Staff Report

To	General Committee
Subject	All-Way Stop at Patterson Road and Morrow Road
Date	August 13, 2025
Ward	6
From	M. Banfield, RPP, Executive Director of Development Services
Executive Member Approval	M. Banfield, RPP, Executive Director of Development Services
CAO Approval	M. Prowse, Chief Administrative Officer
Staff Report #	DEV033-25

Recommendation(s):

1. That Traffic By-law 2020-107, Schedule '19', "Providing for the erection of stop signs at the intersections" be amended by adding the following:

"Patterson Road and Morrow Road	Northbound, Southbound on Patterson Road and Westbound on Morrow Road"

Executive Summary:

The purpose of this report is to recommend stop control improvements in the form of an All-Way Stop at the intersection of Patterson Road and Morrow Road. Staff in Development Services have been directed to review the intersection and report back to General Committee.

Key Findings:

The existing operations at Patterson Road (Major Street) and Morrow Road (Minor Street) require vehicles travelling westbound on Morrow Road to Stop at Patterson Road. Please refer to Appendix A for a map of the study area.

Based on the warrant criteria outlined in the Ontario Traffic Manual (OTM), Book 5 – Regulatory Signs, an All-Way Stop is not technically warranted at the intersection of Patterson Road and Morrow Road. However, analysis of the turning movement count data indicates that the P.M. peak volumes within the highest 8-hour period meet all components of the volume warrant. As a result, staff recommend proceeding with the installation of an All-Way Stop at this location.

The installation of an All-Way Stop at this location prompted a review of the pedestrian movements at the intersection. As a result, staff propose that sidewalk curb ramping be installed on the west side of Patterson Road.

Financial Implications:

The estimated cost of an All-Way Stop at the intersection of Patterson Road and Morrow Road is $1,500 and can be accommodated within the 2025 operating budget.

Alternatives:

The following alternatives are available for consideration by General Committee:

Alternative #1 – General Committee could maintain the existing stop control at Patterson Road and Morrow Road (i.e. Status Quo).

This alternative is not recommended as warrant criteria for an All-Way Stop outlined in OTM Book 5 have been met during peak periods of the day. During these times, assigning right-of-way between major and minor streets is necessary to improve safety and traffic operations at the intersection.

Strategic Plan Alignment:

Affordable Place to Live		
Community Safety	X	The recommendation of amending the Traffic By-law to implement an All-Way Stop at the intersection of Patterson Road and Morrow Road will clearly assign the right-of-way at the intersection improving traffic operations and safety. This prioritizes Council's goal of creating safer streets.
Thriving Community		
Infrastructure Investments		
Responsible Governance		

Additional Background Information and Analysis:

Patterson Road at Morrow Road is an 8.5-metre-wide Minor Collector Road. There are sidewalks on both sides of Patterson Road, and on the north side of Morrow Road. Sidewalk ramping is in place on the southeast and southwest corners of the intersection. The west side Patterson Road at the intersection has full barrier curbing.

The Average Annual Daily Traffic on Patterson Road is approximately 3,100 vehicles with Transit route stops on either side of the road.

The OTM warrant is based on volume, collision history, and stopping sight distance at the intersection. There are three classes of warrants identified in the OTM. Each class is based on the classification of roadways:

- Urban Arterial Roads
- Collector Roads and Rural Arterial Roads
- Local Roads

Based on the classification of Minor Collector on Patterson Road, the Collector Roads and Rural Arterial Roads warrant is used. Below are the components of the warrant. Each part can satisfy the warrant independently.

1. Minimum Volume Warrant
    a. The total vehicle volume on all approaches exceeds 375 vehicles per hour for eight hours of the day.
    b. The combined vehicle and pedestrian volume on the minor street exceeds 150 units per hour for the same eight hours.
    c. The volume split does not exceed 75/2. The minor street must not be less than 25% of the total volume entering the intersection.

2. Collision Warrant – Reviews high collision frequency. Only right angle and turning movement collisions that are reported to Barrie Police Services are considered. The threshold for a high collision frequency for local roads is three collisions per year over three years.

3. Visibility Warrant – The distance requested for a driver to see ahead to stop if necessary. If all efforts have been exhausted and stopping sight distance cannot be brought up to guidelines, conversion of the intersection to an All-Way Stop may be considered.

An 8-hour Turning Movement Count was completed on Wednesday, December 18, 2024, at Patterson Road and Morrow Road for the purpose of completing an All-Way Stop warrant. The results of the warrant analysis are summarized below.

Description	All-Way Warrant	Recorded Data	Satisfied All-Way Warrant	
			Yes	No
Part 1a – Total Volume Total vehicle volume on all approaches	375 vehicles per hour for each of the highest eight hours of the day	407 Units (7:00-8:00) 497 Units (8:00-9:00) 392 Units (11:00-12:00) 447 Units (12:00-13:00) 465 Units (13:00-14:00) 502 Units (15:00-16:00) 660 Units (16:00-17:00) 384 Units (17:00-18:00)		
Part 1b – Minor Street Volume Combined vehicle and pedestrian volume on (Minor Street)	150 units per hour wishing to enter the intersection for each of the same 8 hours as the total volume	116 Units (7:00-8:00) 135 Units (8:00-9:00) 136 Units (11:00-12:00) 132 Units (12:00-13:00) 157 Units (13:00-14:00) 164 Units (15:00-16:00) 271 Units (16:00-17:00) 122 Units (17:00-18:00)		X
Part 1c – Volume Split Minor Street must not be less than 30% of the total volume entering the intersection	Volume split does not exceed 70%/30% at the intersection (Minor Street must not be less than 30% of the total volume entering the intersection). Measured over the entire 8-hour count. 75%/25% for three-legged intersections	67%/33% Volume Split		
Part 2 – Collision Intersection Collision Frequency	3 collisions per year over three years (*example* 9 collisions in 36 months)	0 reported collisions over a 3-year period		X
Part 3 – Visibility Stopping Sight Distance from (Minor Street)	Less than 105m	No restrictions		X

The warrant analysis for installing an All-Way Stop at the intersection of Patterson Road and Morrow Road shows that not all criteria is met. Part 1a, which requires a total vehicle volume of at least 375 vehicles per hour over eight hours, is satisfied, with volumes consistently exceeding the threshold. Part 1b is not met, as the minor street volume falls below the required 150 units per hour for several hours of the turning movement count. However, it does exceed the threshold during the P.M. peak when traffic volumes are highest. Part 1c, which considers the volume split between the major and minor streets, shows a 67% on the major road and 33% on the minor roadway which meets the requirement for a three-legged intersection.

Part 2, relating to collision history, is not met, as no collisions were reported in the past three years.

Part 3, concerning visibility and stopping sight distances, is also not warranted, as there are no sightline restrictions from Morrow Road.

Based on staff analysis of the intersection operations and traffic volumes, it is recommended that an All-Way Stop be installed, despite the warrant criteria not being fully satisfied.

A mailout was sent to property owners in the vicinity of the Patterson Road and Morrow Road intersection, outlining the proposed amendment to the Traffic By-law for the installation of an All-Way Stop. No concerns were received in response**.**

Environmental and Climate Change Impact Matters:

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

Appendix:

Appendix A – All-Way Stop Patterson Road and Morrow Road

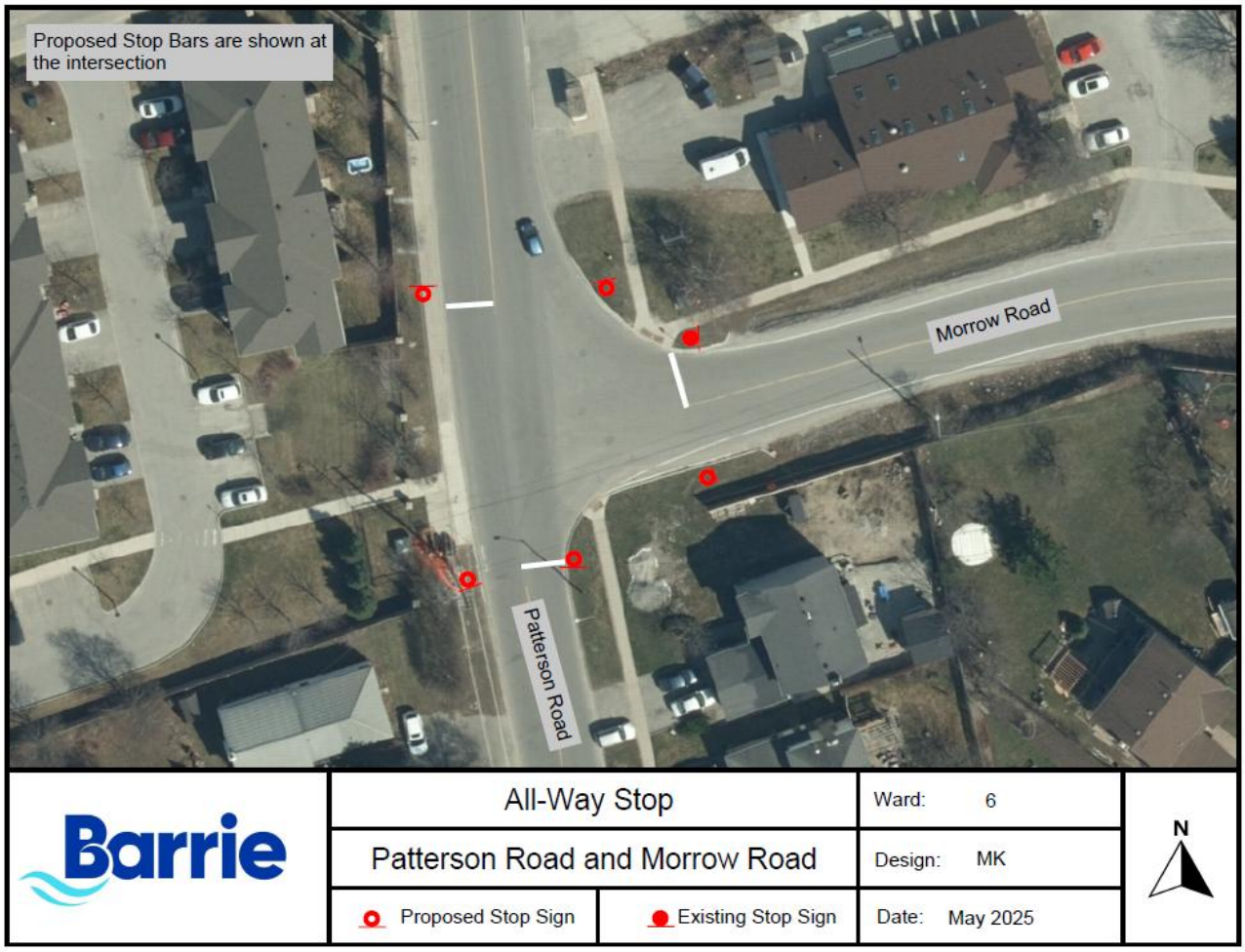
Report Author:

M. Kaveckas C.Tech. Senior Transportation Operations Technologist, Development Services

File #:

Not Applicable

Pending #:

Not Applicable

Appendix A – All-Way Stop Patterson Road and Morrow Road