

BUDGET COMMITTEE – JANUARY 12, 2009

ZENWAY BOULEVARD AND VAUGHAN VALLEY BOULEVARD PROPOSED TRAFFIC SIGNAL CONTROL

Recommendation

The Commissioner of Engineering and Public Works in consultation with the Director of Reserves and Investments recommends:

1. That the additional information regarding traffic signal warrants contained in this report as requested by Budget Committee be received; and
2. That the installation of a traffic signal at the intersection of Zenway Boulevard and Vaughan Valley Boulevard at an estimated cost of \$130,000 funded from City Wide Development Charges – Engineering be considered along with the proposed 2009 Capital Budget.

Economic Impact

The cost to install the traffic signal control would be an initial impact on the 2009 Capital Budget. There will be on-going costs associated with the maintenance of the traffic signals that will be incorporated in future Operating Budgets.

Communications Plan

If the project is approved for installation in 2009, Engineering Services staff will advise interested parties and area businesses of the planned signal installation and the timing of the work.

Purpose

To review the feasibility of implementing a traffic signal at the intersection of Zenway Boulevard and Vaughan Valley Boulevard and to provide additional information with respect to traffic signal warrants.

Background - Analysis and Options

A report on this matter was initially considered by Budget Committee at its meeting of December 10, 2008. The report was received by Budget Committee and staff were directed to provide additional information with respect to traffic signal warrants.

Engineering Services Department staff reviewed the traffic activity at the intersection of Zenway Boulevard and Vaughan Valley Boulevard both in response to an inquiry and to review traffic operations at the intersection following the opening of the arterial road connection from Zenway Boulevard to Highway 427. Zenway Boulevard is a collector roadway with a 26.0 metre right-of-way and a 14.0 metre pavement width. Vaughan Valley Boulevard is an industrial roadway with a 23.0 metre right-of-way and a pavement width of 11.5 metres. This is an existing all-way stop control intersection and the existing speed limit on both roadways is a statutory 50 km/h. The area is shown in Attachment No.1.

Traffic Warrants

A turning movement count was conducted on Thursday, November 27, 2008 at the subject intersection during peak travel periods. The traffic count was conducted from 7:00 am to 9:00 am, 11:00 am to 2:00 pm and 3:00 pm to 6:00 pm. On the day of the traffic study the weather was cloudy and the roads were dry.

Traffic volume data collected at the intersections and a comparison to the Provincial Warrant for traffic signal installation on a 2 lane roadway operating under restricted flow conditions is summarized in the table below.

WARRANT # 1 Minimum Vehicular Volumes

All Approaches

Min. Vol. Required for 80-100% Warrant	Act. Traffic Volume Range	Composite % Warrant
720 – 900 vehicles/hr	635-1760 vehicles/hr	91%

Minor Street Both Approaches

Min. Vol. Required for 80-100% Warrant	Act. Traffic Volume Range	Composite % Warrant
135 – 170 vehicles/hr	152 - 450 vehicles/hr	98%

WARRANT # 2 Delay to Cross Traffic

Major Street Both Approaches

Min. Vol. Required for 80-100% Warrant	Act. Traffic Volume Range	Composite % Warrant
720 – 900 vehicles/hr	483 - 1310 vehicles/hr	83%

Traffic Crossing Major Street

Min. Vol. Required for 80-100% Warrant	Act. Traffic Volume Range	Composite % Warrant
60 – 70 vehicles/hr	72 - 212 vehicles/hr	98%

WARRANT # 3 Accident Experience

Min. Requirement	Actual Accidents	Average % Fulfilled
5 over 36 months	2 in 36 months	13%

For a traffic signal control to be warranted on the basis of individual warrants, one or more of the 3 warrants must be satisfied 100% or more.

There is a Warrant 4 – Combination Warrant which may be used if no individual warrants are satisfied 100%, in which two warrants being satisfied 80% or more could warrant the installation of a traffic signal. Based on the study results, this intersection does meet the Warrant 4 requirements of the Provincial Warrant, as Warrant 1 and Warrant 2 are indicated over the minimum 80% requirement.

The proposed signal will be a semi-actuated signal design. The major street is considered to be Zenway Boulevard with Vaughan Valley Boulevard being the minor street. In a semi-actuated design, the minor street will be fitted with loop presence detectors. The green signal preference will be assigned to Zenway Boulevard and the green phase on Vaughan Valley Boulevard will be initiated when the loop detectors are triggered. In this set up, the traffic on Zenway will have a green signal, unless traffic on Vaughan Valley is detected and is stopped at the intersection for a period of time programmed in to the signal controller. This signal installation will be a significant improvement over the existing all way stop control and, through the installation of pedestrian

signal heads with push bottom controls, will provide for safer pedestrian crossing of the intersection to occur.

It is noted that the construction of the arterial road connection of Zenway Boulevard to Highway 427 and the reconstruction of Zenway Boulevard and Fogal Road to Highway 50 has recently been completed and the roadways opened. Traffic is building in this area and will continue to increase with development. Traffic conditions at the Zenway/Vaughan Valley intersection are expected to more fully satisfy the individual warrants with time.

The approximate cost for the installation of traffic signals is \$130,000, with funding from City Wide Development Charges - Engineering.

Relationship to Vaughan Vision 2020/Strategic Plan

Enhance and Ensure Community Safety, Health & Wellness – to advocate for, protect and enhance community safety, health and wellness through education, design and enforcement.

This report is consistent with the priorities previously set by Council.

Regional Implications

Not Applicable.

Conclusion

Based on staff's review, it is recommended that the installation of a traffic signal at the intersection of Zenway Boulevard and Vaughan Valley Boulevard be considered along with the proposed 2009 Capital Budget. Should Council approve the installation the design and installation of the signal would be undertaken in the 2009 construction season.

Attachments

1. Location Map

Report prepared by:

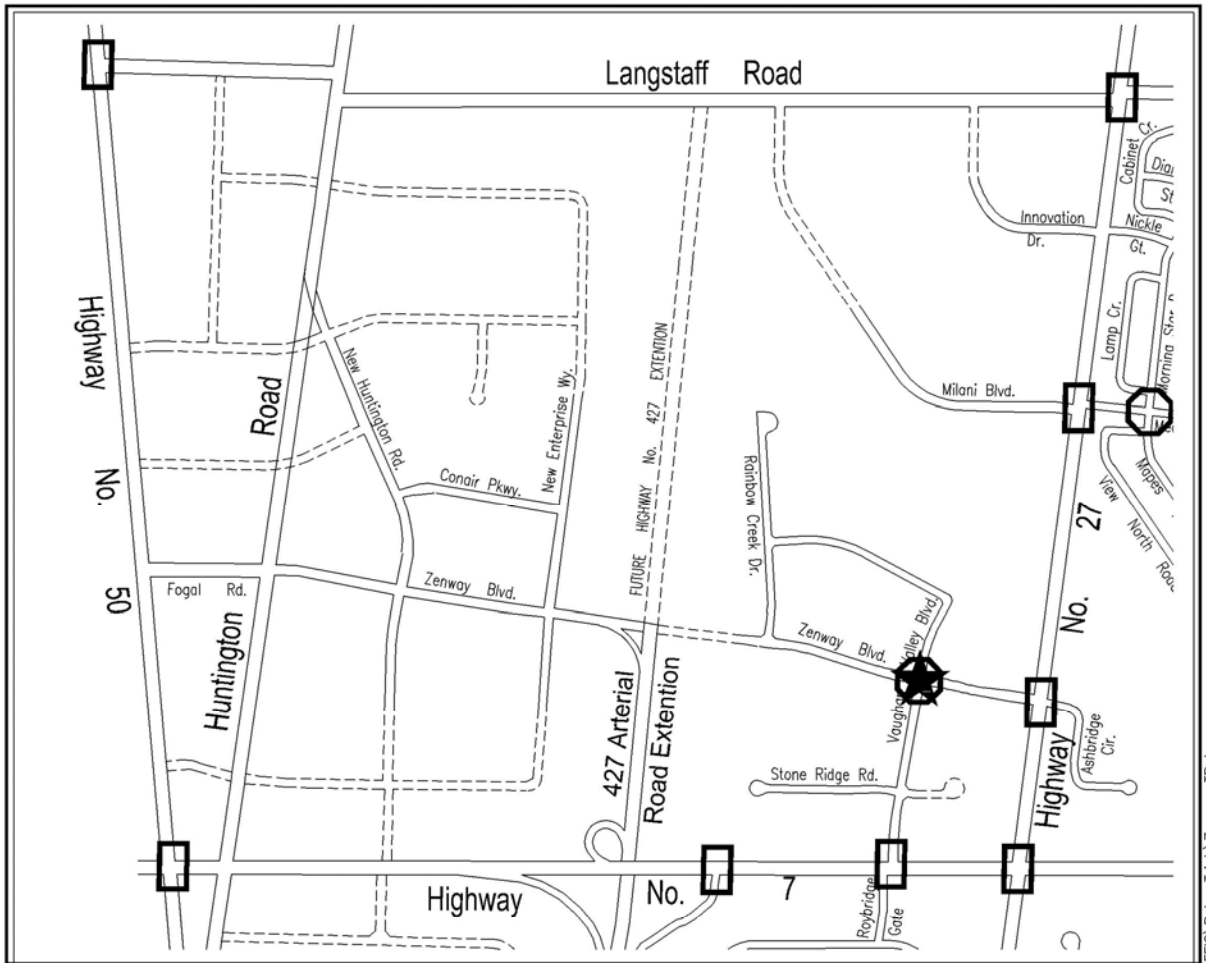
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Respectfully submitted,

Bill Robinson, P. Eng.
Commissioner of Engineering and Public Works




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Supervisor, Traffic Engineering

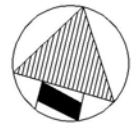
ATTACHMENT No. 1



ZENWAY BOULEVARD and VAUGHAN VALLEY BOULEVARD TRAFFIC SIGNAL REVIEW

LEGEND

-  INTERSECTION UNDER REVIEW
-  EXISTING TRAFFIC SIGNALS
-  EXISTING ALL-WAY STOP CONTROL



NOT TO SCALE