



DEVELOPMENT SERVICES DEPARTMENT MEMORANDUM

TO: MAYOR J. LEHMAN AND MEMBERS OF COUNCIL

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: ALL-WAY STOP INVESTIGATIONS AT MILLER DRIVE AT SPROULE DRIVE,
AND COX MILL ROAD AT DOCK ROAD

DATE: APRIL 26, 2021

This Memorandum is in response to the request for an All-Way Stop investigation at the intersections of Miller Drive at Sproule Drive, and Cox Mill Road at Dock Road.

This memo includes information on the following:

- Ontario Traffic Manual (OTM) Book 5 – Regulatory Sign (Traffic Volume, Collision Information and Stopping Sight Distance)
- Data from 2018* for Miller Drive at Sproule Drive
- Data 2017* at Cox Mill Road at Dock Road
- Speed Radar Board Data

*New data counts for 2021 have not been undertaken by Staff.

Staff have investigated the intersections of Miller Drive at Sproule Drive, and Cox Mill Road at Dock 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 Miller Drive, Sproule Drive, Cox Mill Road and Dock Road, as Collector Roadways, the Major Roadway Minimum Volume Warrant was used. Of the three measures: traffic volume, collision history and stopping sight distance, only one item would need to be met to warrant a stop sign.

- **Volume** - The total vehicle volume on all intersection approaches exceeds 500 vehicles per hour for eight consecutive hours of the day.
- **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 in order to stop if necessary.

DATA ON EACH LOCATION

Miller Drive at Sproule Drive

At the intersection of Miller Drive (minor collector) at Sproule Drive (minor collector), vehicles travelling west along Sproule Drive are required to stop at Miller Drive. There were no sight distance concerns noted during field investigations. Please refer to Appendix "A" for a map of the study area.

A traffic count was used for the purpose of completing an All-Way Stop warrant. In response to a previous investigation request, a traffic count was completed on December 13, 2018. The results of the investigation are summarized below:

Description	All-Way Warrant	Recorded Data	Satisfied All-Way Warrant	
			Yes	No
Part 1a – Total Volume Hourly Traffic Volume	Greater than 500 vehicles every hour over the busiest eight (8) hours	405* vehicles in the peak hour (268* Average)		
Part 1b – Side Street Volume Percentage of Traffic on Sproule Drive (Minor Street)	Greater than 200 vehicles/ pedestrians every hour over the busiest eight (8) hours	79* vehicles/ Pedestrians in the peak hour (73* Average)		X
Part 2 – Collisions Intersection Collision History	Average 4 per year over 3 years	0 collisions over a 3-year period		X
Part 3 – Visibility Stopping Sight Distance from Sproule Drive	Less than 105m	No restrictions		X

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

Historically, Staff have implemented temporary speed cushions and radar speed boards on Miller Drive, in efforts to address concerns of speeding in the areas. Below is data collected from the radar speed board to provide general information on speeds close to the intersections.

Miller Drive (66 Miller Drive NB Traffic) dates: October 21, 2020 to April 21, 2021

Average Speed: 49km/h

85th Percentile Speed: 61km/h

Both the average and 85th percentile speeds recorded in this location would not be deemed excessive for collector roadways.

Based on the results of the investigation of Miller Drive at Sproule Drive, the installation of an All-Way Stop is not warranted as the intersection does not satisfy any of 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 motorists do not comply with the stop control.

In accordance with the Council approved All-Way Stop Policy: an All-Way Stop is not recommended at Miller Drive and Sproule Drive. However, Staff recommend installing an auxiliary stop sign on Sproule Drive to increase visibility and bring driver attention to the stop control.

Cox Mill Road at Dock Road

At the intersection of Cox Mill Road (major collector) at Dock Road (minor collector), vehicles travelling east/west are required to stop at Cox Mill Road. During field investigations, it was identified that trees on



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the northwest corner are restricting sight distance for vehicles stopped eastbound looking north. Please refer to Appendix "B" for a map of the study area.

A traffic count was used for the purpose of completing an All-Way Stop warrant. The count was completed on April 11, 2017. In this instance, the review was not part of a requested investigation but rather as part of our annual count program for 2017. The results of the investigation are summarized below:

Description	All-Way Warrant	Recorded Data	Satisfied All-Way Warrant	
			Yes	No
Part 1a – Total Volume Hourly Traffic Volume	Greater than 500 vehicles every hour over the busiest eight (8) hours	354* vehicles in the peak hour (253* Average)		
Part 1b – Side Street Volume Percentage of Traffic on Dock Road (Minor Street)	Greater than 200 vehicles/ pedestrians every hour over the busiest eight (8) hours	118* vehicles/ Pedestrians in the peak hour (109* Average)		X
Part 2 – Collisions Intersection Collision History	Average 4 per year over 3 years	0 collisions over a 3-year period		X
Part 3 – Visibility Stopping Sight Distance from Dock Road	Less than 105m	Restricted sight distance. EB traffic looking N (70m)	X	

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

Historically, Staff have implemented temporary speed cushions and radar speed boards on Cox Mill Road and Dock Road in efforts to address concerns of speeding in the areas. Below is data collected from the radar speed board to provide general information on speeds close to the intersections.

Cox Mill Road (235 Cox Mill Road NB Traffic) dates: July 29, 2020 to October 21, 2020

Average Speed: 43km/h

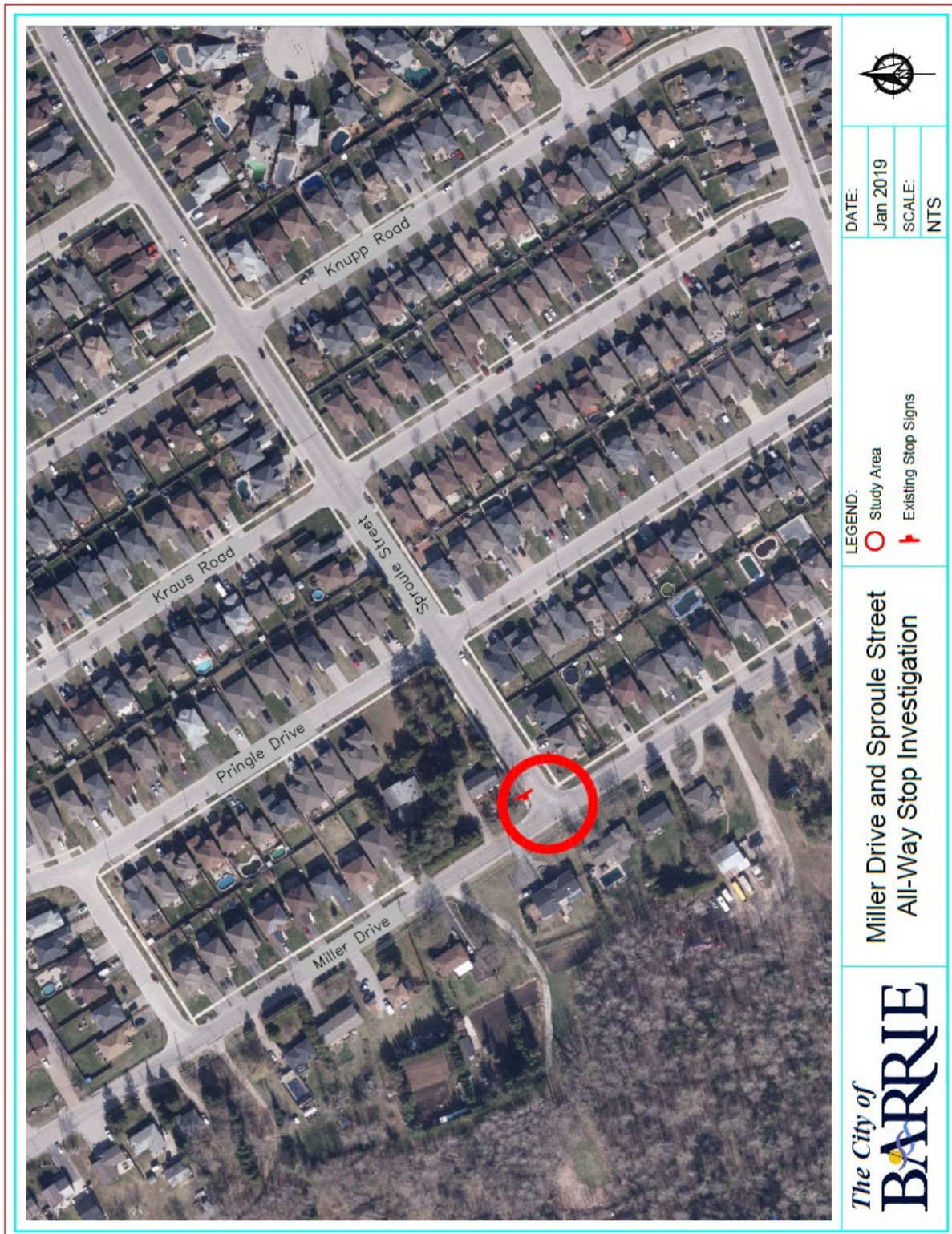
85th Percentile Speed: 58km/h

Both the average and 85th percentile speeds recorded in this location would not be deemed excessive for collector roadways.

Staff measured a stopping sight distance of 70m from projected curb when stopped eastbound on Dock Road looking north. The minimum distance required is 105m. Staff recommend installing an All-Way Stop at the intersection of Cox Mill Road at Dock Road. Furthermore, it is recommended, that Forestry and Traffic staff work with the resident located on the northwest corner (326 Cox Mill Road) to prune foliage to maximize stopping sight distance to increase safety of the intersection.

In accordance with the Council approved All-Way Stop Policy: an All-Way Stop is recommended at Cox Mill Road and Dock Road due to the restricted stopping sight distance on the northwest corner.

APPENDIX "A"



APPENDIX "B"

