



**DEVELOPMENT SERVICES
MEMORANDUM**

Page: 1
File:
Pending #:

TO: MAYOR A. NUTTALL AND MEMBERS OF COUNCIL

**FROM: M. KAVECKAS, SENIOR TRANSPORTATION OPERATIONS TECHNOLOGIST,
EXT. 4876**

WARD: 8

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

**B. ARANIYASUNDARAN, P. ENG., PMP, GENERAL MANAGER OF
INFRASTRUCTURE AND GROWTH MANAGEMENT**

M. PROWSE, CHIEF ADMINISTRATIVE OFFICER

RE: ADDITIONAL SAFETY MEASURES – WHITE OAKS ROAD

DATE: MARCH 22, 2023

The purpose of this Memorandum is to provide members of Council with an update concerning motion 20-G-242 – Additional Traffic Safety Measures – White Oaks Road. “That staff in Operations Department investigate the feasibility of implementing additional traffic safety measures at the intersection of White Oaks Road at The Boulevard to Brennan Avenue at Cliff Road including but not limited to additional speed reduction and safety measures such as permanent speed cushions or designation as a community safety zone and report back to General Committee.”

White Oaks Road is a 7.5m wide local roadway with a painted yellow centreline and an average annual daily traffic of approximately 1,000 vehicles. There is a sidewalk on the south side of the road west of Minet’s Point Road which continues to the north side, east of Minet’s Point Road. This sidewalk provides connectivity for Barrie’s Waterfront Heritage Path to Minet’s Point Park. Please refer to Appendix “A” for a map of the study area.

Currently, there are No Parking Anytime restrictions on White Oaks Road as per Traffic By-Law 2020-107, Schedule ‘1’ as follows:

- | | |
|-------------------------|--|
| <u>“White Oaks Road</u> | North side from west limit of White Oaks Road to a point 140 metres east of Minet’s Point Road.” |
| <u>“White Oaks Road</u> | South side from a point 86 metres east of the westerly limit of White Oaks Road to a point 140 metres east thereof.” |

Overnight on-street parking is prohibited December 1st – March 31st between 12:01am and 7:00am for winter maintenance activities.

Staff have reviewed White Oaks Road and surrounding area for ways to improve traffic operations and safety for motorists and pedestrians.

All-Way Stop Investigation

Staff investigated the intersection of White Oaks Road and The Boulevard 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 three classes of warrants identified in the OTM. Each class is based on the classifications of



**DEVELOPMENT SERVICES
MEMORANDUM**

Page: 2
File:
Pending #:

roadways: Urban Arterial Roads, Collector Roads/Rural Arterial Roads, and Local Roads. Road classification is determined by using the City of Barrie Official Plan, Schedule D – Road Plan.

Based on the classification of White Oaks Road and The Boulevard being local roads, the All-Way Stop Minimum Volume Warrant – Local Roads warrant is used. Each component of the All-Way Stop Warrant can satisfy the warrant independently.

1. Minimum Volume Warrant

- a) The total vehicle volume on all approaches exceeds 200 vehicles per hour for the highest four hours recorded in the 8-hour count.
- b) The combined vehicle and pedestrian volume on the minor street exceeds 75 units per hour for the same highest four hours.
- c) The volume split does not exceed 75/25 (three-legged intersection). 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 (i.e., 9 collisions in 36 months).

3. Visibility Warrant - The distance required 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 the guidelines (less than 105m), conversion of the intersection to an all-way stop may be considered.

An 8-hour Turning Movement Count was completed 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 Total vehicle volume on all approaches	Greater than 200 vehicles per hour for each of the highest 4 hours of the day.	137 Vehicles (12pm-1pm) 145 Vehicles (3pm-4pm) 131 Vehicles (4pm-5pm) 124 Vehicles (5pm-6pm)		X
Part 1b – Minor Street Volume Combined vehicle and pedestrian volume on The Boulevard (Minor Street)	75 units per hour wishing to enter the intersection for each of the same 4 hours as the total volume	16 Units (12pm-1pm) 6 Units (3pm-4pm) 12 Units (4pm-5pm) 15 Units (5pm-6pm)		
Part 1c – Volume Split Volume of Traffic on The Boulevard (Minor Street must not be less than 25% of the total volume entering the intersection)	Volume split does not exceed 75%/25% at the intersection (Minor Street must not be less than 25% of the total volume entering the intersection). Measured over the entire 4 hours	87%/13% (12pm-1pm) 94%/4% (3pm-4pm) 90%/10% (4pm-5pm) 93%/7% (5pm-6pm)		
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 The Boulevard	Less than 105m	No restrictions		X



The Turning Movement Count showed that the highest four hours of traffic volume were: 12pm-1pm, 3pm-4pm, 4pm-5pm and 5pm-6pm. These four hours were used for the All-Way Stop warrant process. Throughout the highest four hours, traffic volumes never exceeded all three volume thresholds for the warrant. In the peak hour (4pm-5pm), there was a total vehicle volume of 131 vehicles, 12 units entering from The Boulevard and a volume percentage split of 90/10. Volume at this intersection does not meet the criteria to satisfy the need for an All-Way Stop installation at this time.

Collision history was reviewed for the warrant and there were zero reported collisions at the intersection in the past three years. Staff made site visits to the intersection to analyze operation of the intersection and stopping sight distance. Current operation of the intersection has vehicles travelling westbound on The Boulevard stop at White Oaks Road. When stopped at the stop sign and proceeding to the projected curb of White Oaks Road, staff found that there were no sight restrictions and motorists had clear vision to maneuver in the intersection when safe to do so.

Based on results from the All-Way Stop Warrant and staff's investigation, the installation of an All-Way Stop at the intersection of White Oaks Road and The Boulevard is not warranted or recommended at this time.

Speeding Investigation - Radar Speed Board

Staff performed speed studies on White Oaks Road, where a radar speed board was installed at 30 White Oaks Road to collect speed data and to educate motorists by displaying their speeds travelling east down the hill towards Minet's Point Park. The radar speed board has captured data from August 9, 2021 – December 31, 2021. The results of the data are as follows:

Average Vehicles Counted Per Day – 1,063 Vehicles
Average Speed – 20 km/h
85th Percentile Speed – 27 km/h

The speed data from the Radar Speed Board shows that speeding is not a concern on White Oaks Road as the operating speeds are well below the posted speed limit of 50km/h.

Traffic Calming – Temporary Speed Cushions

Speed cushions are traffic calming devices that use vertical deflections to slow motor vehicle traffic to reduce the overall operating speed of a roadway and improve safety conditions. Staff utilize temporary speed cushions from May to October and they have been effective in reducing vehicle speeds by approximately 10 km/h. At the Ward Councillor's request, White Oaks Road received temporary speed cushions for the 2022 season – please refer to Appendix "B". There was no negative feedback received from residents on White Oaks Road on the traffic calming measures. It has been requested that these temporary measures are installed again for future seasons. Staff will continue review White Oaks Road as a potential candidate for seasonal traffic calming.

Additional Traffic Signage

All traffic signs were reviewed for White Oaks Road and surrounding area – see Appendix "A". Staff have been proactive with installing all necessary regulatory and warning signs as warranted. Signs that have been installed are:

- Sharp Reverse Curve Signs with 20km/h speed advisory tabs (Wa-4L, Wa-7t) both directions for White Oaks Road and Brennan Avenue.
- Auxiliary Stop Sign (Ra-1) at The Boulevard for westbound traffic stopping at White Oaks Road.



**DEVELOPMENT SERVICES
MEMORANDUM**

**Page: 4
File:
Pending #:**

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- Checkerboard Sign (Wc-8R) to warn of an abrupt change in direction from northbound Minet's Point Road to White Oaks Road.
 - Pedestrians Ahead Signs (Wc-7) northbound traffic on White Oaks Road and Brennan Avenue.
 - Playground Ahead Signs (Wc-3) both directions on White Oaks Road and Brennan Avenue.

Staff will continue to monitor traffic operations on White Oaks Road and surrounding area to address speeding and aggressive driving to ensure street and pedestrian safety.

APPENDIX "A"

White Oaks Road Study Area



APPENDIX "B"

White Oaks Road Temporary Speed Cushion Layout

