

Subject: Implementation of a uniform 50km/h speed limit on Effingham Street between Regional Road 20 and Regional Road 69.

Recommendation:

THAT Committee receive Report #2019-0122 and recommend to Council:

THAT Council approve the implementation of a uniform 50km/h speed limit on Effingham Street between Regional Road 20 and Regional Road 69.

Background:

In response to concerns expressed by local residents and potential safety problems, the Town of Pelham retained Associated Engineering Inc. to conduct an in-service road safety review of Effingham Street between Regional Road 20 (HWY 20) and Regional Road 69 (Pelham Road). Please see **Figure-1**.

The section of Effingham Street reviewed in this study is a winding two-lane rural roadway that has experienced a number of collisions, including a recent accident that resulted in a fatality. Excessive speeds have been identified as contributing from both staff and local residents, given the number of tight radius horizontal curves that exist within this road section. The characteristic of the road, as well as, its scenic nature has made it popular with motorcyclists and cyclists.

The purpose of the study was to analyze: collision history, speed and traffic volume data, road geometry, signage, intersection safety and pavement markings to provide potential low-cost mitigating measures to address the

identified safety issues.

The report identified a number of safety related issues and provided recommendations for short and long-term improvements. The identified safety improvements include: implement a uniform 50km/h for the entire road segment, complete minor alterations to signage to improve consistency, make changes to pavement markings, improve roadside hazard marking, continue to upgrade the guard rail systems, and pursue funding for bike route improvements.

While a large majority of the issues identified in the report can be addressed utilizing existing, and future road maintenance budgets, the implementation of a uniform 50km/h speed limit between Regional Road 20 and Regional Road 69 requires approval by Council. Changing the speed limit of a road segment also requires an amendment to By-law 89-2000.

By-law 89-2000 requires several other amendments including the addition of stop signs and newly assumed road sections. A future report to Council will address these amendments, however the immediate approval of the uniform 50km/h speed limit would allow staff to address the placement of hazard warning signs. The location, requirement, and size of warning signs, including curve warning signs with advisory speed tabs are tied to the speed limit of the road segment.

The Effingham Street In Service Road Safety Review completed by Associated Engineering has been attached to this report as - Appendix A.

Analysis:

A number of factors were weighed in the recommendation to implement a uniform 50km/h speed limit on Effingham Street between Regional Road 20 and Regional Road 69. These factors include: speed & traffic volume data, current speed zones, collision history, intersection sight lines.

Speed & Traffic Volume Data

The following speed zones are currently in operation on Effingham street

within the study area:

Regional Road 20 to Kilman Road = 60km/h

Kilman Road to Sixteen Road = 50km/h

Sixteen Road to Wessel Road = 60km/h

Wessel Road to Pelham Street = 50km/h

Automated Traffic Count (ATR) data was used to characterize traffic volume and speed at representative locations along Effingham Street. ATR data was collected in both lanes at 3 sites located east of Oille Street, north of Sulphur Springs Road, and south of Metler Road.

The average 24-hour traffic volume for the entire road section within the study area was 2100 vehicles resulting in Effingham Street being classified as a collector road and a Class 4 highway under Ontario regulation 239/02.

All 3 sites reported 85th percentile speeds (the speed at or below which 85 percent of all vehicles are observed to travel) significantly higher than the posted speed limit ranging from 18km/h to 42km/h over the posted speed limit.

Collision History

The Region of Niagara provided a summary of collisions reported on Effingham street within the study area for the period 2008-2017. During this period there were a total 104 collisions.

Figure-2 shows the collisions that occurred at intersections within the study area for the period reviewed. There were a total of 36 collisions within the study area (which includes intersections at either end of the study area). Twenty-one collisions occurred within intersections under the jurisdiction of the Region of Niagara where a higher frequency of collisions is expected due to higher traffic volumes.

Two intersections under the jurisdiction of the Town of Pelham were noted as having a modest number of collisions. Effingham Street at Tice Road had 5 collisions while Effingham Street at Metler Road had 4. The remaining locations either had one or zero collisions over the period reviewed.

Figure-3 shows the collisions located at mid-block locations within the study area. A total of 68 collisions were reported to have occurred at mid-block locations.

Intersection Sight Line Distance

Sight distance was reviewed at all the intersections in accordance with the Transportation Association of Canada's Geometric Design Guide for Canadian Roads.

At five intersections, issues were identified with visibility for drivers on the minor roadway. Four (4) of the locations are intersections at which the posted speed on Effingham is 60km/h resulting in a higher design speed (70km/h) and a higher standard for sight distance.

Uniform 50km/h Speed Limit

As noted above, two sections of Effingham Street are posted at 60km/h, Regional Road 20 to Kilman Road and Sixteen Road to Wessel Road. Although both sections have a straighter alignment that could allow for the higher speed limit of 60km/h, analysis of traffic data points to the need for a 50km/h posted speed throughout the study area.

The sections with a 60km/h posted speed are both experiencing a sizeable number of mid-block and intersection collisions. The section between Sixteen Street and Wessel Road experienced 17 mid-block collisions and 3 collisions at intersections. This road section also has two sharp radius horizontal curves and both Sixteen Road and Roland Road have issues with limited visibility for drivers on the minor road.

The section between Regional Road 20 and Kilman Road experienced 13 mid-block collisions and 9 collisions at intersections. Tice Road and Moore Drive intersections have issues with limited visibility for drivers on the minor road. This section also experiences drivers choosing to drive at speeds well in excess of the posted speed.

A consistent posted speed of 50km/h between Regional Road 20 and

Regional Road 69 will provide a uniform message to drivers travelling on Effingham Street. A uniform speed limit will also allow staff to install warning and regulatory signs in a consistent manner throughout the road section improving the driver's comprehension of hazards and their ability to choose the appropriate speed for driving through them.

A speed limit of 50km/h will also lower the design speed of the road section, bringing the existing intersection sight lines into compliance with the Geometric Design Guide for Canadian Roads, where trimming of vegetation alone would not provide safe sight line distances at a speed limit of 60km/h.

Financial Considerations:

The cost associated with implementing a consistent posted speed limit of 50km/h on Effingham Street is minor. There are ten (10) 60km/h speed signs on Effingham that would require replacement. The total cost of replacing the 60km/h speed signs is approximately \$500.

If the speed limit remains at 60 km/h the cost to install adequate warning signage will be more expensive due to larger signs and greater frequency.

Alternatives Reviewed:

Staff reviewed keeping the speed limit as is, however this will require the installation of additional warning signage, and is not likely to reduce the frequency or severity of mid-block, or intersection collisions.

Strategic Plan Relationship: Risk Management

A consistent posted speed limit and installation of signage along Effingham from Regional Road 20 and Regional Road 69 will improve the driver's ability to anticipate and understand road hazards and allow them to make better decisions regarding their speed.

Consultation:

Town staff retained the services of Associated Engineering to perform an In-Service Road Safety Review of Effingham Street between Regional Road 20 and Regional Road 69.

In order to complete the study, Associated Engineering obtained collision data from

the Regional Municipality of Niagara as well as spoke to concerned property owners in the area.

Other Pertinent Reports/Attachments:

The "Effingham Street In Service Road Safety Review" completed by Associated Engineering has been added as an attachment to this report.

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