

Committee of the Whole Report

DATE: Tuesday, April 02, 2019

WARD(S): 1

**TITLE: ALL-WAY STOP CONTROL REVIEW AT PINE VALLEY DRIVE
AND KIRBY ROAD SOUTH INTERSECTION**

FROM:

Zoran Postic, Interim Deputy City Manager, Public Works

ACTION: DECISION

Purpose

This report seeks Council approval to implement an all-way stop control at the south intersection of Pine Valley Drive and Kirby Road to improve traffic operations.

Report Highlights

- A traffic study was undertaken, and the existing traffic volumes at the subject intersection exceed the Provincial Warrant for all-way stop controls.
- All-way stop controls would benefit traffic operations in the area.
- It is recommended that an all-way stop control be implemented at the subject intersection.

Recommendations

1. That the implementation of an all-way stop control at the south intersection of Pine Valley Drive and Kirby Road be approved;
2. That a By-law be enacted to amend By-law 284-94, the Consolidated Traffic By-law to add an all-way stop control at the south intersection of Pine Valley Drive and Kirby Road; and
3. That the City Clerk forward a copy of this report to York Regional Police.

Background

A review of traffic operations was conducted at the two offset intersections of Pine Valley Drive with Kirby Road to assess the need for additional traffic control measures.

Pine Valley Drive is a two-lane north-south minor arterial roadway with a 28.5 metres right-of-way (6.5 metres pavement width) and 1.0 metres gravel shoulder on both sides. Kirby Road is a two-lane east-west minor arterial roadway with a 28.5 metres right-of-way (6.5 metres pavement width) and 1.0 metres gravel shoulder on both sides.

At Pine Valley Drive, Kirby Road is offset, such that the westerly leg of Kirby Road meets Pine Valley Drive at a three-legged intersection approximately 65 metres south of where its easterly leg meets Pine Valley Drive, forming a separate three-legged intersection. Each of these three-legged intersections is stop-controlled on Kirby Road. There are no plans in the foreseeable future to align the westerly and easterly legs of Kirby Road.

The area is currently illuminated by two street light poles on the east side of Pine Valley Drive, specifically, one at each of the three-legged intersections. Pavement markings are present on both roadways, including edge lines on both sides of the roadway and a yellow centerline.

Previous Reports/Authority

[Consolidated Traffic By-Law 284-94](#)

Analysis and Options

An all-way stop control is recommended at the south intersection of Pine Valley Drive and Kirby Road, to improve traffic operations. No additional traffic controls are recommended at this time for the north intersection (Pine Valley Drive and Kirby Road toward the east).

The City's all-way stop control warrant analysis takes into consideration the minimum vehicular volumes required, accident hazards, and sight restrictions at the intersection. This warrant analysis is generally based on the thresholds established in Book 5 of the Ontario Traffic Manual. The study results are summarized in Table 1.

As shown in the Table, traffic volumes at the south intersection of Pine Valley Drive and Kirby Road are 166 percent of the minimum required to meet the Provincial Warrant for all-way stop controls, while at the north intersection, traffic volumes are only 68 percent of the minimum required. Traffic volume data is based on turning movement counts collected on Wednesday, November 14, 2018 during the peak traffic periods of 7:00 a.m. to 9:00 a.m., 11:00 a.m. to 2:00 p.m. and 3:00 p.m. to 6:00 p.m.

Table 1: All-Way Stop Warrant Analysis at Pine Valley Drive and Kirby Road

Warrant #	Warrant Description	Study Results	
		North intersection	South intersection
Warrant 1	Minimum Vehicular Volumes	68%	166%
Warrant 2	Accident Hazard	0%	0%
Warrant 3	Sight Restriction	0%	0%

The Table also shows that Warrant 2, based on accident hazards, was not met at either intersection. Specifically, collision data from York Regional Police indicate that there have been no reported collisions at either intersection during the three-year period from June 2015 to June 2018.

In addition, Warrant 3, based on sight restrictions, was not met at either intersection. Specifically, the sightline assessment found that sightlines are unobstructed at both intersections. Moreover, the intersection geometries do not pose any issues, with both streets being at level grade and intersecting at 90 degrees.

All-way stop controls are recommended when one of the above warrants meets or exceeds 100 per cent. As show in Table 1, the existing volumes at the south intersection of Pine Valley Drive and Kirby Road exceed the Minimum Vehicular Warrant No. requirements. As such, an all-way stop control is recommended at this location. However, at the north intersection none of the warrants are met, therefore all-way stop control is not recommended there.

Staff will continue to monitor the traffic conditions at this location and assess the need for improvements, as required.

Financial Impact

The capital cost associated with the installation of the all-way stop signs is estimated to be \$700 and has been included in the approved 2019 Operating Budget. The on-going cost to maintain the signs and pavement markings (stop bars) is estimated to be \$200 per annum and will be incorporated in future year Operating Budgets.

Broader Regional Impacts/Considerations

York Regional Police will be responsible for enforcing compliance with the recommended all-way stop at the south intersection of Pine Valley Drive and Kirby Road. As such, a copy of this report will be forwarded to them upon approval of the recommendations by Council.

Conclusion

An all-way stop control is recommended at the south intersection of Pine Valley Drive and Kirby Road toward the west, to improve traffic operations. No additional traffic controls are recommended at this time for the north intersection (Pine Valley Drive and Kirby Road toward the east).

For more information, please contact:

Zoran Postic, Director, Transportation Services Parks and Forestry Operations and
Interim Deputy City Manager of Public Works, or

Margie Chung, Manager of Traffic Engineering.

Attachments

1. Location Map

Prepared by

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