

COMMITTEE OF THE WHOLE – FEBRUARY 20, 2006

ENHANCING SAFETY OF SCHOOL- AGE PEDESTRIAN NEAR SAN MARCO SCHOOL

Recommendation

The Commissioner of Engineering and Public Works recommends:

- 1) That an all-way stop control not be installed at the intersection of Martin Grove Road and Morning Star Drive; and
- 2) That an additional advance Warning Sign – ‘SLOW/SCHOOL CROSSING AHEAD’ - be installed in the northbound direction, along Martin Grove Road, north/west of the Zinnia Place intersection.

Economic Impact

The cost to install warning sign(s) will be an initial impact on the 2006 Capital and Operating Budgets. There are no funds allocated in the 2006 Capital Budget for flashing amber beacon(s) or any other special warning measures or treatments. The on-going costs to maintain the signs and any other elements would be an impact to future Operating Budgets.

Purpose

To review the feasibility of implementing an all-way stop control at the intersection of Martin Grove Road and Morning Star Drive and additional traffic control measures in the vicinity of the of the two existing school crossing guard locations at Martin Grove Road and Morning Star Drive and Coronation Street and Morning Star Drive.

Background - Analysis and Options

At its meeting of February 13, 2006, Council directed:

“...that staff report back at the next Committee of the Whole on the need and feasibility of the requests contained in the petition (attached) from the residents of West Woodbridge in the vicinity of San Marco School, to enhance the safety of school-age pedestrians in the area by:

1. the installation of a three way stop-sign at the intersection of Martin Grove Road and Morningstar Drive, as well as flashing amber lights both directions of traffic on Martin Grove Road;
2. the marking of the pavement at the intersection at Morningstar Drive and Coronation Street, to indicate a crosswalk, with appropriate signage including but not limited to flashing amber lights; and
3. the placement of a second set of crossing signs directed at northbound traffic on Martin Grove Road, west of the intersection with Zinnia Place, indicating ‘SLOW/SCHOOL CROSSING AHEAD’.”

A petition request has been received from the area residents to review the traffic activity at the ‘T’ - intersection of Martin Grove Road and Morning Star Drive. Martin Grove Road is a collector roadway with a 26.0 metre right-of-way and four travel lanes. Morning Star Drive is a feeder roadway with a 23. metre right-of-way and two travel lanes. The speed limit on Martin Grove Road is a statutory 50 km/h and Morning Star Drive is posted at 40 km/h. There are existing school crossing guards at the intersections of Martin Grove Road and Morning Star Drive (south side) and Morning Star Drive and Coronation Street (west side). (Refer to Attachment No. 1).

Martin Grove Road and Morning Star Drive

A turning movement count was conducted on Monday, February 6, 2006 (morning 7:00am to 9:00am) and Tuesday, February 7, 2006 (afternoon 3:00pm to 6:00pm) at the intersection of Martin Grove Road and Morning Star Drive. On the day of study the weather was cold and overcast. The data collected was compared to the Provincial Warrant for All-way Stop Control with the following results:

Warrant 1 – Minimum Vehicular Volumes	Warranted 46%
Warrant 2 – Accident Hazard	Warranted 0%
Warrant 3 – Sight Restriction	Warranted 0%

All-way stop controls are recommended when one of the above warrants are satisfied 100% or more. There were no recorded vehicle collisions at this intersection susceptible to prevention by an all-way stop control over the last twelve-month period. There are no sight line restrictions at this intersection viewing from the existing eastbound stop control. This is a 'T' intersection with the existing stop control on Morning Star Drive. Sidewalks are available on both sides of Martin Grove Road and Morning Star Drive in the immediate area. According to the above results, an all-way stop control is not warranted at the intersection of Martin Grove Road and Morning Star Drive.

A radar study was also conducted on Monday, February 6, 2006 during the morning and afternoon time periods of 7:15am to 8:15am and 3:20pm to 4:15pm. The location of the radar study was approximately 80 metres south of Morning Star Drive on Martin Grove Road. On the day of the study the weather was cold and overcast. The following is a summary of the results:

AM Period

Northbound Direction	Average Speed – 48 km/h 85 th Percentile Speed – 55 km/h Compliance to 50 km/h – 79% of motorists Pace (15 km/h) Range – 43 km/h to 58 km/h, 86% of motorists
Southbound Direction	Average Speed – 47 km/h 85 th Percentile Speed – 52 km/h Compliance to 50 km/h – 79% of motorists Pace (15 km/h) Range – 40 km/h to 55 km/h, 91% of motorists

PM Period

Northbound Direction	Average Speed – 47 km/h 85 th Percentile Speed – 54 km/h Compliance to 50 km/h – 78% of motorists Pace (15 km/h) Range – 40 km/h to 55 km/h, 78% of motorists
Southbound Direction	Average Speed – 48 km/h 85 th Percentile Speed – 54 km/h Compliance to 50 km/h – 70% motorists Pace (15 km/h) Range – 40 km/h to 55 km/h, 82% of motorists

The observed speeds are similar to other collector type roadways in the City. Recorded travel speeds indicate a high level of compliance to the posted speed of 50km/h. The distance between Langstaff Road and Morning Star Drive is approximately 120 metres and the roadway curve on Martin Grove Road begins approximately 20 metres south of Morning Star Drive.

Staff believe that the suggested location of an All-Way Stop Control is too close in proximity to the traffic signal at Langstaff Road to the north. The separation distance between the two intersections and the lower entry volumes from the side street (Morning Star Drive), along with the class of road and clear sightlines, are all factors that lead to driver perception anticipating a free-flow condition along Martin Grove Road. Further, the existing school crossing at the intersection of Martin Grove Road and Morning Star Drive is provided with the required signs and pavement markings in accordance with the Ontario Traffic Manuals. The crossing guards have not raised any particular safety issues with intersection operations while on duty at this intersection.

It is noted that, on the east side of the intersection, there is no sidewalk connection from the east side sidewalk to the road crossing. Installation of such a connection would facilitate pedestrian movements and could be completed at nominal cost under the approved budget.

The installation of flashing amber beacons with the 'SLOW/SCHOOL CROSSING AHEAD' warning signs can be accommodated on Martin Grove Road in the northbound and southbound directions. The total cost to install the flashing amber beacons and warning signs is approximately \$15,000. There are presently no funds allocated in the 2006 Capital or Operating Budgets for these works. However, given the residents' requests and site conditions in the area, it is prudent to install an additional warning sign, "SLOW/SCHOOL CROSSING AHEAD' in the northbound direction only, north/west of Zinnia Place intersection.

It may also be worthwhile to consider a new product available called "STREETPRINT" which has been used mostly in the United States and has now been introduced in a very few number of municipalities in Ontario. It is a form of pavement marking which is applied into the pavement itself to which lettering or symbols can be installed. It is used to improve visibility. Several municipalities are now testing this product on a pilot basis to determine its effectiveness and durability. The cost is based on the size of a particular road-marking symbol or approximately \$12.00 per square foot for general area coverage. The cost to install this type of marking at the school crossing is estimated at \$7,000. While relatively expensive, this type of pavement marking does last 8 years plus and is effective in defining areas on roadways such as crossing zones, etc. Again, there are currently no funds in the 2006 Capital Budget for this type of work should Council wish to go forward with this application.

Morning Star Drive and Coronation Street

The existing school crossing guard on the west side of the intersection is provided with the required signs and pavement markings in accordance with the Ontario Traffic Manuals. City staff have received no complaints or issues from the crossing guard(s) at this location. A petition request was received to review the feasibility of installing a 'Crosswalk' at this location. Most municipalities no longer install the older style 'Pedestrian Crossover' (PXO) as many motorists are not familiar with the operation of this traffic control device. Vaughan's experience reflects a similar trend to remove these installations due in part to safety concerns as such "Crosswalks" no longer exist within the City. This type of traffic control device has been replaced by the new 'Pedestrian or Half Signal' (IPS). The cost to install a Pedestrian or Half signal is approximately \$50,000.

The installation of flashing amber beacons with 'SLOW/SCHOOL CROSSING GUARD' warning signs can be accommodated on Morning Star Drive in the eastbound and westbound directions. The distance between Martin Grove Road and Coronation Street is approximately 100 metres. The total cost to install the flashing amber beacons and warning signs is approximately \$15,000. Again, there are no funds allocated in the 2006 Capital or Operating Budgets for these works. Given the lower traffic volumes, speed compliance at the intersection and existing signage and markings staff are not recommending any further measures for this location at this time.

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 that an all-way stop control not be installed at the intersection of Martin Grove Road and Morning Star Drive. It is also recommended that an additional advanced warning sign be installed in the north bound direction on Martin Grove Road, north/west of Zinnia Place.

Attachments

1. Location Map

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Respectfully submitted,

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Commissioner of Engineering and Public Works

Gary Carroll, P. Eng.
Director of Engineering Services

MD:mc

ATTACHMENT No. 1

