



Council Report

Report Number:	ENG2022-034
Meeting Date:	September 27, 2022
Title:	Request for Traffic Control – Frank Hill Road and Yankee Line,
Description:	Request for Traffic Control
Author and Title:	Joseph Kelly, Senior Engineering Technician

Recommendation(s):

That Report ENG2022-034, **Request for Traffic Control – Frank Hill Road and Yankee Line**, be received;

That an all-way stop be installed at the intersection of Frank Hill Road and Yankee Line;

That flashing red beacons be installed, warning of the all-way stop at the intersection of Frank Hill Road and Yankee Line;

That the necessary By-law for the above recommendations be forwarded to Council for adoption.

Department Head: _____

Financial/Legal/HR/Other: _____

Chief Administrative Officer: _____

Background:

Staff and Council have received safety concerns regarding the intersection of Frank Hill Road (Kawartha Lakes Road 26) and Yankee Line (Kawartha Lakes Road 14). As an intersection comprised of two rural arterial roads with major seasonal peaks, staff chose to forgo the petition process in order to expedite the investigation of the intersection.

Both Yankee Line and the south approach of Frank Hill Road have similar designs with wide gravel shoulder and typical lane widths for rural arterial roads. Yankee Line experiences an estimated Annual Average Daily Traffic (AADT) of 3932 vehicles while the south approach of Frank Hill Road experiences an estimated AADT of 2391 vehicles. Speed limits for these roads are 80 km/hr.

For the north approach, Frank Hill Road becomes a rural local road (no longer KL Rd 26) with lower volumes and design typical of rural local roads (narrower lane widths and shoulders). The estimated AADT for the north approach of Frank Hill Road is 108 vehicles. The section of Frank Hill Road is unposted for speed.

Rationale:

Staff performed a turning movement count to be used in the Ontario Traffic Manual's (OTM) Traffic Signal Justifications and All-way Stop Warrants.

It was found that the traffic signals are not justified and most of the All-way stop warrant was not met (Appendix A), however, all-way stops may be used where the minimum sight distances are not achieved.

The Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads 2017 outlines minimum sight distance while recommending that Engineers consider if contributing factors make the longer minimum decision sight distance more appropriate than the minimum stopping sight distance. While the minimum stopping distance is met, the minimum decision sight distance is not (Figure 1).

Driver confusion is high at this intersection. At the south stop control, a roll over curb with a sweeping arc necessitates a stop bar that is set back. This encourages rolling stops. Observation made at the time of the traffic count detailed the majority of vehicles not coming to a complete stop. Therefore, it would be using good engineering judgment to apply the minimum decision sight distance.

Figure 1. Graph 9.10.1 from TAC Guidelines showing site lines between min stopping and min decision

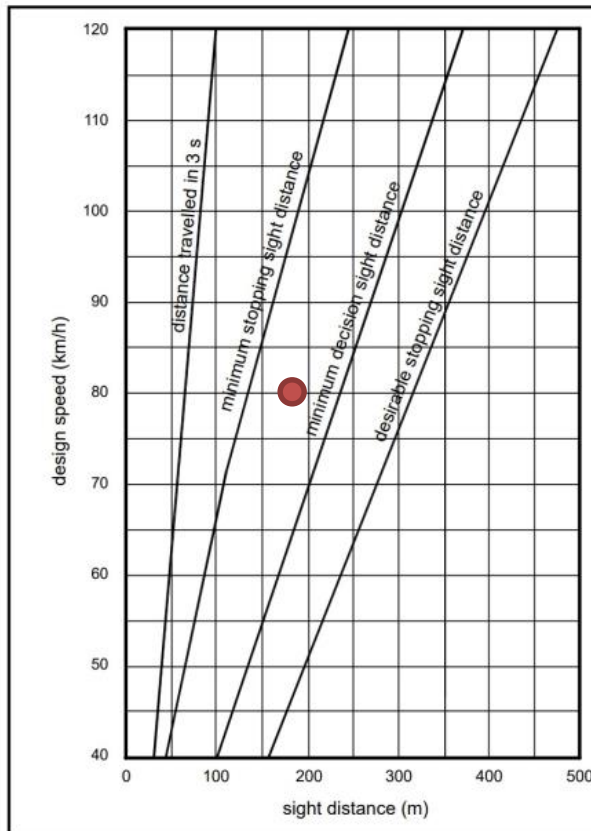


Figure 9.10.1: Decision Sight Distance⁷²

In light of the increased conflict potential due to rolling stops combined with compromised decision sight distance, it is recommended that an all-way stop with flashing red beacons be installed at the intersection of Yankee Line and Frank Hill Road as outlined in Appendix B.

Other Alternatives Considered:

A do nothing approach is not recommended. Reconstruction of the intersection to create a tighter turning radius would allow for the stop sign and bar to be placed closer to the intersection, thereby decreasing the amount of rolling stops. A review of the turning radius could be part of future resurfacing plans.

Alignment to Strategic Priorities

Providing life safety and protection, is a priority objective of the City under the Council Adopted Strategic Plan Goal of An Exceptional Quality of Life.

Financial/Operation Impacts:

\$2700 - Cost of installing new signs and painting through Public Works operational budget

\$14000 – Cost of 4 flashing red solar beacons through traffic signal budget

Consultations:

N/A

Attachments:

Appendix A – Signal Justifications and All-way Stop Warrant Summaries



Adobe Acrobat
Document

Appendix B – Sign Placement Recommendations



Adobe Acrobat
Document

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Department Head: Juan Rojas, Director of Engineering & Corporate Assets

Department File: Engineering and Corporate Assets