

Township of  
Langley



Est. 1873

## REPORT TO MAYOR AND COUNCIL

<b>PRESENTED:</b>	NOVEMBER 4, 2019 - REGULAR AFTERNOON MEETING	<b>REPORT:</b>	19-166
<b>FROM:</b>	ENGINEERING DIVISION	<b>FILE:</b>	5480-01
<b>SUBJECT:</b>	INTERSECTION OF 28 AVENUE AND 272 STREET		

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### RECOMMENDATION:

**That** Council receive the “Intersection of 28 Avenue and 272 Street” report for information.

### EXECUTIVE SUMMARY:

At its Regular Afternoon Meeting of October 7, 2019 Council passed a resolution directing staff to review and analyze current traffic and pedestrian use at the intersection of 28 Avenue and 272 Street, to determine if signalization of the intersection is warranted.

As Council is aware, the Township of Langley, similar to other jurisdictions across the province, uses Transportation Association of Canada (TAC) Pedestrian Crossing Control Manual (Manual) and Traffic Signal Warrant Guidelines (Guidelines) to establish the warrant for transportation facilities and network improvements. Compliance with the TAC Guidelines are intended to ensure consistency throughout the region and enhanced public safety. Accordingly, as part of the warrant analysis, traffic and pedestrian counts were undertaken in June, 2019 at the subject intersection and reviewed in consideration of such factors as collision history, pedestrian volume, age and ability, road width, vehicle volume, speed, visibility and proximity of adjacent intersections.

Based on the review conducted following TAC Guidelines, the pedestrian crossing facility warranted based the aforementioned factors, is a Crosswalk with Side-Mounted Signs. The current installation at the intersection is a Special Crosswalk with Overhead Pedestrian Activated Flashing Lights, which represents a higher standard than that warranted pursuant to applicable criteria. Similarly, the need for a full traffic signal was examined using TAC Guidelines and it was determined that a full traffic signal is not warranted. The intersection was also reviewed to ensure adequate sightlines for vehicles and pedestrians approaching the intersection.

Based on the analysis undertaken as described above, no additional modifications are recommended, with RCMP being requested to increase presence in the area to ensure compliance with existing traffic control installations. Having said that, a potential enhancement that may be implemented, if directed by Council, would be to narrow the road width to prevent vehicles passing where pedestrians may be crossing, by installing a raised curb channelizing system with delineators along 272 Street, at an estimated cost of approximately \$50,000, to be included as part of the 2020 budget for Council consideration. A pedestrian signal, or full intersection signalization, none of which are warranted, are currently estimated at \$250,000 and \$350,000, respectively.

### PURPOSE:

This report is in response to Council direction and provides information regarding the traffic and pedestrian operation at the intersection of 28 Avenue and 272 Street in Aldergrove and whether improvements are warranted.

### **BACKGROUND/HISTORY:**

Concerns have been raised by local area residents regarding the existing crosswalk at the intersection of 272 Street and 28 Avenue. At its Regular Afternoon meeting of October 7, 2019 Council passed the following resolution:

*Whereas the community has expressed concerns for the safety of pedestrians using the intersection at 272 Street and 28 Avenue; and*

*Whereas the intersection is frequented by the children walking to and from Shortreed Community Elementary School and the safety of the children is of community concern;*

*Therefore be it resolved that Council direct staff to review and analyze the current traffic and pedestrian use at the intersection to determine if signalization of the intersection is warranted.*

### **DISCUSSION/ANALYSIS:**

The Township uses the Transportation Association of Canada (TAC) Pedestrian Crossing Control Manual (the Manual) as a guideline for determining the need or warrant for a new pedestrian crossing facility. The warrant considers factors such as collision history, pedestrian volume, age and ability, road width, vehicle volume, speed, visibility and the proximity of adjacent intersections. The Manual uses a procedure that converts pedestrian volumes into the “Equivalent Adult Units” (EAU) to account for age and ability, and utilizes traffic volumes which are then applied to a decision support matrix to determine the need or warrant for a pedestrian crossing facility, and if warranted, the type of facility.

#### Pedestrian Crossing Warrant Review

Traffic and pedestrian counts were undertaken on Wednesday, June 4, 2019 at the intersection of 28 Avenue and 272 Street during the morning, noon and afternoon peak periods. On the day of the count, the average hourly Equivalent Adult Units (EAUs) pedestrian volume was 44 EUAs and the vehicle volume was 7,000 vehicles per day. Based on the methodology in the TAC Manual, the pedestrian crossing facility warranted by the aforementioned factors is a Crosswalk with Side-Mounted Signs. Based on the procedures in the TAC manual, a pedestrian activated crossing with amber flashing lights or a Pedestrian Signal is not warranted at this location. The existing facility at this intersection is a Special Crosswalk with pedestrian activated overhead flashing amber lights which is of a higher standard than the recommended facility the manual warrants. The estimated cost of a Pedestrian Signal, which is not warranted, may be in the order of \$200,000.

#### Traffic Signal Warrant Review

The Township uses the Transportation Association of Canada (TAC) Traffic Signal Warrant Guidelines for determining the need or warrant for a traffic signal. The warrant considers factors such as pedestrian volumes, vehicle intersection movements, speed, commercial vehicle volumes, lane configuration, proximity to signalized intersections and demographics. The calculation based on the methodology in the TAC Guidelines yields a warrant score based on the pedestrian-vehicle and vehicle-vehicle interactions at the intersection. A review based on the aforementioned methodology yielded a warrant score of 72 points which is lower than the 100 point threshold that warrants a traffic signal.

The installation of a traffic signal can also be considered if an average of five (5) collisions per year would potentially be preventable with the installation of a traffic signal. The threshold of five (5) collisions per year is recommended as, while the installation of a traffic signal may prevent certain collisions, it typically results in an increase in other types of collisions, such as rear end collisions. ICBC Collision Data was reviewed for a five (5) year period between 2013 and 2017, and it was determined that a total of five (5) collisions, or one (1) collision per year may be preventable with the installation of a traffic signal. Based on the collision data, the intersection is below the threshold for preventable collisions and a traffic signal is not warranted. The estimated cost of a full traffic signal, which is not warranted, may be in the order of \$300,000.

#### Sight Lines

The intersection was also reviewed to ensure adequate sight lines for vehicles approaching the intersection in the eastbound and westbound directions, and sightlines for pedestrians crossing each approach of the intersection. Based upon TAC guidelines, the recommended sight distance for both vehicles and pedestrians is available at the intersection.

#### Speeding Concerns and Enforcement

The Township has also been involved in discussions with the RCMP with regards to the concerns brought forward with speeding and pedestrian safety. At the October 9, 2019 Transportation and Traffic Advisory Committee Meeting, the RCMP discussed undertaking enhanced enforcement at this intersection as their resources allow.

#### Potential enhancements

While the site review and collision history did not reveal any issues, concerns have been expressed for the safety of pedestrians as the road is wide enough that vehicles may pass a stopped vehicle on the right hand side while a pedestrian is crossing the road. An option to address this potential concern is to narrow the road with a raised curb channelizing system with delineators along 272 Street to a width that would deter drivers from passing. If desired, Council may direct staff to include the installation of the curbing and delineators at an estimated cost of \$30,000 in the 2020 budget for their consideration.

Respectfully submitted,

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MANAGER, TRANSPORTATION ENGINEERING  
for  
ENGINEERING DIVISION