



Supplementary Report - Traffic Calming (Speed Humps) and U-Turn Prohibition Review - Vradenberg Drive and Lowcrest Boulevard

Date: June 24, 2019
To: Scarborough Community Council
From: Acting Director, Traffic Management, Transportation Services
Wards: Ward 22 – Scarborough-Agincourt

SUMMARY

This staff report is about a matter that Community Council has delegated authority to make a final decision.

In its meeting on May 22, 2019, Scarborough Community Council deferred consideration of item No: SC6.9 Traffic Calming (Speed Humps) and U-Turn Prohibition Review - Vradenberg Drive and Lowcrest Boulevard to the June 25th meeting of Scarborough Community Council and staff were asked to consider additional items to review on Vradenberg Drive and Lowcrest Boulevard area including reduced speed limits, all way stop control, pedestrian crossing protection and traffic regulations.

Transportation staff have determined that, the warrant criteria for a 30 km/h speed limit is satisfied for the section of Vradenberg Drive, between Lowcrest Boulevard and Wishing Well Drive, and is not satisfied for the section of Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive.

Staff reviewed the feasibility of installing all-way stop control at the intersection of Vradenberg Drive and Ashglen Court/Castleford Drive, as well as pedestrian crossing protection in front of the walkway connecting Shrewsbury Square leading to the frontage of Vradenberg Junior Public School. Staff review concluded that installation of all-way stop control or pedestrian crossing protection are not justified.

RECOMMENDATIONS

The Acting Director, Traffic Management, Transportation Services, recommends that:

1. Scarborough Community Council reduce the speed limit from 40 km/h to 30 km/h on Vradenberg Drive, between Lowcrest Boulevard and Wishing Well Drive.
2. Scarborough Community Council not authorize all-way compulsory stop control at the intersection of Vradenberg Drive and Ashglen Court/Castleford Drive.
3. Scarborough Community Council not authorize the installation of a pedestrian crossover on Vradenberg Drive at a point 125 metres west of Lowcrest Boulevard.
4. Scarborough Community Council not reduce the speed limit from 40 km/h to 30 km/h on Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive.

FINANCIAL IMPACT

The financial cost of installing 30 km/h signs on Vradenberg Drive is approximately \$1500.00. The funding for these signs is available in the Transportation Services Division's 2019 Operating Budget.

DECISION HISTORY

In its meeting on May 22, 2019, Scarborough Community Council deferred consideration of Item SC6.9 entitled "Traffic Calming (Speed Humps) and U-Turn Prohibition Review - Vradenberg Drive and Lowcrest Boulevard" to the June 25th meeting of Scarborough Community Council. This supplementary report addresses additional issues reviewed in the area of Vradenberg Drive and Lowcrest Boulevard.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.SC6.9>

COMMENTS

Existing Conditions

- Vradenberg Drive, between Lowcrest Boulevard and Wishing Well Drive, Lowcrest Boulevard, between Warden Avenue and Wishing Well Drive, are two-way local roads.
- The pavement width of these roadways is approximately 8.1 metres and they have a posted speed limit of 40 km/h.

- There are municipal sidewalks along both sides of Vradenberg Drive and Lowcrest Boulevard and there is no TTC service along either roadway.
- There are good sight lines for pedestrians to view approaching vehicles and there are adequate gaps in the traffic flow for pedestrians to cross Vradenberg Drive from the walkway leading to Vradenberg Junior Public School.
- The land use in the surrounding area consists mainly of single family residential dwellings and an elementary school.

Vision Zero – Toronto's Road Safety Plan

The City of Toronto is committed to eliminating traffic-related deaths and serious injuries on its roadways and protecting its most vulnerable road users (VRU), including pedestrians and cyclists. To help the City achieve that goal, City Council approved the Vision Zero Road Safety Plan in July 2016, which is a comprehensive, city-wide strategy that includes many road safety countermeasures that address all road users but with particular emphasis on VRU. School Children is one of six emphasis areas identified in the plan.

To improve safety in areas around schools, the City is implementing School Safety Zones and Community Safety Zones at all schools across the City, starting with elementary (grades K-8) schools. The School Safety Zones program involves the installation of various signs and pavement marking enhancements along frontages of schools within 150m of the school property, including new School Zones signs with flashing beacons, radar speed display signs (also referred to as driver feedback signs), "SCHOOL" and speed limit stencils painted on the roadway and zebra crossings at all stop-controlled intersections.

With regards to Community Safety Zones, in 2018 City Council approved the designation of Community Safety Zones within approximately 150 metres of the school property in front of all elementary schools.

To date, nine schools in Ward 22 have received School Safety Zone treatments and the above countermeasures have already been implemented. Currently, Vradenberg Junior Public School is ranked 27th among 33 schools identified in Ward 22 and School Safety Zone treatments are expected to be implemented in the future based on the ranking.

Analysis

Further to our initial review of the feasibility of installing traffic calming measures on both Vradenberg Drive and Lowcrest Boulevard, staff were asked to further consider reducing the speed limit from 40 km/h to 30 km/h on Vradenberg Drive, between Lowcrest Boulevard and Wishing Well Drive and on Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive, the feasibility of installing all-way stop control at Vradenberg Drive and Ashglen Court/Castleford Drive and the

installation of a pedestrian crossover in front of Vradenberg Junior Public School at a point 125 metres west of Lowcrest Boulevard.

30 km/h Speed Limit

Staff reviewed the feasibility of reducing the speed limit to 30km/h on both Vradenberg Drive and Lowcrest Boulevard. The City of Toronto's 30 km/h speed limit policy allows 30 km/h speed limits on local and collector roads that abut schools.

The roadway environment warrant criteria dictates that the road classification must be either local or collector, the pavement width must not be greater than 8.5 metres, the operating speed being no greater than 50 km/h and the daily traffic volume be no greater than 8,000 vehicles per day.

Vradenberg Drive, between Lowcrest Boulevard and Wishing Well Drive, satisfies all the criteria for a 30 km/h speed limit given the presence and direct access to an elementary school. Vradenberg Drive is classified as a collector road, the existing road width is 8.1 metres, operating speed is under 50 km/h and the daily traffic volume is less than 8,000 vehicles per day.

Given that all the criteria for 30 km/h are met, staff recommend the reduction of the speed limit to 30 km/h on Vradenberg Drive, between Lowcrest Boulevard and Wishing Well Drive. Details of the 30 km/h Warrant Criteria analysis are included in Attachment 1: - Table 1.

The 30 km/h warrant criteria was also applied against Lowcrest Boulevard. However, the School & Cycling and the Pedestrian and Traffic environment warrant criteria were not met. Therefore, a 30 km/h speed limit is not recommended on Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive. Details of the 30 km/h Warrant Criteria analysis are included in Attachment 2 - Table 2.

All-Way Stop Control

An All-Way Stop Control Warrant Study conducted on Wednesday, April 3, 2019 at the intersection of Vradenberg Drive and Ashglen Court/Castleford Drive during the morning and afternoon peak hours of a typical week day, produced the following results:

All-Way Stop Control Warrant	A Total Approach Vehicle Volume	B Vehicle/Pedestrian Volume Crossing Major Road	C Unit Volume Split* Major/Minor Roads
Two-Hour Study Period Hourly Average	194	30	86/14
Warrant Requirements For Study Period Average For Local Roads	≥ 250	≥ 100	≥ 30/70 or ≤ 70/30

- * "Unit Volume Split": Major Road Volume – Vehicles only.
Minor Road Volume – Vehicles plus pedestrians crossing the major road.

For all-way stop control to be numerically justified, the traffic volume requirements for the "Study Period Average" must be completely satisfied in Categories A and C, or Categories B and C.

As outlined in the above table, the traffic volumes do not meet the requirements to install all-way stop control at the subject intersection at this time.

Pedestrian Crossing Protection Study

A traffic study conducted on Vradenberg Drive from the walkway connecting from Shrewsbury Square leading to Vradenberg Junior Public School Drive during the peak eight hours of a typical weekday (Wednesday, March 6, 2019), produced the following results:

Pedestrian Crossover Warrant	Compliance Level
Pedestrian Volumes	28%
Pedestrian Delays	0%

As outlined in the above table, the installation of a pedestrian crossover is not justified because both categories must be 100% met. During the eight hour study period, the vehicle volume, pedestrian volume, and pedestrian delays were not justified for a Pedestrian Crossover.

During the eight-hour study period, a total of 56 pedestrian crossings and 1,238 vehicles were recorded at this location. The relatively low vehicle volume and low number of Pedestrian delays do not technically justify Pedestrian Crossing Protection, such as a traditional Type A Pedestrian Crossover.

Collision Analysis

A review of Toronto Police Services collision records for a three-year period ending December 31, 2018, did not find any reported collisions attributed to speeding on Vradenberg Drive or Lowcrest Boulevard.

Alternate Recommendations

If, despite the findings above, the Scarborough Community Council recommends installing all-way compulsory stop control at the intersection of Vradenberg Drive and Ashglen Court/Castleford Drive, a pedestrian crossover on Vradenberg Drive at a point 125 metres west of Lowcrest Boulevard and reducing the speed limit to 30 km/h on Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive:

1. Scarborough Community Council authorize all-way compulsory stop control at the intersection of Vradenberg Drive and Ashglen Court/Castleford Drive.
2. Scarborough Community Council authorize the installation of a pedestrian crossover on Vradenberg Drive at a point 125 metres west of Lowcrest Boulevard.
3. Scarborough Community Council reduce the speed limit from 40 km/h to 30 km/h on Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive.

The estimated cost of installing all-way compulsory stop control at the intersection of Vradenberg Drive and Ashglen Court/Castleford Drive, a pedestrian crossover on Vradenberg Drive at a point 125 metres west of Lowcrest Boulevard and a 30 km/h speed limit on Lowcrest Boulevard, between Warden Avenue and Cloverleaf Gate/Arkona Drive, is approximately \$62,000.00. Funding would be subject to availability in Transportation Services Capital and Operating Budgets and competing priorities.

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ATTACHMENTS

1. Attachment 1: 30 km/h Speed Limit Warrant for Vradenberg Drive
2. Attachment 2: 30 km/h Speed Limit Warrant for Lowcrest Boulevard
3. Attachment 3: Location Plan 1 - 30 km/h Speed Limit Review – Vradenberg Drive

Attachment – 1: 30 km/h Speed Limit Warrant for Vradenberg Drive

30 km/h Speed Limit Warrant Vradenberg Drive

- i. Implementation must be approved by Community Council.
- ii. 30 km/h speed limit can be implemented (without traffic calming) if either Warrants "B" and "C" are met **OR** "B" and "D" are met.
- iii. In situations where a road has existing scheduled transit service, staff will confirm that as a result of a speed limit reduction no significant impacts will be experienced by transit.

Warrant "A" – PETITION

Consideration of 30km/h speed limit on a street upon receipt of a petition signed by at least 25% of affected households (or 10% in the case of multiple family rental dwellings).

Warrants "B ", "C" and "D" will not be considered until Warrant "A" is satisfied.

ROAD ENVIRONMENT

Warrant "B" – ALL of the following criteria must be met

1. Local or Collector road	☒ Yes ☐ No
AND	
2. Pavement width less or equal to 8.5 metres	☒ Yes ☐ No
AND	
3. Operating speed 85 th percentile no greater than 50 km/h	☒ Yes ☐ No
AND	
4. Maximum traffic volume Local & Collector – less than 8,000 vehicles/day	☒ Yes ☐ No

SCHOOL AND CYCLING ENVIRONMENT

Warrant "C" – At least <u>ONE</u> of the following criteria must be met	
1. Elementary or junior high school abuts the road - <i>(The 30 km/h maximum speed limit must extend at a minimum 150 metres beyond the boundary of school property and can be extended to include full road section)</i>	Yes / No
OR	
2. Improved parkland abuts the road that is contiguous to and used to gain access to an elementary or junior high school - <i>(The 30 km/h maximum speed limit must extend at a minimum 150 metres beyond the boundary of the parkland and can be extended to include full road section)</i>	Yes / No
OR	
3. Presence of cycling facilities identified by means of a contra-flow bicycle lane, mid-block sharrows or signed bicycle route	Yes / No

PEDESTRIAN AND TRAFFIC ENVIRONMENT

Warrant "D" – At least <u>THREE</u> of the following criteria must be met	
1. Absence of continuous sidewalk on both sides of the road or major portion of the road	Yes / No
2. 'Significant parking activity' that results in cars being parked most of the time on both sides of the road or parked on one side, and the pavement width is less than 6.5 metres	Yes / No
3. 2 or more curves in short distance from each other (< 200 metres) with a safe operating speed less than 30 km/h	Yes / No
4. Lack of sufficient safe stopping distance (65 metres) based on the operating speed of 40 km/h at two or more locations	Yes / No

OVERALL WARRANT SUMMARY

Warrants "B" and "C" met OR "B" and "D" met	Yes / No
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Attachment – 2: 30 km/h Speed Limit Warrant for Lowcrest Boulevard

30 km/h Speed Limit Warrant Lowcrest Boulevard

- i. Implementation must be approved by Community Council.
- ii. 30 km/h speed limit can be implemented (without traffic calming) if either Warrants "B" and "C" are met **OR** "B" and "D" are met.
- iii. In situations where a road has existing scheduled transit service, staff will confirm that as a result of a speed limit reduction no significant impacts will be experienced by transit.

Warrant "A" – PETITION

Consideration of 30km/h speed limit on a street upon receipt of a petition signed by at least 25% of affected households (or 10% in the case of multiple family rental dwellings).

Warrants "B ", "C" and "D" will not be considered until Warrant "A" is satisfied.

ROAD ENVIRONMENT

Warrant "B" – ALL of the following criteria must be met

1. Local or Collector road	☒ Yes ☐ No
AND	
2. Pavement width less or equal to 8.5 metres	☒ Yes ☐ No
AND	
3. Operating speed 85 th percentile no greater than 50 km/h	☒ Yes ☐ No
AND	
4. Maximum traffic volume Local & Collector – less than 8,000 vehicles/day	☒ Yes ☐ No

SCHOOL AND CYCLING ENVIRONMENT

Warrant "C" – At least <u>ONE</u> of the following criteria must be met	
1. Elementary or junior high school abuts the road - <i>(The 30 km/h maximum speed limit must extend at a minimum 150 metres beyond the boundary of school property and can be extended to include full road section)</i>	Yes / No
OR	
2. Improved parkland abuts the road that is contiguous to and used to gain access to an elementary or junior high school - <i>(The 30 km/h maximum speed limit must extend at a minimum 150 metres beyond the boundary of the parkland and can be extended to include full road section)</i>	Yes / No
OR	
3. Presence of cycling facilities identified by means of a contra-flow bicycle lane, mid-block sharrows or signed bicycle route	Yes / No

PEDESTRIAN AND TRAFFIC ENVIRONMENT

Warrant "D" – At least <u>THREE</u> of the following criteria must be met	
1. Absence of continuous sidewalk on both sides of the road or major portion of the road	Yes / No
2. 'Significant parking activity' that results in cars being parked most of the time on both sides of the road or parked on one side, and the pavement width is less than 6.5 metres	Yes / No
3. 2 or more curves in short distance from each other (< 200 metres) with a safe operating speed less than 30 km/h	Yes / No
4. Lack of sufficient safe stopping distance (65 metres) based on the operating speed of 40 km/h at two or more locations	Yes / No

OVERALL WARRANT SUMMARY

Warrants "B" and "C" met OR "B" and "D" met	Yes / No
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Attachment 3: Location Plan - 30 km/h Speed Limit Review – Vradenberg Drive

