

COMMITTEE OF THE WHOLE – MAY 29, 2006

WOODBIDGE AVENUE AND FOREST DRIVE/LEWIS DRIVE TRAFFIC SIGNAL TIMING AND TRAFFIC INFILTRATION

Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That no changes to the existing traffic signal timing be made at the intersection of Woodbridge Avenue and Forest Drive/Lewis Drive;
2. That a southbound left turn prohibition be implemented at the intersection of Forest Drive and North Ridge Road; and
3. That York Regional Police be requested for enforcement of the turn prohibition at Forest Drive and North Ridge Road.

Economic Impact

The cost to install the traffic sign would be an initial impact to the 2006 Operating Budget and the cost to maintain the traffic sign would be a future Operating Budget impact.

Purpose

To investigate the feasibility of adjusting the existing traffic signal timing at the intersection of Woodbridge Avenue and Forest Drive/Lewis Drive, and determine if traffic is infiltrating on North Ridge Road and Moonstone Place as an alternative to Woodbridge Avenue and Forest Drive/Lewis Drive, in response to direction from Council.

Background - Analysis and Options

At its meeting on October 17, 2005 Council directed:

“That staff review the timing of signal lights at the intersection of Woodbridge Avenue and Forest Drive/Lewis Drive, to determine if the length of time allotted for traffic to enter the intersection from Forest Drive and Lewis Drive is sufficient to accommodate efficiently the amount of that traffic, and that traffic infiltration studies be conducted before and after any changes to the timing of the signal lights as may be required;”

Woodbridge Avenue is a primary feeder road with a 23.0m right-of-way, and Forest Drive is a local road with a 20.0m right-of-way. The intersection of Woodbridge Avenue and Forest Drive is under existing traffic signal control. The area is shown on Attachment No. 1.

Staff conducted a signal timing review and observations at the intersection of Woodbridge Avenue and Forest Drive/Lewis Drive on Wednesday, October 26, 2005 during the morning and afternoon peak time periods. At no time during the review was a vehicle unable to clear the intersection during allocated green times.

Changes to the existing traffic signal timing, specifically to add more green time to the north/south direction would result in possible delays to east/west traffic. Staff does not recommend any signal timing changes at this intersection.

Staff conducted an infiltration study on Wednesday, April 12, 2006 during the time periods of 7:00am to 9:00am and 4:00pm to 6:00pm to determine the amount of ‘cut-through traffic’ that was using North Ridge Road from Woodbridge Avenue to Forest Drive as an alternative route to avoid

the intersection of Woodbridge Avenue and Forest Drive/Lewis Drive. The weather was overcast with some rain in the afternoon.

The infiltration routes and results of the studies are summarized in the following table.

Wednesday, April 12, 2006 Study				
TIME	ENTERING AT	EXITING AT	TOTAL INBOUND VEHICLE	TOTAL INFILTRATION
7:00am to 9:00am	Forest Drive and North Ridge Road	Woodbridge Avenue and Moonstone Place	129	122 or 95%
7:00am to 9:00am	Woodbridge Avenue and Moonstone Place	Forest Drive and North Ridge Road	24	12 or 50%
4:00pm to 6:00pm	Forest Drive and North Ridge Road	Woodbridge Avenue and Moonstone Place	60	43 or 72%
4:00pm to 6:00pm	Woodbridge Avenue and Moonstone Place	Forest Drive and North Ridge Road	48	24 or 50%

The percentage of traffic infiltration is high, especially for traffic arriving at Forest Drive and North Ridge Road and exiting at Woodbridge Avenue and North Ridge Road/Moonstone Place. However, the volumes with the exception of the AM infiltration volumes arriving at Forest Drive are relatively low. Turning prohibitions during specific time periods are not recommended with the exception of the Forest Drive to Woodbridge Avenue morning period. Residents within this subdivision would be adversely affected if prohibited during the other peak time periods.

The additional 122 vehicles can be accommodated at the signalized intersection of Woodbridge Avenue and Forest Drive/Lewis Drive and these vehicles can clear the intersection on each cycle. The amount of opposing volume from the northbound Lewis Drive is minimal and would not impact the additional volume from Forest Drive.

Relationship to Vaughan Vision 2007

This traffic study is consistent with Vaughan Vision 2007 as to identify and implement innovative traffic management alternatives to improve general traffic safety (1.1.3).

This report is consistent with the priorities previously set by Council and the necessary resources have been allocated and approved.

Conclusion

Based on staff’s review, it is recommended:

1. That no changes to the existing signal timing at the intersection of Woodbridge Avenue and Forest Drive/Lewis Drive be made; and
2. That a southbound left turn prohibition be implemented at the intersection of Forest Drive and North Ridge Road; and
3. That York Regional Police be requested for enforcement of the turn prohibition at Forest Drive and North Ridge Road.

Attachments

1. Location Map

Report prepared by

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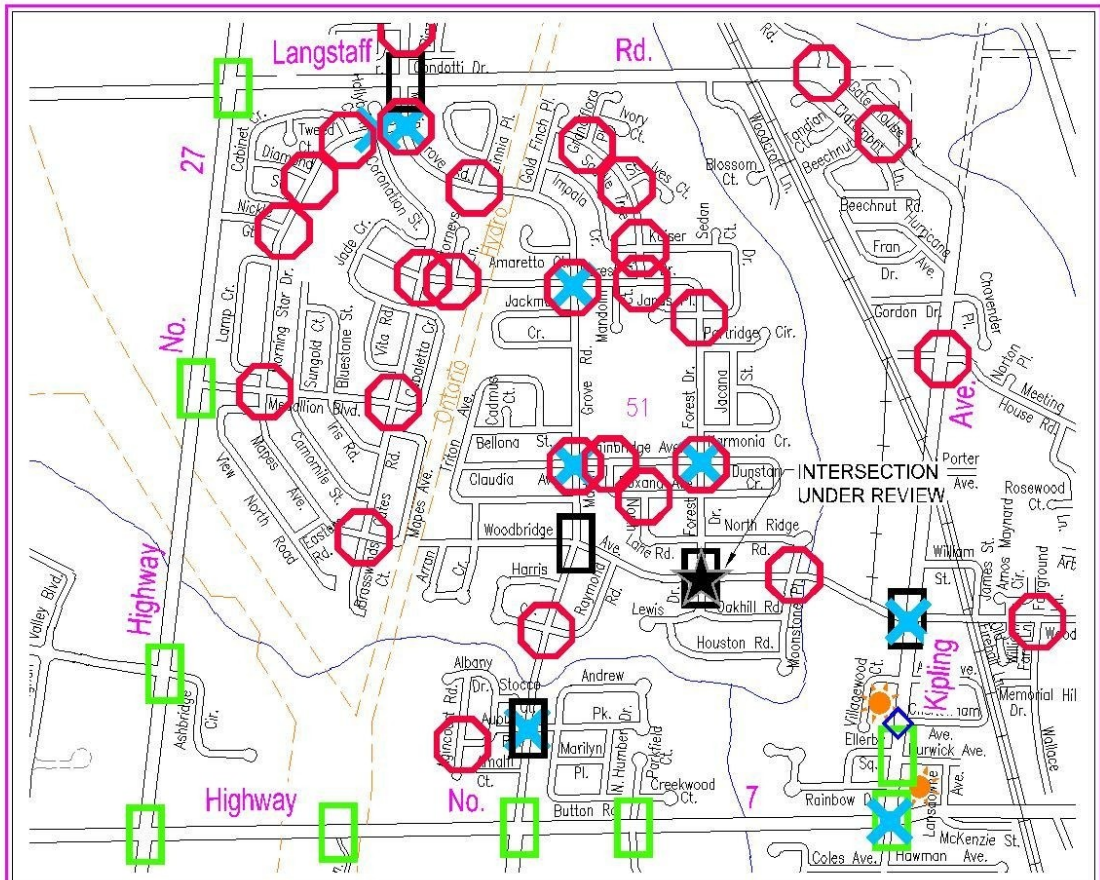
Respectfully submitted,

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

Gary Carroll, P. Eng.
Director of Engineering Services







:MR

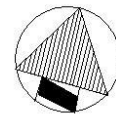
ATTACHMENT No. 1



WOODBRIDGE AVENUE AND FOREST DRIVE / LEWIS DRIVE INTERSECTION UNDER REVIEW

LEGEND

-  INTERSECTION UNDER REVIEW
-  EXISTING TRAFFIC SIGNALS
-  EXISTING ALL-WAY STOP CONTROL
-  EXISTING SUPERVISED SCHOOL CROSSING
-  EXISTING FLASHING SCHOOL BEACON
-  PEDESTRIAN SIGNAL OR HALF SIGNAL



NOT TO SCALE