



City of
Peterborough

To: **Members of the General Committee**

From: **W.H. Jackson,
Commissioner of Infrastructure and Planning Services**

Meeting Date: **August 20, 2018**

Subject: **Report IPSTR18-022
Summerhill Drive / Rosehill Drive Traffic Operational Review**

Purpose

A report to present the findings of the Summerhill Drive/Rosehill Drive Traffic Operational Review.

Recommendation

That Council approve the recommendation outlined in Report IPSTR18-022 dated August 20, 2018, of the Commissioner of Infrastructure and Planning Services, as follows:

That Stop Control be implemented on Rosehill Drive at the intersection of Summerhill Drive and Rosehill Drive.

Budget and Financial Implications

The supply and installation of a Stop sign will cost approximately \$300, funds for which are available in the uncommitted balance in the 2018 Capital Budget for Traffic Improvements (Project Reference 5-13.05).

Background

In response to resident concerns about vehicle speed, pedestrian safety and the need for a stop sign on Rosehill Drive at Summerhill Drive, staff conducted a traffic operational review of the intersection of Summerhill Drive and Rosehill Drive.

Site Details

Summerhill Drive is a two-lane local road running east-west from Chemong Road to Glenholme Avenue. Rosehill Drive is a short (80 m) two-lane local road running north-south from Summerhill Drive to Applegrove Avenue (see Appendix A). There are no sidewalks on either road, and 3 hour on-street parking is permitted on both Summerhill Drive and Rosehill Drive. Rosehill Drive has a stop sign in the southbound direction at the intersection with Applegrove Avenue. Both roads serve a residential neighbourhood and have a speed limit of 50 km/h.

The intersection of Summerhill Drive and Rosehill Drive is a T-intersection. There is currently no stop or yield control at the intersection and drivers are expected to observe the **Highway Traffic Act** right-hand rule when entering the intersection such that when two vehicles enter an uncontrolled intersection at the same time, the driver on the left shall yield the right-of-way to the driver on the right.

Traffic Operational Review

The traffic operational review conducted at the Summerhill Drive and Rosewood Drive intersection consisted of the following data collection and analyses:

- Vehicle Volume;
- Collision History;
- Speed Study;
- Sight Line Measurements; and
- Site Observations.

Vehicle Volume

A 24-hour vehicle count was conducted on Summerhill Drive between Rosehill Drive and Chemong Road recorded a total of 202 vehicles on a typical weekday. The Transportation Association of Canada (TAC) guidelines suggest that 1,000 – 3,000 vehicles per day could be considered a typical average daily volume on an urban local road.

Collision History

Since 2014 there have been no recorded collisions at the intersection of Summerhill Drive and Rosehill Drive.

Speed Study

A vehicle speed study was conducted on Summerhill Drive travelling at Rosehill Drive. It was found that 85% of drivers were travelling at or below 39 km/h, while the average speed was 29 km/h. These results show vehicle speed is well below the speed limit of 50 km/h.

Sight Line Review

Stopping sight distances were measured for vehicles travelling eastbound and westbound on Summerhill Drive approaching the intersection with Rosehill Drive. Sightline distances were measured for vehicles on Rosehill Drive approaching the T-intersection with Summerhill Drive.

The stopping sight distance is the minimum distance required for a driver to perceive the need to stop plus the reaction and deceleration time to bring the vehicle to a complete stop for the prevailing operating speed. The required stopping sight distance for a typical 50km/h speed limit is 65 metres based on TAC standards. In the eastbound direction the measured stopping sight distance was only 45 metres, which is substandard for the posted speed limit, but is satisfactory for the current operating speed of 39 km/h. The measured stopping sight distance for vehicles travelling westbound on Summerhill Drive is 160 metres, which exceeds the TAC standards.

The sight line distance is the minimum distance required for a driver stopped on the side road to perceive a gap in traffic plus the reaction and acceleration time necessary to cross the intersection or turn onto the intersecting roadway and then accelerate to the normal operating speed without interfering with through traffic. The sight line distances for vehicles travelling from Rosehill Drive were found to be less than the minimum sightline distances recommended by the TAC design guideline. Sightlines are obstructed by the curvature of the roadway west of the intersection and vegetation located on the property on the southwest corner of the intersection.

Site Observations

Staff visited the area on several occasions to better assess the existing driving and environmental conditions. Staff noted that while driving on Rosehill Drive towards Summerhill Drive eastbound vehicles on Summerhill Drive were obscured by a large bush on the corner property, as well as the natural curve of the roadway. This also makes it difficult for eastbound drivers on Summerhill Drive to see vehicles approaching on Rosehill Drive. Sightlines may be further impacted by vehicles parked on-street, although none were observed by staff during site visits.

Discussion

Staff propose that stop control be implemented on Rosehill Drive at the intersection with Summerhill Drive. Removal of the sightline obstruction at the intersection is not feasible

as it would require entering onto private property to remove the existing vegetation. While the installation of stop sign will not change the restricted visibility condition, it does force all drivers on Rosehill Drive to come to a complete stop prior to making their turn, which will afford the necessary time to see if a vehicle is approaching from the west. Staff are of the opinion that the right-hand rule is not the appropriate traffic control for this intersection due to the sightline issues.

Providing clear intersection control through the use of a stop sign on Rosehill Drive would reduce driver confusion, and would also be consistent with the south end of Rosehill Drive which has stop control at Applegrove Avenue.

Summary

The Summerhill Drive/Rosehill Drive Traffic operational review has shown that the vehicle volumes and vehicles speeds on Summerhill Drive are below those of a typical urban local road in the City of Peterborough. The review identified sight line restrictions attributed to a combination of roadway geometry, vegetation, and parked vehicles. Based upon the restricted sight lines, potential driver uncertainty at the uncontrolled T-intersection, and to promote consistent traffic control within the neighborhood, the implementation of Stop sign control on Rosehill Drive at Summerhill Drive would clearly define who has the right-of-way and improve driver safety.

Submitted by,

W. H. Jackson, P. Eng.
Commissioner of Infrastructure and Planning Services

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Attachments:
Appendix A: Summerhill Drive / Rosehill Drive Area Sketch

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