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William Roe Boulevard / Dixon Boulevard Traffic Review Staff Report to Council

Report Number: 2021-05

Department(s): Engineering Services

Author(s): M. Kryzanowski, Manager, Transportation Services

Meeting Date: February 1, 2021

Recommendations

1. That the report entitled William Roe Boulevard / Dixon Boulevard Traffic Review dated February 1, 2021 be received; and,
2. That an all-way stop control at the William Roe/Dixon Boulevard intersection not be implemented at this time; and,
3. That Category 1 measures be continued on William Roe Boulevard and Dixon Boulevard; and,
4. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

Purpose

The Town received a petition from residents living on William Roe Boulevard and on Dixon Boulevard requesting speed mitigation along the two streets. The petition also requested an all-way stop control at the William Roe/Dixon intersection. The purpose of this report is to outline the Town's Transportation Services' review and findings.

Background

At the regular meeting of Council on November 11, 2019, the Town received a petition signed by 95 of the 350 households on William Roe Boulevard and Dixon Boulevard requesting speed mitigation and an all-way stop control at the intersection. As per its approved policy, Town Council referred the matter to staff for review and

recommendations. Due to early snowfalls in 2019, followed by the significant effects of the Pandemic restrictions on traffic volumes in 2020 due to lockdowns, school closures and residents working from home, the traffic counts planned for this location could not be carried out until late in 2020. This created the unusual long delay in reporting. Another factor worth noting is that counts that would have been performed in 2019 may have been skewed by periodic increases in traffic infiltration on William Roe Boulevard and Dixon Boulevard because of the Yonge Street Bus Rapidway construction at the time.

Discussion

William Roe Boulevard, from Yonge Street to Sandford Street, has been reviewed a few times over the past years for speeding, all-way stop controls and collisions. William Roe Boulevard is somewhat unique in that it is designated as a residential collector, but it has a road width similar to that of a traditional local road design. It also has sidewalks on both sides.

The geometrics of the road, including grades, curves and sight lines, create potential traffic issues, but also provide traffic calming effects. Also worthy of mention is that the first pedestrian refuge island constructed by the Town is located on William Roe Boulevard, between Terry Drive and Yonge Street.

Speeds

The following tables show the average and operating speeds, and the average daily traffic volumes (ADT) obtained from recent and previous traffic surveys.

	2020			2015			2014		
WILLIAM ROE BLVD	AVG. SPEED	OP. SPEED	ADT	AVG. SPEED	OP. SPEED	ADT	AVG. SPEED	OP. SPEED	ADT
TERRY DR & YONGE ST				37.0	45.2	3,328	30.3	42.8	3,629
DIXON BLVD & TERRY DR	40.3	46.8	2,396				42.2	48.4	3,082
BORDEN AVE & DIXON BLVD	38.8	45.7	1,940				42.2	49.1	2,560
BORDEN AVE & SANDFORD ST	41.9	49.4	1,911				44.3	51.5	2,403
	40.3	47.3	2082	37.0	45.2	3328	39.8	47.9	2919

William Roe Boulevard speeds were slightly above the posted speed limit, but the speeds were still under the acceptable policy levels. The speeds were not unusually high and were found to be consistent with, or slightly lower than, speeds on other collector roads throughout the Town. The speeds remained consistent from 2014 to 2020. There was a reduction in traffic volume in the residential section of the street (located further away from Yonge Street).

	2020			2019			2016		
DIXON BLVD	AVG. SPEED	OP. SPEED	ADT	AVG. SPEED	OP. SPEED	ADT	AVG. SPEED	OP. SPEED	ADT
DON MOR DR & EAGLE ST							41.4	48.7	1,122
WEBB CRT & WILLIAM ROE BLVD				40.5	47.9	1,371	42.4	50.1	944
SIMPSON RD & WILLIAM ROE BLVD	39.8	48.5	817	39.7	47.5	1,198			
ARMITAGE DR & SIMPSON RD							41.2	49.3	772
	39.8	48.5	817	40.1	47.7	1,285	41.7	49.3	946

The Dixon Boulevard speeds were similar to those on William Roe Boulevard, and are consistent with other local roads throughout the Town. The volume comparison for the three time periods that were measured show a significant daily traffic volume increase in 2019, which can be attributed directly to infiltration due to the Bus Rapidway construction activities on Yonge Street, which is now completed. The traffic volumes have since returned to pre-construction levels.

In summary, the speeds on both streets were under the policy levels for physical traffic calming measures to be introduced; however, Staff finds that Category 1 measures, such as speed enforcement, solar board deployment, and boulevard lawn signs are warranted.

Bike lanes that are proposed to be implemented in 2021 in the Council-approved Active Transportation Implementation Plan (ATIP) along William Roe Boulevard would help to reduce operating speeds. This has been proven by the results of speed monitoring on other Town streets where bike lanes have been installed. The bike lanes on William Roe Boulevard would be expected to reduce operating speeds by about 2 km/h.

All-way stop control

Traffic counts were taken in 2019 and 2020 at the William Roe/Dixon intersection. The traffic counts indicated a significant drop from 2019 to 2020, primarily due to the completion of construction activities on Yonge Street.

To start the All-Way Stop review, a 5-hour traffic count was undertaken at the intersection. The traffic count was performed in conformance with the Town's Transportation Management Policy, which requires that vehicle turning movements and pedestrian activity be collected between 7:00 AM and 9:00 AM and between 3:00 PM and 6:00 PM.

The subject intersection was then analysed to determine if the All-Way Stop Warrants were met.

The All-Way Stop warrants consist of three (3) parts. The first part of the warrant, Warrant #1, addresses the future signalization of intersections. This part does not apply here, since traffic signals are not planned for this intersection.

The second part of the All-Way Stop Warrant, Warrant #2, examines the frequency of recorded vehicle collisions in, or adjacent to, the intersection for the twelve (12) month period prior to the review.

The third portion of the Warrant, Warrant #3, is divided into two portions, both relating to traffic and pedestrian volumes. The first portion, Warrant #3A, examines all the vehicles and pedestrians approaching the intersection from all streets (William Roe Boulevard and Dixon Boulevard in this case) on an hourly basis. The minimum traffic and pedestrian volume required is an “average hour-vehicle/pedestrian volume” of 500.

The second portion, Warrant #3B, examines traffic and pedestrian volumes on an hourly basis along the minor street only (Dixon Road in this case). The minimum traffic and pedestrian volume required along the minor approach is an “average hour-vehicle/pedestrian volume” of 200. **Both warrants need to be met at 100% or greater to justify an all-way stop control.**

The following table illustrates the extent to which warrants are met for 2019 and 2020 showing the Collision Warrant (Warrant #2), and the volume warrants (Warrant #3A and Warrant #3B)

	2019	2020
Warrant #2	Yes	Yes
Warrant #3A	79%	54%
Warrant #3B	62%	38%

Although the collision warrant in the chart above (Warrant #2) met the test, the volume warrants (Warrant #3A and Warrant #3B) did not. From a strictly technical perspective, then, the Warrants are not met and an All-Way Stop is not warranted.

The collision warrant, which met the test, was based on an unusual condition for these streets in 2019. Between 2006 and 2018, there were seven (7) collisions in total that were reported for the intersection. The average collision rate in this period was less than 1 collision per year. This would not have met the warrants. However, in 2019, there were five (5) collisions reported in October and seven (7) between October and December. All of these collisions were very similar in nature. Reports indicated that either the north or south driver on Dixon Boulevard failed to yield the right-of-way to William Roe Boulevard drivers. This was an abnormal year and the increased collisions were likely due to the increased re-routing of traffic from Yonge Street onto William Roe Boulevard because of the ongoing construction.

Conclusion

Based on the above, the speeds in the area are below the policy limits for physical traffic calming measures to be introduced; however, Category 1 measures, including solar radar boards, lawn signs and speed enforcement by York Regional Police would be

recommended. The implementation of proposed bike lanes on William Roe Boulevard in 2021 would also be expected to reduce speeds.

Business Plan and Strategic Plan Linkages

This review addresses the Council Strategic Pillar entitled “Safe Transportation (Streets)”. More specifically, the project addresses the following priorities under the “Safe Transportation (Streets)” Strategic Pillar:

- ii) Continue to implement the traffic mitigation strategy and Active Transportation Plan and explore/advance an off-road Mulock multi-use path;
- v) Develop a ‘complete street’ design and construction/reconstruction methodology to support ongoing safe street initiatives and continue to explore design options related to speed reduction, where appropriate.

Consultation

The Town received a petition from the community representing about 95 of 350 households in the area. This satisfies the minimum amount required for Staff to undertake a review, as per the Council-approved Public Consultation and Support Policy.

The petition was supplemented with a letter from the Town, dated February 5, 2020, to all 350 households to advise them of the petition and solicit their input, as per the Town’s TWMS policy.

All households within the study area will receive a copy of this report and a notice indicating the date and time of the Committee of the Whole at which the matter will be heard. Residents who wish to address the Committee will have the opportunity to do so at that time, or to send in their comments in writing.

Human Resource Considerations

None.

Budget Impact

None.

Attachments

None.

Approval

Rachel Prudhomme, M.Sc., P.Eng.,
Director, Engineering Services

Peter Noehammer, P.Eng.,
Commissioner, Development & Infrastructure Services

Contact

For more information on this report, please contact Mark Kryzanowski, Manager, Transportation Services, at 905-953-5300, extension. 2508.