The Ontario Traffic Manual Book 5 – Regulatory Signs states:

All-way stop controls should not be used under the following conditions:

- As a speed control device.

Staff have implemented temporary speed cushions on Indian Arrow Road in efforts to address concerns of speeding in the area. Please refer to Appendix “B” for layout of the cushion.

Staff have reviewed the intersection of Penetanguishene Road and Indian Arrow Road. Based on the results of the investigation, the installation of an All-Way Stop is not warranted as the intersection does not satisfy the OTM warrants. Unwarranted All-Way Stops create operational and safety concerns for both pedestrians and vehicles entering the intersection. The unwarranted All-Way Stop makes drivers feel the stop is unnecessary and motorist do not comply with the stop control. Staff will continue to monitor traffic operations at the intersection.

In accordance with the Council approved All-Way Stop Policy, the following memorandum is provided to advise the results of Staff’s investigations. An All-Way Stop is not recommended at Penetanguishene Road and Indian Arrow Road.

APPENDIX "A"



APPENDIX "B"

