

TO: CHAIR AND MEMBERS
TRAFFIC SAFETY COMMITTEE

DATE: 2016 April 26

FROM: DIRECTOR ENGINEERING

FILE: 38000 20
Ref: Traffic Safety

SUBJECT: INTERSECTION CONTROLS AT UNDERHILL AVE AND EASTLAKE DR

PURPOSE: To advise of the installation of three-way stop signs at the intersection of Underhill Ave and Eastlake Dr

RECOMMENDATION:

1. **THAT** the Committee receives this report for information.

REPORT**BACKGROUND**

On 2016 March 01, the Traffic Safety Committee received correspondence from Ms. Cathy Griffin regarding cycling and pedestrian concerns along Underhill Ave. In addition, several recent concerns were also received from the general public about the high volume of traffic and delays at the intersection of Underhill Ave and Eastlake Dr. In response, staff undertook a review of the intersection to determine if changes to the existing intersection controls are required.

EXISTING CONDITIONS

The intersection of Underhill Ave and Eastlake Dr is a “T” intersection with the westerly leg of Eastlake Dr controlled by a stop sign in favour of Underhill Ave (see Figure 1). Both Underhill Ave and Eastlake Dr are classified as major collector roadways and are constructed with curb and gutter. North of Eastlake Dr, an urban trail and sidewalk exist on the east side of Underhill Ave and an interim asphalt sidewalk was recently constructed along the west side. There is an urban trail along the south side of Eastlake Dr.

INTERSECTION REVIEW

A review of the collision data at the intersection between 2011– 2014 showed an average of 6 crashes per year. A peak hour traffic movement study was conducted on 2016 March 9 with the following results:

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Approach	AM Peak Hour	Noon Peak Hour	PM Peak Hour	3 Hour Total
Westbound on Eastlake Dr	843	234	292	1396
Southbound on Underhill Ave	289	265	496	1050
Northbound on Underhill Ave	258	183	655	1096

The results above show that the approaching traffic along Eastlake Dr is significantly higher than Underhill Ave during the AM rush hour, approximately the same during the noon peak hour, and less during the PM peak hour. Using the Transportation Association of Canada guidelines for traffic signal installations, a traffic signal at the intersection was found to be unwarranted at this time in part because the high volume of traffic is generally confined to the AM and PM peak periods.

Field observations confirmed that during the morning rush hour, the average delay for westbound traffic along Eastlake Dr is very high with queues as long as 220 meters from the intersection. This delay, along with almost equal volume of daily traffic on all three legs of the intersection, makes the intersection a good candidate for three way stop controls.

Pedestrian and bicycle activity at the intersection was relatively modest with about 40 pedestrians and 5 cyclists crossing the intersection during the noon peak hour. To better facilitate pedestrians crossing Underhill Ave, a crosswalk with parallel lines will be marked on the north and south leg of the intersection. The markings will also help provide a more prominent visual cue for drivers about the changes at the intersection.

The installation of the multi-way stop control may alter traffic patterns in and out of the existing southerly driveway access for 2999 Underhill Ave because of its very close proximity to the intersection. Staff will monitor this access to determine if further traffic control changes need to be made, noting that the site has an alternate driveway access located further north.

CONCLUSION

After reviewing the traffic condition at the intersection of Underhill Ave and Eastlake Dr, the installation of a 3 way stop control and marked crosswalks are proposed to reduce the delays to westbound vehicles along Eastlake Dr, better facilitate pedestrians crossing Underhill Ave, and improve the overall operation of the intersection. The work is scheduled to be completed by this summer.


Leon A. Gous, P. Eng., MBA
DIRECTOR ENGINEERING

AW/DL/cp

Attachment

Copied to: City Manager

Figure 1 – Proposed Stop Sign and Crosswalks at the intersection of Underhill and Eastlake

