COMMITTEE OF THE WHOLE- SEPTEMBER 18, 2006

NEIGHBOURHOOD TRAFFIC COMMITTEE
REVIEW OF EXISTING TRAFFIC CALMING MEASURES

Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That this report be received for information purposes; and

2. That the results of the traffic calming surveys distributed to residents and the Traffic Committee Chair of each completed Neighbourhood Traffic Committee be received for information purposes and considered in any future implementation of traffic calming measures in the City of Vaughan;

Purpose

To provide a summary report on the existing Traffic Calming Measures that have been installed between the years 2003 to 2005, to inform Council of the results of the before/after speed studies conducted to date, and to inform Council of the results of the surveys distributed to residents and Traffic Committee Chairs within each completed Neighbourhood Traffic Committee area.

Economic Impact

There are no financial implications associated with this report.

Background – Analysis and Options

Engineering staff have prepared a report on the existing conditions and comments on the traffic calming measures that have been installed on City roadways between the years 2003 and 2005. This report follows the first traffic calming report submitted in January, 2003 which discussed all the installed traffic calming measures up to the end of the 2002 year.

The following are the Neighbourhood Traffic Committees that were completed between the years 2003 and 2005:

- Airdrie Drive
- Barrhill Road
- Charles Street/Helena Gardens/Spring Gate Boulevard
- Flamingo Road
- Maple Landings
- Maple Sherwood
- Maple Springs Phase 2
- Nimbus Place
- Pinewood Drive/Crestwood Road
- Rosedale Heights Drive
- Vaughan Mills Road South
- Weston Downs Phase 2
- Woodbridge Highlands and Woodbridge Meadows.

Outside of the Traffic Committee procedure the following roadways had traffic calming measures (speed humps) installed during the same time period: Belview Avenue, Chancellor Drive, Fiori Drive, Glen Shields Avenue, Matthew Drive and Ten Oaks Boulevard.

Resident Surveys

Surveys were hand delivered on July 17 and 18, 2006, to residents that live at an installed traffic calming measure within each completed Neighbourhood Traffic Committee. An example of an affected resident is one who has a speed hump or curb bump-out located directly in front of their home. The residents were asked to complete the surveys and return them by mail, fax or internet by August 4, 2006. A total of 257 surveys were individually delivered. The survey was placed on the City's web site to allow a resident another option to provide feedback. A total of 42 surveys were received, for a City-wide response rate of 16 percent.

A sample survey form is included as Attachment No. 1. Residents were asked whether they think traffic conditions have improved in their neighbourhood since the installation of traffic calming measures, and whether they think the benefits outweigh any negative aspects. They were also asked whether they think there should be more or fewer speed humps, raised crosswalks, median islands, curb extensions and painted road narrowings in their neighbourhood. Space was provided to allow for additional comments with respect to traffic calming.

Some of the data collected from the surveys is shown below.

Survey Question	# of Responses	Yes	No	More	Fewer
1. Have the conditions on your roadway improved?	40	16 or 40%	24 or 60%		
2. Do the benefits outweigh any negative aspects?	39	19 or 49%	20 or 51%		
3. Do you think there should be more or fewer?					
* Speed Humps	34			17 or 50%	17 or 50%
* Raised Crosswalks	34			20 or 59%	14 or 41%
* Median Islands	31			18 or 58%	13 or 42%
* Curb Extensions	31			17 or 55%	14 or 45%
* Painted Road Narrowings	30			17 or 57%	13 or 43%

Note: Not all questions were answered on every Survey.

Of residents responding to the surveys, 40 percent think that traffic conditions have improved in their neighbourhood since the installation of traffic calming measures, and 49 percent think that the benefits of traffic calming outweigh any negative aspects.

With respect to individual traffic calming measures, the following is noted:

- Of the residents responding, 50 percent think there should be more speed humps and raised crosswalks in their neighbourhood, and 50 percent think there should be fewer speed humps and raised crosswalks.

- Of the residents responding, 59 percent think there should be more raised crosswalks in their neighbourhood.

- Of the residents responding, on average 56 percent think there should be more "other traffic calming measures" in their neighbourhood and 53 percent think there should be fewer. In this context, "other traffic calming measures" means measures that are not speed humps and raised crosswalks, such as raised intersection medians, flush-to-grade centre medians, curb extensions and painted road narrowings.

Most of the comments received from residents were requests for increased police enforcement of the speed limit or compliance at existing stop signs. Of the comments received concerning speed humps and raised crosswalks, many would like to see the speed humps built higher to further slow motorists. Most comments about medians and curb extensions were concerns that they were generally ineffective in slowing motorists, and that they took away on-street parking spaces.

Traffic Committee Chair Surveys

Staff sent a survey to each of the Traffic Committee chairs on July 6, 2006 for their review and comments regarding the traffic calming measures that were installed within the area. There were 14 traffic committees established and implemented between 2003 and 2005. A sample survey form is included as Attachment No. 2. Staff received 5 responses. The results are summarized in the chart below.

Committee Responding	Have Traffic Conditions Improved?		Do Benefits Outweigh Negatives?	
	Yes	No	Yes	No
1. Nimbus Place Committee		√	√	
2. Rosedale Heights Drive Committee	√		√	
3. Vaughan Mills Road South Committee	√		√	
4. Maple Landings Committee	√		√	
5. Woodbridge Highlands Committee		√		√

Generally, the committee chairs indicated that speed humps have helped in reducing the speeds on their roadways, would install traffic calming measures instead of all-way stop controls and that motorists do not obey stop signs. The majority would install more raised crosswalks, median islands and painted road narrowings. The installation of speed humps and curb extensions were not supported to have more installed on the roadways.

Speed Studies

In January, 2003 staff reported on the results of a series of speed studies for all the City's traffic calming projects constructed to the end of 2002 calendar year. The results of the studies indicated that traffic calming had reduced average speeds by approximately 8 km/h, and corresponding average maximum speeds by about 13 km/h.

Staff have continued to conduct radar studies in all projects where traffic calming measures have been implemented from 2003 to the end of 2005 calendar years to determine their impacts on traffic speeds. The list of completed speed studies now includes 14 traffic calming committee areas and 6 roadways that were included during the construction period. The results are summarized below:

Project	Speed Before Implementation		Speed After Implementation	
	Average (km/h)	Max. (km/h)	Average (km/h)	Max, (km/h)
1. Maple Springs Phase 2 Committee	40	67	41	61
2. Barrhill Road and Area Committee	48	73	38	55
3. Woodbridge Highlands Committee	47	79	47	76
4. Weston Downs Phase 2 Committee	46	67	44	76
5. Rosedale Heights Drive Committee	44	67	44	67
6. Pinewood Drive/Crestwood Road Committee	47	94	43	70
7. Maple Sherwood Committee	47	73	41	58
8. Maple Landings Committee	44	67	42	70
9. Charles Street/Helena Gardens Committee	46	68	41	58
10. Flamingo Road Committee	46	61	45	61
11. Airdrie Drive Committee	53	78	49	64
12. Nimbus Place Committee	47	81	38	49
13. Woodbridge Meadows Committee	47	64	42	70
14. Vaughan Mills Road South Committee	N/A	N/A	36	49
15. Fiori Drive Speed Humps	44	70	45	64
16. Ten Oaks Boulevard Raised Crosswalk				
17. Matthew Drive Raised Crosswalk	35	67	32	49
18. Belview Avenue Speed Hump	N/A	N/A	35	49
19 Chancellor Drive Speed Humps	N/A	N/A	42	64
20 Glen Shields Avenue Speed Humps	N/A	N/A	39	52
Average for all projects	50	72	40	59

The results show that traffic calming has reduced average speeds by approximately 10 km/h, and corresponding average maximum speeds by about 13 km/h, which is consistent with the results reported in January 2003.

Existing Neighbourhood Traffic Committee Policy and Procedure

The process by which traffic calming is implemented in existing areas of the City of Vaughan is through the Neighbourhood Traffic Committee Policy and Procedure. The current version of this document is dated January 2003. This policy and procedure superceded the City's original document dated December 1997.

Municipal Class Environmental Assessment Requirements

In June 2000, installation or removal of traffic calming measures was included in the Municipal Class Environmental Assessment (EA) process. Projects involving the construction or removal of traffic calming measures are now Schedule B Class EA projects if they are expected to cost less than $1,500,000. The Ministry of the Environment requires that proponents of Schedule B projects go through a process involving public consultation, the examination of alternate solutions, and the issuing of Notices of Commencement and Completion. The City of Vaughan has been following the process, and even exceeds Class EA requirements for public consultation.

Existing Traffic Calming Criteria

It is recommended that all future traffic calming measures be installed on City of Vaughan streets in accordance with the existing warranting criteria. It is further recommended that the existing warrants remain as a procedure to simply dictate where certain traffic calming measures should not be considered.

- Speed humps and raised crosswalks not be considered on streets that are primary emergency response routes or transit routes. This would eliminate streets such as Martin Grove Road or Clark Avenue, and most primary roads, from being candidates for speed humps and raised crosswalks.

- Traffic calming measures not be considered on streets where the speed limit is greater than 50 km/h.

- Traffic calming measures not be considered where speeds are not in excess of the posted speed limit by at least 10 km/h. This will ensure that traffic calming measures are used only on streets where a speeding problem has been established.

Existing Traffic Calming Standard Drawings

A number of standard drawings have been developed to standardize the design of traffic calming measures currently in use in the City of Vaughan. The drawings detail a number of features such as sign sizes, symbols and locations, pavement markings, dimensions and use of materials for each type of traffic calming measure in use in the City. The following is a list of traffic calming measures that are incorporated in the City's Design Criteria and Standards Manual.

Traffic Calming Advance Warning Signs
Speed Hump
Raised Crosswalk
Raised Intersection
Roundabout Layout
Single-Lane Roundabout
Mini-Roundabout
Traffic Calming Medians
Curb Extensions and Road Narrowings
Chicane

Existing Traffic Calming in the City of Vaughan

There are 48 completed Neighbourhood Traffic Calming Committees in the City. The following list illustrates the type and number of traffic calming measures on installed City roadways over the past several years.

Type of Traffic Calming Measure	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Totals
Speed Humps	32	27	34	27	35	155
Raised Crosswalks	18	6	7	10	8	49
Centre Medians	7	3	0	7	0	17
Painted Road Narrowings	8	2	2	5	1	18
Curb Extensions/Bump-outs	25	11	1	9	0	46
Intersection Medians	9	2	11	4	4	30
Patterned At-grade Crosswalks	11	0	0	0	8	19

There are 8 other committees in the process of developing traffic calming plans or waiting for their implementation. At the current rate traffic calming measures will soon be implemented in most existing residential areas of the City. To date the City has spent a total of over $2.0 million on 48 individual traffic calming projects.

Each Traffic Committee involves a considerable amount of staff time: preparation and attendance at a minimum of two public meetings; working meetings with the Traffic Committee members; distribution of meeting notices; field work including speed studies, traffic counts and sometimes

infiltration studies; reports to Committee of the Whole and Council; traffic calming design; tender preparation and contract administration of the construction of traffic calming measures. The work is done with limited staff resources and on extended working hours.

While studies have proven that speed humps and raised crosswalks are effective measures for reducing traffic speeds, and surveys have established they are generally popular with residents, they have undesirable impacts on heavy vehicles and emergency response times. Unless public expectations begin to change regarding the role of primary roads, residents will continue to demand that additional traffic calming measures, primarily speed humps and raised crosswalks, be implemented on these streets. It is proposed through the Traffic Calming Warrants that most primary roads in these new blocks not be candidates for speed humps and raised crosswalks, because of their higher volumes and role in providing a route for transit and emergency response, and that other measures be considered. These include raised intersections, roundabouts, medians, curb extensions or road narrowings, contrasting materials, pavement markings and warning signage.

Staff are also of the view that effective police enforcement of vehicle speeds combined with our radar message board program and public education, including expanded ROADWATCH programs, together with a change in the public's attitude towards driving is necessary to create the vehicular travel conditions that residents desire in their neighbourhoods.

Planter Boxes on Centre Median Guidelines

Over the years, requests have been received to place planter boxes on a center median as part of the Neighbourhood Traffic Committee process or as streetscape enhancement and/or an entry feature to a subdivision. To ensure that there is sufficient sight line distance to view pedestrians crossing or approaching vehicles at an intersection where medians are introduced the following draft guidelines have been developed. These guidelines are shown on Attachment No. 3.

- The clearance zone from a planter box to the face of curb of the median should not be less than 250 mm.
- The planter box should not be placed within 3.0 metres at the intersection end of the median and 2.0 metres at the approach end of the median.
- The center median, planter box or planting bed, and planting material should not exceed a total height of 1.05 metres. (Driver's eye height)
- The number of planter boxes may vary pending on the length of the center median. A recommended minimum spacing between planter boxes is 1.0 metre.
- All planter boxes should be anchored to the median in such a manner that the box cannot be easily displaced should it be contacted.

There continues to be much debate in the Engineering field as to the ability to incorporate planted medians as part of an effective traffic calming program. There is little specific criteria in any of the standards or specifications dealing with this element and many jurisdictions are left to devise local practices in this regard. Engineering staff are working with their counterparts at the Region and in York Region area municipalities to develop guidelines to address those situations where streetscaping and the like can be incorporated into traffic calming measures. The results of these efforts can then be used as a guideline to accepted practice for both Regional and Local Municipal roadways across the Region of York.

Relationship to Vaughan Vision 2007

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

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

Conclusion

It is recommended that the results of the resident and the traffic chair traffic calming surveys be considered in any future implementation of traffic calming, and the results of the speed studies be received for information purposes. It is also recommended that the existing Neighbourhood Traffic Committee Policy and Procedure, Warrants and Traffic Calming Standard Drawings remain unchanged.

Attachments

1. Sample Resident Survey
2. Sample Survey Traffic Committee Chair
3. Planter Box on Centre Median Guideline Drawing

Report prepared by:

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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

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ATTACHMENT 1

July 6, 2006

TRAFFIC CALMING FEEDBACK REQUESTED

Dear Resident:

The City of Vaughan Engineering Department requests your feedback on the traffic calming measures (speed humps, raised crosswalks, median islands, curb extensions, painted road narrowings) that may be installed on your roadway. Your input is important and will help us make future decisions on dealing with traffic issues.

Please complete the following survey and return it by mail, fax or email no later than **August 4, 2006**.

1. Have the traffic conditions on your roadway improved since the installation of traffic calming measures?

   Yes ☐ No ☐

2. Do the benefits of traffic calming outweigh any negative aspects?

   Yes ☐ No ☐

3. Do you think there should be more or fewer?

Speed Humps	More ☐	Fewer ☐
Raised Crosswalks	More ☐	Fewer ☐
Median Islands	More ☐	Fewer ☐
Curb Extensions	More ☐	Fewer ☐
Painted Road Narrowings	More ☐	Fewer ☐

Please provide us with any additional comments concerning traffic calming in the space below.

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_____

For tracking purposes only please provide your address: _____

Please complete the survey and return it no later than **August 4, 2006**, by any of the following methods.

Mail: Mark Ranstoller, CET, Sr. Traffic Technologist, Engineering Department, 2141 Major Mackenzie Drive, Vaughan, ON, L6A 1T1, (Telephone 905-832-8585, ext. 3141)
Facsimile: 905-303-2045, Attention: Mark Ranstoller, Sr. Traffic Technologist
E-mail: Mark.Ranstoller@vaughan.ca

ATTACHMENT NO. 2

July 6, 2006

Traffic Calming Feedback Requested

1. Have the traffic conditions on your roadway improved since the installation of traffic calming measures?

   Yes ☐ No ☐

2. Do the benefits of traffic calming outweigh any negative aspects?

   Yes ☐ No ☐

3. Do you think there should be more or fewer?

Speed Humps	More ☐	Fewer ☐
Raised Crosswalks	More ☐	Fewer ☐
Median Islands	More ☐	Fewer ☐
Curb Extensions	More ☐	Fewer ☐
Painted Road Narrowings	More ☐	Fewer ☐

Please provide us with any additional comments concerning traffic calming in the space below.

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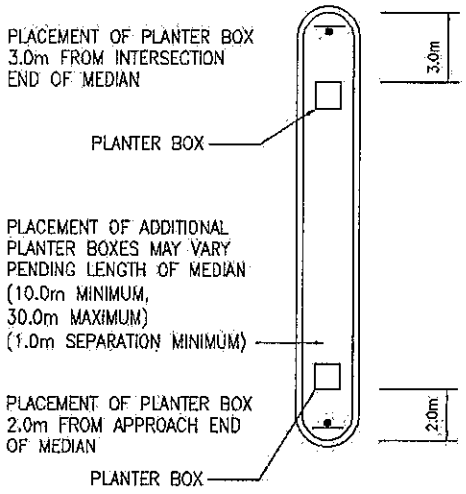
ATTACHMENT No. 3



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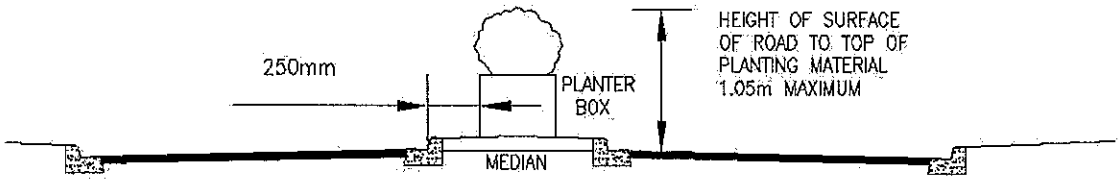

PLANTER BOX LOCATION GUIDLINES

NOT TO SCALE

CITY OF VAUGHAN – ENGINEERING DEPARTMENT

DRAFTSPERSON: E.K.

Drawing name: R:\ENGDRAFT\$TRANSPO\MIKE\Planter Box Location Guidlines.dwg