COMMITTEE OF THE WHOLE – JULY 6, 2010

TRAFFIC CALMING INITIATIVES
WARDS 1-5

Recommendation

The Commissioner of Engineering and Public Works recommends:

1. That the Neighbourhood Traffic Committee Policy and Procedure and the Warrants for the Use of Traffic Calming Measures, both Revised June 2010 be approved, and;

2. That the information appended to this report on the impact of previous traffic calming measures be received.

Contribution to Sustainability

The installation of traffic calming measures on City roadways will ensure that the overall traffic operation and safety is achieved for the residents.

Economic Impact

None.

Communications Plan

There is no communications plan stemming from this report, however, over the years, Engineering Services staff have requested information from and communicated extensively with the Vaughan Fire and Rescue Services Department, York School Boards and York Region Transit with respect to the proposed implementation of a specific traffic calming plan. The communication protocol outlined in the policy and procedure is followed during the neighbourhood traffic calming process.

Purpose

To provide a report on the update to the Traffic Calming Policy & Procedure following discussion at the Committee of the Whole - Working Session meeting on April 12, 2010. The recommendation will improve communication and service excellence to all citizens regarding the development and implementation of a traffic calming plan.

Background – Analysis and Options

At their meeting on May 4, 2010 Council directed:

1) "That Clause 1 of the recommendation contained in the following report of the Commissioner of Engineering and Public Works, dated April 12, 2010, be approved in principle, subject to inclusion of the comments by members of the Committee;

2) That prior to the approval of any Plan of Subdivision, the Traffic Management Plan should be presented to Council for approval of all the proposed traffic calming measures for the subject Block/Draft Plan;

3) That prior to Assumption, if the implemented traffic calming measures as approved at the Block Draft Plan stage are not reliable and/or are ineffective as solution(s) for resident safety, then any additional constructed traffic calming measure will be the responsibility of the Developer;

4) **That speed cushions not be used as a traffic calming measure on City roadways;**

5) **That appropriate staff furnish to the members of the Committee any previous reports on the impact of traffic calming measures, both city-wide and ward specific;**
6) **That no later than June 30, 2010, the aforementioned report be updated with any additional data collected since the timeframe of the last report;**

7) **That community meetings in respect of traffic calming issues commence no earlier than 7:00 p.m.; and**

8) **That the presentation by the Director of Engineering Services, be received."**

There has been much discussion between Council and staff regarding the existing traffic calming process and traffic calming implementation in new developments. The last revision date of the Traffic Calming process, warrants and resident input was in June, 2007.

Current Traffic Calming Practice

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 June, 2007. Refer to Attachment No. 1.

Traffic Calming Warrant

It is recommended that future traffic calming measures, to be considered for installation on City of Vaughan streets, are in accordance with warrants, as noted below. These warrants should be maintained to simply dictate where certain traffic calming measures should not be considered.

It is recommended that:

- Speed humps and raised crosswalks continue **not** to be considered on streets that are primary emergency response routes. This would apply to streets such as Martin Grove Road or Clark Avenue, and most primary roads similar to Fossil Hill Drive and Autumn Hill Boulevard, 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 the 85th percentile speeds are not greater than 10 km/h above existing speed limit. This will ensure that traffic calming measures are used only on streets where a speeding problem has been established.

- Streetscaping features will be limited to focal points in the traffic calming plans.

The proposed REVISED criteria are included as Attachment No. 2.

Traffic Calming in the City of Vaughan

The City of Vaughan has been a leading proponent of traffic calming in the Greater Toronto Area. Over the past several years 267 speed humps and raised crosswalks, and a number of other measures, have been implemented through 50 separate Neighbourhood Traffic Committees. There are 4 other committees in the process of developing a traffic calming plan or waiting for their implementation which have followed the 2007 Policy & Procedure. To date the City has spent a total of over $2.5 million on the 50 traffic calming projects.

Each Traffic Committee involves a considerable amount of staff time: preparation and attendance at a minimum of two community meetings; working meetings with the Traffic Committee members; distribution of meeting notices; preparation of advertisements in the local papers; field work including speed studies, traffic counts and sometimes infiltration studies; a report to Committee of the Whole; traffic calming design; tender preparation and contract administration of the construction of traffic calming measures. The work is done with limited staff resources to the detriment of fundamental traffic engineering functions such as pedestrian studies, signal timing review, daily vehicle counts, volume/speed studies on our road network, etc.

Development/Transportation Engineering staff will continue to follow up on the effectiveness of the implemented traffic calming measures and report back between one and two years after implementation. Prior to assumption of the subdivision, if the implemented measures are not effective then any additional constructed measures are to be the responsibility of the developer. This process will follow the Policy & Procedure on the development of a Plan.

Engineering Services staff have previously reported on the effectiveness of the existing traffic calming measures in 2003 and 2006. Refer to Attachments No. 3 and No. 4, respectively. Since 2006 there have been several neighbourhoods that have had traffic calming measures built and also summarized. Refer to Attachment No. 5.

Relationship to Vaughan Vision 2020/Strategic Plan

In consideration of the strategic priorities related to Vaughan Vision 2020, the recommendations of this report will assist in:

- Pursue Excellence in Service Delivery;
- Enhance and Ensure Community Safety, Health and Wellness; and
- Lead and Promote to Environmental Sustainability.

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

Regional Implications

York Region Transit has provided their policy on the use of Traffic Calming on Transit Routes and its impact on damages and injuries. Refer to Attachment No. 6.

Much discussion has occurred between City and Regional Transportation Services Department staff on the use and effectiveness of traffic calming. Regional Roads do not contain such measures due to the nature and operating characteristics of these thoroughfares.

Conclusion

It is recommended that the proposed updated Neighbourhood Traffic Committee Policy and Procedure and the proposed NEW Traffic Calming Criteria, be approved.

Attachments

1. Neighbourhood Traffic Committee Policy and Procedure - Current
2. Neighbourhood Traffic Committee Policy and Procedure – Revised
3. Report – Neighbourhood Traffic Calming Initiatives – 2003
4. Report – Neighbourhood Traffic Committee Review of Existing Traffic Calming Measures -2006
5. Additional Reviews of Existing Traffic Calming Measures
6. York Region Transit – Policy

Report prepared by:

Mike Dokman, Supervisor Traffic Engineering, Ext. 3118

Respectfully submitted,

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

Jack Graziosi, P. Eng., M. Eng.
Director of Engineering Services

MD:mc

ATTACHMENT NO. 1

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NEIGHBOURHOOD TRAFFIC COMMITTEE POLICY AND PROCEDURE

REVISED JUNE 2007

APPLICABILITY

The Neighbourhood Traffic Committee Policy and Procedure applies to Neighbourhood Traffic Committees in place as of June 30, 2007. Under this policy and procedure, the Engineering Services Department staff will conduct/review/develop a Neighbourhood Traffic Calming Plan proposal. A community meeting will be held to obtain public input on the Plan proposal.

POLICY

1. Purpose: The goal of the Plan is to prepare a Neighbourhood Traffic Calming Plan (the "Plan"), which should be based on the use of traffic calming, enforcement or regulatory measures to satisfy as fully as practicable the following objectives:

   - Improve safety and convenience for pedestrians and cyclists;
   - Reduce the number and severity of collisions;
   - Reduce the speed and volume of motorized vehicles;
   - Reduce the volume of extraneous or non-local traffic;
   - Minimize traffic impacts on adjacent local residential streets;
   - Reduce motor vehicle emissions; and
   - Maintain access for local traffic and emergency vehicles.

2. Initial Step: A formal request must be received from the residents in the form of a petition by either the City Council staff or Engineering Services Department staff.

3. The Plan: The area of the Neighbourhood Traffic Calming Plan should be bounded by collector or arterial roadways, and should correspond as closely as possible to that of the local ratepayers association, if applicable. An individual roadway can be requested and all procedures will be followed accordingly.

   The Plan should incorporate traffic calming measures in accordance with the City's Warrants for the Use of Traffic Calming Measures, and as specified in City of Vaughan Standard Drawings J-1 to J-10 and the *Canadian Guide to Neighbourhood Traffic Calming* (Transportation Association of Canada, 1998). Variations in the design of these traffic calming measures may be incorporated into the Plan if approved by the Engineering Department.

4. Community Meetings: A community meeting is to be held to discuss the Plan but the meeting shall not be held during the summer vacation months of June, July and August. It may not be appropriate to hold public meetings at other times, such as during religious holidays. All public meetings shall begin no later than 6:00 pm.

PROCEDURE

1. Establishing the Plan: If a local ratepayer's association exists in the area, then its executive may contact their Councillor's office in writing or the Engineering Services Department and request a review for traffic calming. If no such association exists, then an area resident must circulate a petition, signed by at least two-thirds (66.7%) of other such residents, requesting a review for traffic calming. In either case, the request shall be brought to the attention of the Ward Sub-committee and the Local Councillor. A single deputant may appear before Committee of the Whole shall be sufficient to request a review for traffic calming with the approval of City Council.

2. Developing the Plan: The Petition shall identify any neighbourhood traffic concerns, identify preferences for various traffic calming measures in order to develop a Neighbourhood Traffic Calming Plan. The Engineering Services Department shall conduct supporting traffic studies as required and review in the field as necessary to develop the Plan.

   The Plan will submitted to the Local Councillor for review and comment of its feasibility and appropriateness prior to the community meeting.

3. The Community Meeting: The Engineering Services Department shall arrange the time and place of the community meeting. The Engineering Services Department shall prepare notices for the meeting and a map of the Plan proposal, and mail them to all residents in the area no less than two weeks in advance of the meeting date. The notices shall also be sent to any institutional and commercial land uses within the study area. A copy of the meeting notice shall be sent to the members of the Ward Sub-committee, the Fire Department, York Region Transit, and the School Boards.

   The purpose of the community meeting is to obtain public input on the Plan proposal. This meeting must be attended by Engineering Services Department staff and the Local Councillor. Minutes of the meeting shall be forwarded to the members of the Ward Sub-committee. The Plan must have the support of at least two-thirds (66.7 percent) of the residents at the meeting. A formal vote may be held to determine this level of support. Residents may provide input on the Plan to the Engineering Services Department in advance of the meeting that will be included in the vote. Signatures on a petition may be considered, but shall not be counted numerically in a formal vote.

   If minor changes are requested to the Plan, and these changes are acceptable to the Engineering Services Department, then these changes may be incorporated provided they have the support of at least two-thirds (66.7 percent) of the residents present. If major changes are requested, then a further community meeting is required.

4. Approving the Plan: The Plan will be submitted at a Committee of the Whole meeting. The report shall include comments on the feasibility, impacts and estimated costs of the Plan, and the concerns of other agencies. The Plan shall be circulated to the following agencies:

   - City of Vaughan Fire Department;
   - City of Vaughan Public Works Department;
   - York Regional Police;
   - York Region EMS;
   - York Region Transit;
   - York Region Transportation and Works Department;
   - York District School Board; and
   - York Catholic District School Board.

   The Committee of the Whole shall consider the Plan and Engineering Services Department report, hear deputations from the public and interested parties, consider the public support demonstrated at the community meeting, and make a recommendation to City Council.

5. Dealing with Additional Requests: Should a request for additional traffic calming measures be made after the Plan has been approved by Council, but before the Plan is implemented, then the resident making the request shall circulate a petition, signed by at least two-thirds (66.7 percent) of the residents directly affected, indicating support for the additional measures. The "directly affected" shall mean those residents that can reasonably be expected to use that street. The Engineering Services Department shall ultimately determine what area is to be included in the petition.

   If major changes are requested, then a further community meeting to vote on these changes and Council approval is required. Should a request for additional traffic calming measures be made after the Plan has been implemented then a further community meeting, with public notification, and Council approval are required.

6. Evaluating the Plan: The Engineering Services Department shall report to the Committee of the Whole between one and two years after the implementation of the Plan. Several Plans may be reported on at once. The report shall describe any benefits and problems that have been identified or changes that may be required to improve the effectiveness of the Plan.

   If major changes are recommended then a further community meeting and Council approval is required before they can be implemented. Should a number of requests be received for additional traffic calming measures that are not part of the recommended changes, then it may be necessary to hold further community meetings.

City of Vaughan
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WARRANTS FOR THE USE OF TRAFFIC CALMING MEASURES

JUNE 2007

TYPES OF MEASURES

City Standard Drawings J-1 to J-10 detail the traffic calming measures that shall be considered acceptable for installation on City streets. Other measures that shall be considered appropriate for traffic calming purposes include contrasting materials, pavement markings and warning signage. Their applicability in existing areas and new developments is summarized in Table 1.

Table 1 – Accepted Traffic Calming Measures and their Applicability

Traffic Calming Measure	Through Traffic Committee Process (Existing Areas)	Through Traffic Management Plan (New Developments)
Speed Hump	Subject to Warrant 1	No
Raised Crosswalk	Subject to Warrant 1	With Pedestrian Signal Only on Primary Roads
Raised Intersection	Where Possible	Yes
Roundabout	Yes	Yes
Median	Subject to Warrant 2	Yes
Curb Extension/Road Narrowing	Subject to Warrant 2	Yes
Chicane	Subject to Warrant 2	Yes
Contrasting Materials	Yes	Yes
Pavement Markings	Yes	Yes
Warning Signage	Yes	Yes

WARRANTS FOR INSTALLATION

Warrant 1 – Speed Humps and Raised Crosswalks

Speed humps and raised crosswalks shall be considered in existing residential areas, through the Neighbourhood Traffic Committee process, only where the following three warrants are met:

1. The street is not a primary emergency response route. The determination of whether a street is a primary emergency response route shall be made in consultation with the Engineering and Fire Departments.

2. The speed limit is 50 km/h or less.

3. The average speed on the street is measured to be 10 km/h greater than the speed limit.

Speed humps may not be integrated into streets in new developments through a Transportation Management Plan. Raised crosswalks may only be installed with a pedestrian signal.

Warrant 2 – Medians, Curb Extensions or Road Narrowings and Chicanes

Medians, curb extensions or road narrowings and chicanes shall be considered in existing areas, through the Neighbourhood Traffic Committee process, only where the following two warrants are met:

1. The speed limit is 50 km/h or less.

2. The average speed on the street is measured to be 10 km/h greater than the speed limit.

Medians, curb extensions or road narrowings and chicanes may also be integrated into streets in new developments through a block Transportation Management Plan.

Raised Intersections and Roundabouts

Raised intersections may be integrated into intersections in new developments, as specified in an approved block Transportation Management Plan. They may be retrofitted into existing intersections provided that drainage issues can be satisfactorily resolved.

Roundabouts may be installed at intersections in existing areas through the Neighbourhood Traffic Committee process, and integrated into intersections in new developments as specified in an approved block Transportation Management Plan. In all cases the installation of roundabouts may be subject to right-of-way constraints.

Contrasting Materials, Pavement Markings and Warning Signage

Contrasting materials (i.e. textured concrete crosswalks and parking lay-bys) and pavement markings (i.e. painted road narrowings) may be installed through the Neighbourhood Traffic Committee process, and integrated into streets in new developments as specified in an approved block Transportation Management Plan. Warning signs (i.e. Curve Warning, Children Playing, Park Area, etc.) may be installed by staff in new or existing areas.

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ATTACHMENT NO. 2

NEIGHBOURHOOD TRAFFIC COMMITTEE POLICY AND PROCEDURE

REVISED JUNE 2010

APPLICABILITY

The Neighbourhood Traffic Committee Policy and Procedure applies to Neighbourhood Traffic Committees in place as of June 2010. Under this policy and procedure, Engineering Services Department staff will conduct/review/develop a Neighbourhood Traffic Calming Plan proposal. A community meeting will be held to obtain public input on the Plan proposal.

POLICY

1. Purpose: The goal of the Plan is to prepare a Neighbourhood Traffic Calming Plan (the "Plan"), which should be based on the use of traffic calming, enforcement or regulatory measures to satisfy as fully as practicable the following objectives:

   - Improve safety and convenience for pedestrians and cyclists;
   - Reduce the number and severity of collisions;
   - Reduce the speed and volume of motorized vehicles;
   - Reduce the volume of extraneous or non-local traffic;
   - Minimize traffic impacts on adjacent local residential streets;
   - Reduce motor vehicle emissions; and
   - Maintain access for local traffic and emergency vehicles.

2. Initial Step: A formal request must be received from a resident(s) or by the Local Ratepayers Association by either the City Council staff or Engineering Services Department staff. A petition is required from the resident to which Engineering Services staff will provide the resident the area road network to collect support for the petition to initiate the traffic review.

3. The Plan: The area of the Neighbourhood Traffic Calming Plan should be bounded by collector or arterial roadways, and should correspond as closely as possible to that of the local ratepayers association, if applicable. An individual roadway can be requested and all procedures will be followed accordingly. To provide and ensure that the area or roadway under consideration for traffic calming is properly captured, the area or roadway must have been assumed by the City a minimum of five years. This five year time period will allow the neighbourhood to mature and to develop the travel pattern of the area residents.

The Plan should incorporate traffic calming measures in accordance with the City's Warrants for the Use of Traffic Calming Measures, and as specified in City of Vaughan Standard Drawings J-1 to J-10 and the *Canadian Guide to Neighbourhood Traffic Calming* (Transportation Association of Canada, 1998). Variations in the design of these traffic calming measures may be incorporated into the Plan if approved by the Engineering Services Department.

4. Community Meetings: A community meeting is to be held to discuss the Plan but the meeting shall not be held during the summer vacation months of June, July and August. It may not be appropriate to hold public meetings at other times, such as during religious holidays. All public meetings shall begin no later than 7:00 pm.

PROCEDURE

1. Establishing the Plan:

   * If a local ratepayer's association exists in the area, then its executive may contact their Councillor's office in writing (with a petition) or the Engineering Services Department to request a review for traffic calming.
   * If no such association exists, then an area resident must submit a letter requesting a review for traffic calming. A petition is then required from the resident and the Engineering Services staff will provide the resident the area road network to collect support to initiate the traffic review.
   * In either of the above cases, the request shall be brought to the attention of the Ward Sub-committee and the Local Councillor.
   * A single deputant may appear before Committee of the Whole shall be sufficient to request a review for traffic calming with the approval of City Council.
   * Traffic calming will not be considered on collectors or arterials with a right-of-way width of 26.0 metres or greater.

2. Resident Support

   Once a letter or notification is received, Engineering Services staff will proceed:

   Only if the survey reflects a response rate of at least 75% of the residents identified within the road area network (as set out by Engineering Services staff). At least 75% of the respondents must be in agreement to begin a traffic calming review.

   The road area network will be determined as the normal travel route of residents through the area that has been requested.

3. Data Collection

   Traffic data collection is vital part of the process to gain an understanding of the concerns raised by the community. This information is part of an analysis to determine the most appropriate traffic calming measure and is compared to Warrants 1, 2 and 3.

   Traffic data to be collected:

   - traffic volume – roadway AADT and/or intersection turning movement counts
   - vehicle speeds
   - collision history
   - pedestrian studies
   - traffic infiltration studies

- location characteristics

4. Developing the Plan:

The requested submission shall identify any neighbourhood traffic concerns, identify preferences for various traffic calming measures in order to develop a Neighbourhood Traffic Calming Plan. The Engineering Services Department shall conduct supporting traffic studies as required and review in the field as necessary to develop the Plan.

Restrictions to be considered:

- Vertical measures such as speed humps/raised crosswalks and the like, are to be discontinued on feeder/primary, collector and arterial roadways.
- Non-vertical measures can be pursued on a local, feeder/primary, or collector two-lane classification roadway.
- The posted maximum speed limit shall not be greater than 50 km/h.
- Vertical measures such as speed humps/raised crosswalks not to be installed on a street designated as an emergency response route or transit route.
- Streetscaping features will be limited to focal points in the traffic calming plan.

Cost Availability Guideline:

- Local roadways – $30/metre of road
- Feeder/Primary/2 lane Collector roadways - $65/metre of road

The Plan will be submitted to the Local Councillor, Vaughan Fire & Rescue Services, Vaughan Public Works Department, York Regional Transit, York Region District School Board and the York Catholic District School Board for their review and comment of its feasibility and appropriateness.

Council Report:

A council report will be prepared outlining the details of the design, comments received from the outside agencies, a cost estimate of the Plan and recommending approval from Council to move forward with the community meeting.

5. The Community Meeting:

- The Engineering Services Department shall arrange the time and place of the community meeting.
- The Engineering Services Department shall prepare notices for the meeting and a map of the Plan proposal, and mail them to all residents in the area no

less than two weeks in advance of the meeting date.

- The notices will be mailed out to the affected residents as defined in Section 2.
- The notices shall also be sent to any institutional and commercial land uses within the study area.
- A copy of the meeting notice shall be sent to the members of the Ward Sub-committee, the Fire & Rescue Services Department, York Region Transit, and the School Boards.
- The notice along with the proposed traffic calming measures plan will be placed on the City's website.

The purpose of the community meeting is to obtain public input on the Plan proposal. This meeting must be attended by Engineering Services Department staff and the Local Councillor. Minutes of the meeting shall be forwarded to the members of the Ward Sub-committee. The Plan must have the support of at least **75%** of the residents at the meeting. A formal vote may be held to determine this level of support. Residents may provide input on the Plan to the Engineering Services Department in advance of the meeting that will be included in the vote. Signatures on a petition may be considered in respect to the traffic calming process, but shall not be counted numerically in a formal vote.

If minor changes are requested to the Plan, and these changes are acceptable to the Engineering Services Department, then these changes may be incorporated provided they have the support of **100%** of the residents in the immediate area of the traffic calming measure to be reviewed. If major changes are requested, then a further community meeting is required.

6. Approving the Plan:

- A report will be submitted at a Committee of the Whole meeting which will include comments on the feasibility, impacts and estimated final costs of the Plan, and the concerns of other agencies.

The Committee of the Whole shall consider the Plan and Engineering Services Department report, hear deputations from the public and interested parties, consider the public support demonstrated at the community meeting, and make a recommendation to City Council.

The implementation of the plan is subject to approval in the following Capital Budget year.

7. Dealing with Additional Requests:

Should a request for additional traffic calming measure(s) be made after the Plan has been approved by Council, but before the Plan is implemented, then the resident making the request shall circulate a petition, signed by the residents directly

affected, indicating support of **100%** for the additional measure(s).

The "directly affected" shall mean those residents that will have the additional traffic measure(s) located near their home. The Engineering Services Department shall ultimately determine what area is to be included in the petition.

If major changes are requested, then a further community meeting to vote on these changes and Council approval is required. Should a request for additional traffic calming measures be made after the Plan has been implemented then a further community meeting, with public notification, and Council approval are required.

8. Evaluating the Plan:

The Engineering Services Department shall report to the Committee of the Whole between one and two years after the implementation of the Plan. Several Plans may be reported on at once. The report shall describe any benefits and problems that have been identified or changes that may be required to improve the effectiveness of the Plan.

If major changes are recommended then a further community meeting and Council approval is required before they can be implemented. Should a number of requests be received for additional traffic calming measures that are not part of the recommended changes, then it may be necessary to hold further community meetings.

9. Future Modifications:

Unless a health and safety issue has been identified by Engineering Services staff, no modifications will be considered to the traffic calming measures for a minimum period of 5 years following implementation. The procedure for any future modifications will begin at Section 2 – Resident Support and then continue through remaining stages of the policy.

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WARRANTS FOR THE USE OF TRAFFIC CALMING MEASURES

REVISED JUNE 2010

TYPES OF MEASURES

City Standard Drawings J-1 to J-10 details the traffic calming measures that shall be considered acceptable for installation on City streets. Other measures that shall be considered appropriate for traffic calming purposes include contrasting materials, pavement markings and warning signage. Their applicability in existing areas and new developments is summarized in Table 1.

Table 1 – Accepted Traffic Calming Measures and their Applicability

Traffic Calming Measure	Through Traffic Committee Process (Existing Areas)	Through Traffic Management Plan (New Developments)
Speed Hump	Subject to Warrant 1	No
Raised Crosswalk	Subject to Warrant 1	With Pedestrian Signal Only on Primary Roads
Raised Intersection	Where Possible	Yes
Roundabout/Traffic Circle	Yes	Yes
Median	Subject to Warrant 2	Yes
Curb Extension/Road Narrowing	Subject to Warrant 2	Yes
Chicane	Subject to Warrant 2	Yes
Contrasting Materials	Yes	Yes
Pavement Markings	Yes	Yes
Warning Signage	Yes	Yes

WARRANTS FOR INSTALLATION

Warrant 1 – Speed Humps and Raised Crosswalks

Speed humps and raised crosswalks shall be considered in existing residential areas on local classification roadways, through the Neighbourhood Traffic Committee process, only where three of the four warrants are met:

1. The street is not a primary emergency response route. The determination of whether a street is a primary emergency response route shall be made in consultation with the Engineering Services and Fire & Rescue Services Departments.

2. The speed limit is 50 km/h or less.

3. The 85th percentile speed on the street is measured to be 10 km/h greater than the speed limit. (The 85th percentile speed is the speed at which 85% of drivers are driving at or less).

4. Traffic volume: local roadways greater than the trip generation rate of 9.57 trips/household/day. Source: Institute of Transportation Engineers (ITE), Trip Generation Manual – 8th Edition.

Speed humps may not be integrated into streets in new developments through a Transportation Management Plan. Raised crosswalks may only be installed with a pedestrian signal. All vertical measures are to be discontinued on feeder/primary, collector and arterial roadways.

Warrant 2 – Medians, Curb Extensions or Road Narrowings and Chicanes

Medians, curb extensions or road narrowings and chicanes shall be considered in existing areas, through the Neighbourhood Traffic Committee process, only where the following two warrants are met:

1. The speed limit is 50 km/h or less.

2. The 85th percentile speed on the street is measured to be 10 km/h greater than the speed limit. (The 85th percentile speed is the speed at which 85% of drivers are driving at or less)

Medians, curb extensions or road narrowings and chicanes may also be integrated into streets in new developments through a block Transportation Management Plan.

Raised Intersections and Roundabouts/Traffic Circles

Raised intersections may be integrated into intersections in new developments, as specified in an approved block Transportation Management Plan. They may be retrofitted into existing intersections provided that drainage issues can be satisfactorily resolved.

Roundabouts/traffic circles may be installed at intersections in existing areas through the Neighbourhood Traffic Committee process, and integrated into intersections in new developments as specified in an approved block Transportation Management Plan. In all cases the installation of roundabouts/traffic circles may be subject to right-of-way constraints.

Contrasting Materials, Pavement Markings and Warning Signage

Contrasting materials (i.e. textured concrete crosswalks and parking lay-bys) and pavement markings (i.e. painted road narrowings) may be installed through the Neighbourhood Traffic Committee process, and integrated into streets in new developments as specified in an approved block Transportation Management Plan. Warning signs (i.e. Curve Warning, Children Playing, Park Area, etc.) may be installed by staff in new or existing areas.

ATTACHMENT NO. 3

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JANUARY 27, 2003

Item 1, Report No. 5, of the Committee of the Whole (Working Session), which was adopted without amendment by the Council of the City of Vaughan on January 27, 2003.

1 NEIGHBOURHOOD TRAFFIC CALMING INITIATIVES

The Committee of the Whole (Working Session) recommends:

1) That Clauses 1, 2 and 4 of the recommendation contained in the following report of the Commissioner of Engineering and Public Works, dated January 14, 2003, be approved;

2) That any existing Council authorized Traffic Calming Committees be allowed to continue with developing a traffic calming plan;

3) That for any new traffic calming requests staff, in consultation with the Local Councillor, determine the need for traffic calming and if appropriate develop a Traffic Calming Plan and hold any necessary public meetings;

4) That the current moratorium on traffic calming in the City of Vaughan be lifted;

5) That the Revised Neighbourhood Traffic Committee Policy and Procedure be forwarded to the Ratepayer Associations and the already established Neighbourhood Traffic Calming Committees for their comments prior to the final report being brought forward to the Committee of the Whole meeting of February 17, 2003;

6) That the final report, when approved, be forwarded to York Regional Police with a request for increased police enforcement, and that the Special Enforcement Unit of the By-law Department provide enforcement if authorized;

7) That the presentation entitled "New Traffic Calming Initiatives", be received; and

8) That the following deputations be received:

a) Mr. Kleber Da Silva, 15 Melia Lane, Maple, L6A 3K1; and
b) Mr. Richard Ramos, 73 Forest Run Blvd., Concord, L4K 5J6.

Recommendation

The Commissioner of Engineering and Public Works recommends:

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

2. That the results of the speed studies conducted within each completed Neighbourhood Traffic Committee be received for information purposes;

3. That the proposed updated Neighbourhood Traffic Committee Policy and Procedure, and the proposed new Traffic Calming Criteria and Traffic Calming Standard Drawings, as attached, be approved;

4. That existing traffic calming measures in the City be retrofitted, where necessary, to conform to the Traffic Calming Standard Drawings, and that funds for the retrofitting, estimated at approximately $70,000, be drawn from the 2001 Capital Budget (Project 1203-2 Traffic Calming); and

5. That Council provide direction concerning the current moratorium on traffic calming in the City of Vaughan.

Purpose

To provide a report on the Traffic Calming Policy, to seek Council approval for the adoption of several new traffic calming initiatives, 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 within each completed Neighbourhood Traffic Committee area.

Background – Analysis and Options

At its meeting of November 12, 2001, Council directed that staff review and provide a report on the Traffic Calming Policy addressing concerns raised, including notification to residents directly affected with the installation of traffic calming measures, and regarding final Council approval of traffic calming measures to be implemented.

Further, at its meeting of December 18, 2001, Council approved a number of recommendations pertaining to traffic calming in the City of Vaughan. The recommendations included the placement of a moratorium on traffic calming, direction to invite emergency services representatives to Traffic Committee meetings, direction to limit the use of speed humps wherever possible, direction to distribute surveys to residents within each completed Neighbourhood Traffic Committee area, and direction to develop design standard drawings for the City's traffic calming measures and criteria for determining where they should be installed.

This report was prepared in response to the directions given by Council and will be accompanied by a verbal presentation from Engineering Department staff.

Resident Surveys

Surveys were mailed to residents within each completed Neighbourhood Traffic Committee area during the week of April 2, 2002. The Neighbourhood Traffic Committee areas in the City that have been completed or are in progress are shown on Attachment No. 1. The residents were asked to complete the surveys and return them by mail, fax, internet or Community Centre drop-off by April 26, 2002. A total of 14,205 surveys were individually mailed out, and 1,417 were received, for a City-wide response rate of 10 percent.

A sample survey is included as Attachment No. 2. Residents were asked whether they think traffic conditions have improved in their neighbourhood since the installation of traffic calming measures, and whether they think their benefits outweigh any negative aspects. They were also asked whether they think there should be more or fewer speed humps, raised crosswalks, allway stop controls, and other traffic calming measures in their neighbourhood. Space was provided to allow for additional comments.

Some of the data collected from the surveys is shown below. A more detailed summary of the results is included as Attachment No. 3.

Project	No. of Surveys		Have Traffic Conditions Improved?		Do Benefits Outweigh Negatives?	
	Mailed	Received	Yes	No	Yes	No
1. Historic Maple	400	76	57%	43%	68%	32%
2. Arnold Avenue	95	25	85%	15%	92%	8%
3. Kleinburg Core	700	138	83%	17%	82%	18%
4. Weston Downs Phase 1A	214	43	37%	63%	61%	39%
5. Crossroads	239	14	53%	47%	56%	44%
6. Joseph Aaron	1036	64	68%	42%	61%	39%
7. Belview	1255	64	44%	56%	56%	44%
8. Maple Springs Phase 1	1575	134	59%	41%	63%	37%
9. Mullen	1006	127	44%	56%	56%	44%
10. Forest/Bainbridge	600	38	53%	47%	67%	33%
11. Thornhill (Westmount-Wilshire)	1980	264	44%	56%	51%	49%
12. Brownridge	1815	124	54%	46%	60%	40%
13. York Hill	1594	174	56%	44%	65%	35%
14. Morning Star/Mapes	960	68	68%	32%	59%	41%
15. Woodbridge	736	64	54%	46%	66%	34%
Total for all projects	14,205	1,417	57%	43%	64%	36%

Of residents responding to the surveys, 57 percent think that traffic conditions have improved in their neighbourhood since the installation of traffic calming measures, and 64 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, 54 percent think there should be more speed humps and raised crosswalks in their neighbourhood, 6 percent think the number is satisfactory, and 40 percent think there should be fewer speed humps and raised crosswalks.

Of the residents responding, 38 percent think there should be more allway stop controls in their neighbourhood, 35 percent think the number is satisfactory, and 27 percent think there should be fewer allway stop controls.

Of the residents responding, 26 percent think there should be more "other traffic calming measures" in their neighbourhood, 10 percent think the number is satisfactory, and 64 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.

The greatest negative response was for the flush-to-grade centre medians installed on Beverley Glen Boulevard and Worth Boulevard as part of the Thornhill (Westmount-Wilshire) Traffic Committee plan. The raised intersection medians on Beverley Glen Boulevard, and the curb extensions and painted road narrowings installed on Brownridge Drive and other streets as part of the Brownridge Drive Traffic Committee plan also received mainly negative responses. The medians and curb extensions installed on Melville Avenue, Cunningham Drive and Cranston Park Drive installed as part of the Maple Springs Phase 1 Traffic Committee plan received mixed, but mainly negative, responses, while public opinion was split on the painted road narrowings on these streets.

Most of the comments received from residents were requests for increased police enforcement of the speed limit or compliance at stop signs. Of the comments received concerning speed humps and raised crosswalks, many were for more severe designs to further slow motorists, although some wanted less severe designs. 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.

Speed Studies

In November 2001 staff reported on the results of a series of speed studies for all the City's traffic calming projects constructed to date. The results of the studies indicated that traffic calming has reduced average speeds by approximately 8 km/h, and corresponding average maximum speeds by about 12 km/h. The Belview Avenue, Westmount/Wilshire Phase I, Kleinburg Core Phase I and Joseph Aaron Boulevard Traffic Committees were not evaluated because these plans were implemented in prior years, before a program to collect speed data was initiated.

Staff have continued to conduct radar studies in all projects where traffic calming measures have been implemented to determine their impacts on traffic speeds. The list of completed speed studies now includes the Maple Springs Phase I, Historic Maple, Arnold Avenue and Weston Downs Phase IA Traffic Committees and the Thomson Creek Boulevard Raised Crosswalk. 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.	Westmount/Wilshire Traffic Committee Phase II	48	80	45	70
2.	Kleinburg Core Traffic Committee Phase II	57	83	42	66
3.	Brownridge Dr. Traffic Committee	44	81	36	52
4.	Woodbridge Ave. Ratepayers Traffic Committee	50	72	46	78
5.	Woodbridge Core Traffic Committee	49	73	44	59
6.	*Torii St. Speed Hump*	*42*	*62*	*37*	*51*
7.	York Hill Blvd. Traffic Committee	50	68	41	61
8.	Crossroads Traffic Committee	37	57	27	43
9.	Forest Dr./Bainbridge Ave. Traffic Committee	46	70	38	63
10.	Morning Star Dr./Mapes Ave. Traffic Committee	49	78	35	52
11.	Maple Springs Traffic Committee Phase I	49	82	41	61
12.	Historic Maple Traffic Committee	47	74	37	54
13.	*Thomson Creek Blvd. Raised Crosswalk*	*51*	*63*	*44*	*60*
14.	Arnold Avenue Traffic Committee	52	75	44	63
15.	Weston Downs Traffic Committee Phase IA	46	80	39	53
Average for all projects		48	73	40	60

The results show that traffic calming has reduced average speeds by approximately 8 km/h, and corresponding average maximum speeds by about 13 km/h, which is consistent with the results reported in November 2001.

Current Traffic Calming Practice

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF JANUARY 27, 2003

Traffic calming in the City of Vaughan is conducted on an area-wide basis to improve safety on neighbourhood streets by reducing the negative impacts of motor vehicle use. These impacts are usually associated with high speeds and traffic infiltration. In existing areas of the City, traffic calming measures are implemented through a process that starts with requests from residents.

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There are currently technical criteria by which streets are deemed not suitable for traffic calming measures (i.e. presence of steep grades, locations of driveways, etc.) but no warrants for their installation. Endorsement of a traffic calming plan is instead achieved through support from the area residents.

Traffic calming measures are incorporated into new areas of the City through the block plan process. Traffic calming plans are prepared on a block wide basis and submitted to the City for preview and approval. These approved traffic calming plans are implemented through development of each draft plan in a block at the Developer's cost. Implementation of traffic calming in new "greenfield" development provides for the use of traffic calming measures such as raised intersections, traffic circles and medians that often cannot be used in retrofit situations in existing communities.

Traffic Calming Procedures in Other Municipalities

Other municipalities in the Greater Toronto Area such as Toronto, Mississauga, Brampton, Pickering, Markham and Richmond Hill deal with requests for traffic calming somewhat differently. A brief summary of our understanding of their traffic calming procedures follows:

The City of Toronto usually conducts traffic calming on a street-by-street basis, although several streets may be considered under one plan. Consideration of traffic calming measures is initiated through a public meeting, a petition signed by at least 25 percent of the affected households (10 percent in the case of multiple family rental dwellings), or a survey conducted by the Ward Councillor.

Staff poll by letter those households that have frontage or flankage on the streets where traffic calming measures are being considered. If minimum technical criteria are met then staff develop a plan and present it to the neighbourhood. Forty percent or more of the affected households must respond to the poll, and 60 percent or more must be in favour of the plan, before it can proceed to Council for approval.

The City of Mississauga implemented several traffic calming projects in the early 1990s, and then stopped because of complaints from residents. They are now considering resuming the practice in response to public demand and will report to Council this fall. City of Mississauga staff are considering a process whereby traffic calming will be implemented on an area-wide basis if a survey establishes that two-thirds of the residents in the area are in favour, and the measures are technically warranted. Public meetings would then be held to finalize the plan before it goes to Council. Over the past few years some traffic calming measures have been incorporated into new areas.

The City of Brampton has not as yet undertaken any traffic calming in new or existing areas, however, staff expect that they will be initiating a program in response to public demand. Staff are currently working on a Traffic Calming Policy and Criteria to guide the implementation of traffic calming measures.

The City of Pickering conducts traffic calming generally on a street-by-street basis in response to requests from the public. If minimum technical criteria are met the request is forwarded to a Safer Streets Traffic Calming Review Committee for approval. The committee is made up of a resident of the affected street or area, and representatives from Council, Emergency Services, Transit, Engineering, Planning, and Public Works.

If committee approves the request, and if a poll by letter establishes that 70 percent of the affected residents are in favour of traffic calming, then staff will form a Neighbourhood Traffic Calming Committee and work with the residents to develop a plan for Council approval.

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The Town of Markham also conducts traffic calming on a street-by-street basis, but limits implementation to one street per ward per year. A Transportation Committee made up of the ward councillor and residents, with technical input from staff, selects the street.

Staff prepare a preliminary design of the traffic calming measures for the street, then a public meeting is held to seek input prior to final design. Once the design is finalized the residents on the street are asked to vote on the plan by telephone. Sixty percent support is needed for the plan to proceed to Council for approval. The Town has recently started to request that traffic calming measures be built into new areas as well.

The Town of Richmond Hill has to date implemented two traffic calming projects in existing areas in response to public demand. Another project is currently in the design stage, and staff expect that more will be requested in the future. A few roundabouts have been constructed to calm traffic in new areas.

Proposed New 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 December 1997. An updated version is proposed that provides more detail, reflects the current Neighbourhood Traffic Committee process, and proposes further improvements to that process. The proposed update is included as Attachment No. 4.

Changes from the previous version include:

Details on how public meetings are arranged. The proposed procedure specifies that the Engineering Department schedule the public meetings and mail notices to all residents in each Traffic Committee area. This reflects current practice. Previously members of the Traffic Committee were asked to deliver the notices. The new procedure specifies that in addition to all members of Council, the Fire Department and York Region Transit be sent notices of all public meetings so representatives have the opportunity to attend.

The requirement that the support of at least two-thirds of the public is needed before a traffic calming Plan proposal can be brought forward to Committee of the Whole. Previously only majority support was needed.

Details on how requests for additional traffic calming measures should be dealt with.

Municipal Class Environmental Assessment Requirements

In June 2000, installation or removal 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 generally been following the process, and even exceeds Class EA requirements for public consultation. The process would require the City to issue Notices of Commencement or Completion for each traffic calming project.

Accordingly, the proposed Neighbourhood Traffic Committee Policy and Procedure specifies that the Engineering Department send the notice for the initial public meeting to the Ministry of the Environment to serve as a Notice of Commencement, and file a Notice of Completion with the Ministry and publish the notice on the City Page in two separate editions of the *Vaughan Citizen* or *Liberal*.

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Once the Notice of Completion is issued individuals or agencies are allowed 30 days to review the plan. If during the review period, someone has a concern with the project, they may follow a procedure to request a Part II Order (formerly called a "bump-up" request). For Schedule B projects, a person with a concern should bring it to the attention of the City. If the concern is not resolved through discussions, the person may request the City to elevate a Schedule B project to a Schedule C. If the proponent declines, the person with the concern may write to the Minister of the Environment and request a Part II Order. The MOE has 45 days after the receipt of the request and the expiry of the 30 day review period to review the request and prepare a report for the Minister's consideration. The Minister then has a further 21 days to consider the matter and make a decision on the request. The Minister can deny the request, refer the matter to mediation or require the proponent to do further work.

Traffic Calming Criteria in Other Municipalities

Most municipalities, including Vaughan, have technical criteria by which traffic calming measures can be installed. Other municipalities also have warrants that specify where certain traffic calming measures can be implemented. A brief summary of the warrants used in the City of Toronto and the City of Pickering follows:

The City of Toronto will only consider traffic measures on local or collector streets where traffic speeds and volumes are within certain limits, and will only consider speed humps on streets that are not primary emergency response or transit routes. If these conditions are met then the street is rated according to a ranking system to determine its order for implementation, as the City of Toronto normally caps spending for traffic calming projects at $750,000 per year. Consideration is given to the presence of sidewalks, pedestrian and bicycle traffic, road grades, long blocks, and collision history.

The City of Pickering will only consider traffic calming measures on local and collector streets that have been approved by the Safer Streets Traffic Calming Review Committee. If the street meets minimum warrants for traffic speeds and infiltration, then the committee uses a checklist to determine its suitability for traffic calming measures based on whether the street is an emergency or transit route, its intended function, collision history, road grade, pedestrian activity and residential frontage.

These municipalities employ criteria for two reasons: to confirm that traffic calming measures are not installed where they are inappropriate or dangerous, and to ensure that public funds are spent on traffic calming in the most effective way possible.

Proposed New Traffic Calming Criteria

It is proposed that in the future traffic calming measures be installed on City of Vaughan streets in accordance with warrants as well. Since the City of Vaughan implements traffic calming on a more area-wide basis than Toronto or Pickering, the warrants cannot be as technically detailed. Therefore, it is proposed that warrants be established that simply dictate where certain traffic calming measures should not be considered.

For example, it is proposed that:

Speed humps and raised crosswalks not be considered on streets that are primary emergency response 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.

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Traffic calming measures not be considered where speeds are not in excess of the 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.

The proposed criteria are included as Attachment No. 5.

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 standard drawings, as listed below, are included as Attachment No. 6.

Std. Dwg. P-1 Traffic Calming Advance Warning Signs
Std. Dwg. P-2 Speed Hump
Std. Dwg. P-3 Raised Crosswalk
Std. Dwg. P-4 Raised Intersection
Std. Dwg. P-5 Roundabout Layout
Std. Dwg. P-6 Single-Lane Roundabout
Std. Dwg. P-7 Mini-Roundabout
Std. Dwg. P-8 Traffic Calming Medians
Std. Dwg. P-9 Curb Extensions and Road Narrowings
Std. Dwg. P-10 Chicane

Should they be adopted, any future traffic calming measures in the City would be implemented in accordance with the standard drawings, and wherever possible existing measures would be retrofitted to be consistent with them. Most of the retrofitting would involve replacing the signs associated with speed humps and raised crosswalks constructed prior to 2001. Currently larger signs are being installed at these measures, with larger speed hump symbols and "30 km/h" advisory tabs rather than "20 km/h" tabs. Other retrofitting would involve installing flexible plastic bollards at the traffic calming medians, curb extensions and road narrowings as was done for the medians at the intersection of York Hill Boulevard and Winding Lane/Colleen Street, and revising pavement markings through the City's annual pavement marking contract.

The estimated cost of retrofitting the City's traffic calming measures currently not in conformance with the proposed standard drawings is $70,000. This includes over 90 speed humps needing replacement signs. It is recommended that funds for the retrofitting be drawn from the 2001 Capital Budget (Project 1203-2 Traffic Calming).

The standard drawings would provide more detailed guidelines for the design and installation of traffic calming measures than what has been developed in publications such as the *Canadian Guide to Neighbourhood Traffic Calming* (Transportation Association of Canada, 1998).

The drawings concerning roundabouts (or traffic circles) have been developed in accordance with the publication *Roundabouts: An Informational Guide*, by the Federal Highway Administration in the United States. The guide reflects the latest thinking on roundabout design in North America.

The standard drawings incorporate revised signs and pavement markings, and specify splitter islands on primary or collector road approaches that are longer than those in use on some of the City's existing roundabouts. The new splitter island design will create safer conditions for pedestrians, and provide better guidance for motorists about which direction they are to travel through a roundabout. However, additional land will be required to accommodate the widening needed for the longer islands, and it will be difficult to locate residential driveways close to the roundabouts because the islands will interfere with driveway access. For these reasons roundabouts will continue to be largely feasible only when designed into new areas.

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Speed Hump Tests

At its meeting of June 24, 2002, Council approved a recommendation that speed humps be constructed on the Chancellor Community Centre property for the purposes of testing their effects on heavy vehicles.

Speed humps in the City of Vaughan are currently 7.0 metres long by 100 mm high. Some residents have claimed they are not effective in slowing some vehicles, particularly the sport utility vehicles that are becoming increasingly common on our streets, and have requested that more severe designs be used. However, the Fire Department and other agencies have concerns that more severe designs will have greater impacts on their heavier vehicles.

Staff will test two other speed hump designs using fire trucks and other vehicles to determine if the current standard is adequate, or whether future speed humps and raised crosswalks in the City should be made more severe. The results of the tests will be the subject of a future Committee of the Whole report.

Future Traffic Calming in the City of Vaughan

The City of Vaughan has been a leading proponent of traffic calming in the Greater Toronto Area. Over the past several years over 100 speed humps and raised crosswalks, and a number of other measures, have been implemented through 23 separate Neighbourhood Traffic Committees. At least 20 other committees are in the process of developing traffic calming plans or waiting for their implementation, and should the moratorium be lifted others will likely be established. 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 $1.5 million on 23 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; a report to Committee of the Whole; traffic calming design; tender preparation and contract administration of the construction of traffic calming measures. The work is done with limited staff resources.

Staff are already receiving requests for speed humps and raised crosswalks in both newly assumed and unassumed areas in Block 17, Block 39 and the Woodbridge Expansion Area. This is in addition to the raised intersections, roundabouts and curb extensions or road narrowings that were constructed in these areas through the block plan process.

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 other measures be considered should the moratorium on traffic calming be lifted. These include raised intersections, roundabouts, medians, curb extensions or road narrowings, contrasting materials, pavement markings and warning signage.

Staff are of the view that effective police enforcement of vehicle speeds combined with our radar message board program and public education 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. Staff will be providing a report to a future Committee of the Whole meeting on the implications of expanding our current radar message board program. Staff will consult with York Regional Police for their input.

Conclusion

It is recommended that the results of the resident 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 proposed updated Neighbourhood Traffic Committee Policy and Procedure, and the proposed new Traffic Calming Criteria and Traffic Calming Standard Drawings, be approved, and that Council provide direction on the current moratorium on new traffic calming projects in the City of Vaughan.

Attachments

1. Location Map
2. Sample Resident Survey
3. Survey Summary
4. Neighbourhood Traffic Committee Policy and Procedure
5. Warrants for the Use of Traffic Calming Measures
6. Traffic Calming Standard Drawings

Report prepared by:

Philip Weber, Transportation Engineer, ext. 8264

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

ATTACHMENT NO. 4

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF SEPTEMBER 25, 2006

Item 72, Report No. 43, of the Committee of the Whole, which was adopted without amendment by the Council of the City of Vaughan on September 25, 2006.

72 NEIGHBOURHOOD TRAFFIC COMMITTEE
REVIEW OF EXISTING TRAFFIC CALMING MEASURES

The Committee of the Whole recommends:

1) **That the recommendation contained in the following report of the Commissioner of Engineering and Public Works, dated September 18, 2006, be approved; and**

2) **That staff provide a report outlining options to address the concerns raised by Members of Council with respect to Nimbus Place and Weston Downs Phase 2.**

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

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- 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.

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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		√	√	
Rosedale Heights Drive Committee	√		√	
Vaughan Mills Road South Committee	√		√	
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.

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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 Average (km/h)	Max. (km/h)	Speed After Implementation 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.

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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.

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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:

Mike Dokman, Supervisor Traffic Engineering, ext. 3118

MD:mc

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

ATTACHMENT NO. 5

Analysis and Options

The last update on the traffic calming measures installed on city roadways occurred in June 2007.

In late 2007, a number of traffic calming measures were installed in various locations in Wards 2 and 3. The locations are as follows:

- Sonoma Heights Phase 1
- Sonoma Heights Phase 2
- Sonoma Heights Phase 3
- Wigwoss Drive and Monsheen Drive
- Saint Francis Avenue
- Martin Grove Road
- Roselawn Drive
- Vaughan Mills Road

The traffic calming feedback survey was delivered to residents directly affected by the installed traffic calming measures. The survey was also posted on the City of Vaughan's website.

Traffic Calming Feedback Survey Results

Staff delivered 125 feedback surveys to residents who were directly affected by the traffic calming measures on August 7, 2009 with survey results closing on August 31, 2009. The survey was also made available on the City of Vaughan webpage for feedback.

A total of 25 completed surveys were received. A breakdown of the two questions is below.

Question 1. Have the traffic conditions in your neighbourhood improved since the installation of traffic calming measures?

Yes 6 surveys indicated 'Yes'
No 19 surveys indicated 'No'

Question 2. Do you think there should be more or fewer?

	More	Fewer
Speed Humps	15	3
Raised Crosswalks	8	4
Curb Bump-Outs	3	13
Painted Road Narrowings	3	9
All-Way Stop Signs	11	5

For Question 2, many of the responses were left blank and will not total 25 for each item. Speed humps and raised crosswalks were the most requested traffic calming measure, while Curb Bump-Outs and Painted Road Narrowings were the least requested measure.

All-Way Stop signs, while not a traffic calming measure, were included in the survey regardless as they are familiar devices for motorists to recognize. All-Way Stops signs were also found in favour for more.

A space for comments was provided on the survey forms. The most commented traffic calming measures were for the curb bump-outs installed on Sonoma Boulevard, Via

Carmine Avenue and Silverado Trail. None of the comments were positive in nature. A summary of the comments on the curb bump-outs follows:

- The curb bump-outs do not reduce speed.
- Remove the curb bump-outs entirely.
- The curb bump-outs cause traffic congestion in front of my house.
- The curb bump-outs reduce available on-street parking.

The speed humps on Julia Valentina Avenue and Castle Park Boulevard were also commented on in several replies that the humps are not effective in reducing speeds.

Other general replies included as follows:

- Need more police enforcement instead of traffic calming.
- Need more all-way stop controls.

Traffic studies were conducted before and after the traffic calming measure installations to determine their effectiveness in the reduction of average speeds.

Sonoma Heights Phase 1

The approved traffic calming measures for the Sonoma Phase 1 Area included eight speed humps, one raised crosswalk and one set of curb bump-outs.

Staff collected radar speed data at the following locations. The tables show a comparison in average speeds before and after installation. The first number represents the before installation average speed and the number in brackets represents the after installation average speed.

Location	Date Collected	Direction	AM Average Speed	PM Average Speed
Buena Vista Drive east of Fanshore Drive	March 2006 & June 2009	EB	45 (43)	42 (42)
		WB	44 (44)	44 (41)
Century Grove Boulevard south of Diploma Avenue	March 2006 & May 2009	NB	41 (38)	40 (38)
		SB	44 (41)	38 (38)
Clarence Street south of Kingly Crest Way	March 2006 & May 2009	NB	46 (45)	46 (44)
		SB	42 (40)	47 (43)
Forest Fountain Drive north of Noble Prince Place	March 2006 & May 2009	NB	42 (41)	45 (44)
		SB	47 (44)	45 (43)
Marbella Road west of Monte Carlo Drive	April 2006 & May 2009	EB	43 (36)	44 (29)
		WB	45 (38)	47 (35)
Sonoma Boulevard east of Forest Fountain Drive	March 2006 & May 2009	EB	47 (44)	44 (42)
		WB	44 (42)	44 (42)
Sonoma Boulevard east of Monte Carlo Drive	March 2006 & May 2009	EB	44 (41)	45 (42)
		WB	47 (38)	46 (38)
Turning Leaf Drive near Keegan Crescent	March 2006 & May 2009	EB	44 (39)	46 (34)
		WB	38 (37)	42 (36)

The average speeds dropped an average of 6 km/h and the overall reduction ranged from 1 km/h to 15 km/h. The 15 km/h reduction was on Marbella Road while Century Grove Boulevard and Buena Vista Drive experienced no change in speed.

Sonoma Heights Phase 2

The approved traffic calming measures for the Sonoma Phase 2 Area included four speed humps and one raised crosswalk. The proposed speed humps and raised crosswalks shown on the attachment for Napa Valley Avenue were not approved and installed.

Staff collected speed data by Automatic Traffic Recorder at the following locations. The tables show a comparison in average speeds before and after installation. The data collected represents data collected over a five day period. The first number represents the before installation average speed and the number in brackets represents the after installation average speed.

Location	Date Collected	Direction	Average Speed	Highest Daily Volume
Adrianna Louise Way west of Marco Sgotto Avenue	August 2005 & May 2009	EB	32 (30)	165 (240)
		WB	33 (32)	186 (249)
Castle Park Boulevard south of Laura Sabrina Drive	November 2006 & May 2009	NB	43 (36)	759 (763)
		SB	40 (35)	435 (468)
Monte Carlo Drive south of Napa Valley Avenue	November 2006 & May 2009	NB	39 (37)	728 (850)
		SB	37 (33)	656 (953)
Monte Carlo Drive south of Adrianna Louise Way	November 2006 & May 2009	NB	40 (35)	795 (835)
		SB	39 (32)	801 (875)

The average speeds dropped an average of 4 km/h and the overall reduction ranged from 1 km/h reduction to 7 km/h. The traffic volume actually increased at all the study areas after the traffic calming measures were installed. The 7 km/h reduction was on Castle Park Boulevard, while Adrianna Louise Way experienced minimal 1 to 2 km/h reductions.

Sonoma Heights Phase 3

The approved traffic calming measures for the Sonoma Phase 3 Area included 11 speed humps and two sets of curb bump-outs.

Staff collected Radar and Automatic Traffic Recorder speed data at the following locations. The tables show a comparison in average speeds before and after installation. The first number represents the before installation average speed and the number in brackets represents the after installation average speed.

Radar Studies

Location	Date Collected	Direction	AM Average Speed	PM Average Speed
Forest Fountain Drive north of Napa Valley Avenue	May 2006 & May 2009	NB	42 (42)	42 (40)
		SB	40 (38)	43 (39)
Kistler Street south of South Belair Drive	August 2006 & May 2009	NB	40 (38)	39 (38)
		SB	43 (40)	36 (36)
Silver Oak Boulevard south of Silverado Trail	May 2006 & May 2009	NB	42 (39)	42 (39)
		SB	38 (35)	38 (37)
South Belair Drive north of Silverado Trail	May 2006 & May 2009	NB	36 (36)	36 (36)
		SB	36 (34)	36 (35)
Stag's Leap Road south of Sequoia Road	August 2006 & May 2009	NB	46 (n/a)	n/a (31)
		SB	46 (n/a)	n/a (27)
Sunset Ridge west of Diletta Court	August 2006	EB	47 (39)	49 (39)

	& May 2009	WB	48 (37)	44 (39)
Sunset Ridge west of Lookout Point	August 2006 & May 2009	EB	48 (43)	48 (42)
		WB	46 (38)	48 (39)
Via Carmine east of South Belair Drive	May 2006 & May 2009	EB	38 (38)	37 (36)
		WB	33 (35)	43 (41)

Automatic Traffic Recorders

Location	Date Collected	Direction	Average Speed	Highest Daily Volume
Silverado Trail west of Forest Fountain Drive	May 2006 & May 2009	EB	40 (40)	518 (513)
		WB	38 (39)	471 (478)
Silverado Trail west of Kistler Street	May 2006 & May 2009	EB	38 (44)	232 (271)
		WB	37 (44)	233 (306)
Sunset Ridge west of Forest Fountain Drive	May 2006 & May 2009	EB	51 (32)	1236 (1272)
		WB	49 (36)	1320 (1356)

The average speeds dropped an average of 3 km/h and the overall reduction ranged from 1 km/h to 19 km/h. Several locations remained at the same average speed, while one location on Silverado Trail west of Kistler Street, speeds increased 6 to 7 km/h. The 19 km/h reduction was on Sunset Ridge Trail west of Forest Fountain Drive.

Wigwoss Drive

The approved traffic calming measures for Wigwoss Drive included four speed humps. Three of the speed humps were installed at the intersection of Wigwoss Drive and Monsheen Drive, and the fourth speed hump was installed on Wigwoss Drive east of Forest Circle Court.

Staff collected Radar and Automatic Traffic Recorder speed data on Wigwoss Road east of Forest Circle Court. The tables show a comparison in average speeds before and after installation.

Radar Studies

Location	Date Collected	Direction	AM Average Speed	PM Average Speed
Wigwoss Drive east of Forest Circle Court	June 2009	EB	41	38
		WB	41	41

Automatic Traffic Recorders

Location	Date Collected	Direction	Average Speed	Highest Daily Volume
Wigwoss Drive east of Forest Circle Court	September 2004	EB	44	651
		WB	44	686

The average speeds dropped an average of 3 km/h from the before to after speed studies conducted at the location east of Forest Circle Court.

St. Francis Avenue

The approved traffic calming measures for St. Francis Avenue included two raised crosswalks.

Staff collected speed data by Automatic Traffic Recorder at the following locations. The tables show a comparison in average speeds before and after installation. The data collected represents data collected over a five day period. The first number represents

the before installation average speed and the number in brackets represents the after installation average speed.

Location	Date Collected	Direction	Average Speed	Highest Daily Volume
Saint Francis Avenue east of Cupola Crescent	May 2006	EB	36	800
		WB	37	850
Saint Francis Avenue west of Pompeii Road	May 2006	EB	45	1300
		EB	45	1200
Saint Francis Avenue west of Saint Victor Drive	May 2009	EB	41	1057
		WB	41	1060
Saint Francis Avenue east of Saint Damien Avenue	May 2009	EB	40	969
		WB	40	647

For Saint Francis Avenue, the before and after studies were not conducted in the exact same areas; however, it should be noted that average speeds remained relatively consistent.

Roselawn Drive

The approved traffic calming measures for Roselawn Drive included one speed hump.

Staff collected radar speed data at the following location. The table shows a comparison in average speeds before and after installation. The first number represents the before installation average speed and the number in brackets represents the after installation average speed.

Location	Date Collected	Direction	AM Average Speed	PM Average Speed
Roselawn Drive west of Longview Crescent	June 2006 & June 2009	EB	50 (41)	49 (40)
		WB	46 (35)	51 (34)

The average speeds dropped an average of 10 km/h and the overall reduction ranged from 9 km/h to 11 km/h.

Martin Grove Road

The approved traffic calming measures for Martin Grove Road included one speed hump.

Staff collected radar speed data at the following location. The table shows a comparison in average speeds before and after installation. The first number represents the before installation average speed and the number in brackets represents the after installation average speed.

Location	Date Collected	Direction	AM Average Speed	PM Average Speed
Martin Grove Road north of Robinson Bridge	May 2007 & October 2009	NB	49 (37)	51 (38)
		SB	48 (38)	48 (37)

The average speeds dropped an average of 12 km/h and the overall reduction ranged from 10 km/h to 13 km/h.

Vaughan Mills Road

The approved traffic calming measures for Vaughan Mills Road included one raised crosswalk.

Staff collected radar speed data at the following location. The table shows a comparison in average speeds before and after installation. The first number represents the before installation average speed and the number in brackets represents the after installation average speed.

Location	Date Collected	Direction	AM Average Speed	PM Average Speed
Vaughan Mills Road south of Avdell Avenue	April 2007 & October 2009	NB	50 (37)	49 (37)
		SB	47 (37)	55 (42)

The average speeds dropped an average of 12 km/h and the overall reduction ranged from 10 km/h to 13 km/h.

Agency Comments

Staff requested comments on the above traffic calming measures from a number of agencies. Vaughan Fire & Rescue Services, York Region Public and Catholic School Boards and York Region Transit were requested for comments.

Vaughan Fire & Rescue Services comment that the installed traffic calming measures increase emergency response times. There is also a cost impact to the repair of fire apparatus for travel over speed humps.

To date, staff have not received any comments back from either the York Region Public and Catholic School Boards or York Region Transit.

ATTACHMENT NO. 6

1
YORK REGION TRANSIT
POLICY FOR TRAFFIC CALMING ON PUBLIC TRANSIT ROUTES

(Please refer to Minute No. 150 of the Regional Council Minutes for recorded vote on the adoption of the recommendations in the foregoing Clause.)

The Transit Committee recommends that:

1. The presentation from Rick Tagaki and Ann Marie Carroll regarding Traffic Calming Policy on Public Transit Routes be received.
2. The policy regarding "Traffic Calming on Public Transit Routes" be amended as follows:

   a) The last sentence of the "Description" section be deleted and replaced with the following:

   "It is recognized that both the installation and removal of traffic calming devices requires an Environmental Assessment process. The Region will work with the local municipality to identify options and possible alternative traffic calming devices to mitigate the impacts to York Region Transit."

3. That recommendation contained in the following report, June 4, 2004, from the Commissioner of Transportation and Works be adopted, as amended above.

1. RECOMMENDATION

It is recommended that:

1. The policy entitled "Traffic Calming on Public Transit Routes" be adopted and that, York Region staff be authorized to communicate the policy to the local municipalities and the public *(see Attachment 1)*.

2. PURPOSE

The purpose of this report is to update Transit Committee and Regional Council on the proposed York Region Transit (YRT) policy for traffic calming on public transit routes, and to seek adoption of the policy.

This policy will serve to identify issues surrounding the effects of traffic calming devices on public transit services. It will establish guidelines for the Region and the local municipalities when considering the implementation of traffic calming devices on streets

where transit buses currently operate and those where transit buses may operate in the future.

3. BACKGROUND

YRT staff submitted a proposed policy entitled "Traffic Calming Devices on Transit Routes" to the August 22, 2003 Transit Committee meeting. The following resolution was subsequently passed by Regional Council at its meeting on September 18, 2003.

1. *The following report, August 22, 2003, from the Commissioner of Transportation and Works be received.*
2. *This matter be referred to York Region Transit staff to establish a working group to include local municipalities, Regional Transportation and Works, Fire and EMS Departments, for the purpose of drafting a policy for region-wide traffic calming measures on public transit routes.*
3. *Local municipalities be encouraged not to implement traffic claming measures on existing and/or anticipated York Region Transit routes until policy has been adopted.*

The list of working group members has been expanded to also include York Region Police (YRP).

4. ANALYSIS AND OPTIONS

YRT staff assembled the working group as directed. The group's objectives were to:

- Determine whether the framework of YRT's existing draft policy could be further developed.
- Identify preferred traffic calming solutions to be used on transit routes.

The goals of the working group were to:

- Remedy operating concerns.
- Reach consensus on types of traffic devices acceptable on transit routes.
- Develop a communications strategy.
- Prepare a Transit Traffic Calming Policy to be submitted to Regional Council.

It has been determined that the Town of Markham and the City of Vaughan are the only two municipalities that currently install speed humps/bumps along transit routes.

The Town of Markham began installing speed humps/bumps in 1999. Since 1999, Markham has designated 42 municipal streets to receive speed humps/bumps, 22 of which are streets where transit operates.

The Town of Vaughan has installed speed humps/bumps on 7 municipal streets where transit operates.

A critical issue with speed humps/bumps is the travel time delay they cause. The investigation into this indicated that for every speed hump/bump installed, there is the potential to reduce travel time by 10 seconds. An example of this is Route 40 (Markham-Unionville Local).

Table 1
Route 40 Time Delay

Route	No. of Speed Humps	Current Service	Time Delay
40	35	30min. peak hours 1 hr. off peak	12 min. round trip

The proposed policy submitted to Regional Council in September, 2003 was reviewed and discussed by the group members. Overall the members supported the intent of the policy. YRT was asked to include a grandfather clause in the policy exempting existing and approved locations having vertical traffic measures, inclusive of 2002/2003 projects. YRT staff has agreed to include a grandfather clause; however, if it is found that the vertical devices interfere with YRT's operation, YRT reserves the right to request the removal of the devices.

Speed humps/bumps are the most common type of traffic calming device being installed by local municipalities at this time and are the primary concern for both municipal and Regional staff. The pros and cons of this type of device are as follows:

Pros:
- Economical.
- Easy to install.
- Effective.

Cons:
- Reduced operating speeds (response time).
- Damage to vehicle and associated costs.
- Downtime of vehicles.
- Operator and customer discomfort.
- Liability.
- Street aesthetics.
- Road maintenance and construction works.
- Repairs to the devices and costs associated with the repairs.
- Traffic diversion. Redirecting traffic from one street to another.

Staff then considered other traffic calming devices to determine if there are in fact better solutions.

4.1 Traffic Calming Devices

There are four main categories of traffic calming devices to be considered as outlined in Table 2.

Table 2
Traffic Calming Device Options

	Type	Description	Sample
1.	Non-Physical	Do not alter the physical path of travel.	Speed Enforcement Photo Radar Radar Trailers Signage Pavement Markings Streetscaping
2.	Horizontal	Decrease width of roadway through physical measure.	Traffic Circles/Roundabouts Chicanes Medians Centre Islands Choke points Realigning Intersections On-street parking
3.	Vertical	Form road surface with varying heights and/or textures.	Speed humps/bumps Speed tables Textured pavement Raised crosswalks and intersections
4.	Diversion	Restricts traffic flow. (Not considered as part of analysis).	Street closures Turning prohibitions and other restrictions One-way to two-way streets Cul-de-sacs

Each of the four categories were discussed and then evaluated by each working group member. The categories were ranked based on an agree/disagree format, with non-physical devices being most preferred, and diversion devices the least preferred.

Non-physical devices were preferred as there were no concerns relating to municipal operations, transit and emergency services. Police enforcement was thought to be the most effective method of non-physical traffic calming. The representative from York Regional Police stated that they are currently planning for an increase in traffic enforcement resources in 2004.

Horizontal devices were thought to be more expensive and less effective, however, they do address the issues noted in the groups list of cons.

Group members agreed that vertical measures should be considered as the last resort.Diversion devices where not discussed as they do not relate to transit.

4.2 Plan of Action

The group identified the need for an integrated plan for traffic safety, taking into account the community as a whole. The following actions are suggested:

- Invest in public education to change perceptions, behaviours and attitudes that lead to collisions.
- Provide visible police enforcement where resources permit.
- Address specific traffic problems with intelligent, cost effective solutions that will not compromise safety or penalize law-abiding citizens.
- Educate community that instead of turning streets into playgrounds, there is a need to develop recreational grounds and facilities where children can play safely away from traffic.

Building obstacles to impede traffic is not the answer to the problem of aggressive drivers. It has been determined that police enforcement and public education should be the first steps to traffic calming.

The Town of Markham has recently coordinated a "Street Safe Task Force" that is addressing the issue of traffic calming specifically. Their staff is preparing a scheme that would serve the residents of a community, YRT and emergency service providers.

4.3 Communication

To improve communications with the local municipalities, YRT staff agreed to:

- Provide group members with one point of contact.
- Provide current transit information through its web site.
- Circulate a summary of its annual service plan each year to group members.
- Produce mapping identifying roads selected for future transit services through the subdivision plan approval process.

4.4 Relationship to Vision 2026

YRT will work with the local municipalities and other partners to support the goals stated in York Region's Vision 2026 and will focus on the following areas:

"Housing Choices for Our Residents"

- Planning for Strong Lives, Work, Play and Learn Connections.
- Creating Well-Designed and Liveable Communities.

"Infrastructure for a Growing Region"

- Ensuring that our transportation network co-ordinates with development.
- Continuing to improve service and infrastructure for successfully integrated transit service.
- Promoting transit usage as a practical and wise alternative to private vehicle use.

5. FINANCIAL IMPLICATIONS

An overall financial impact caused by the installation of vertical traffic calming measures is unknown. It is certain that if vertical traffic calming devices continue to be installed along transit routes, the Region will incur costs as a direct result.

A twelve minute round trip time delay as shown in Table 1(Route 40 example) alone could cost the Region $73,000 annually. Other areas identified as potential costs would be vehicle damage to the lower side panels, liability claims due to bumps and falls, and customer dissatisfaction due to extended travelling times.

6. LOCAL MUNICIPAL IMPACT

Local planners and engineers will have to consider the impact on public transit when designing and/or approving traffic calming devices. Increased noise levels and pollution may occur as a result of the increase in the number of vertical devices being installed. Where vertical traffic calming measures are used, public transit will not be provided.

The working group determined that the local municipalities prefer vertical devices because they consider them to be economical, simple to install and effective, however the total cost associated with vertical devices has not yet been investigated by most municipalities. The local municipalities may or may not incur higher costs to install other types of devices in order to accommodate public transit service.

7. CONCLUSION

Regional Council endorsement is being sought for YRT's policy entitled "Policy for Traffic Calming on Public Transit Routes".

YRT supports municipal introduction of well-planned traffic calming measures into the municipal landscape and will assist local municipal staff to develop their plan. It is, however, necessary to continue to provide transit services to all areas of York Region while maintaining a safe and comfortable environment for the general public, transit customers and bus operators.

The cities of Toronto and Hamilton both have similar policies in place. Other jurisdictions such as Mississauga, Brampton and Waterloo are in the process of developing policies.

The Senior Management Group has reviewed this report.

(A copy of the attachment referred to in the foregoing is included with this report and is also on file in the Regional Clerk's Office.)

York Region

STATUS		
Council Approved	Y	N
CAO Approved:	Y	N

TITLE: Traffic Calming on Public Transit Routes	NO.:
	Approval Date:
	Last Updated:

POLICY STATEMENT:

The Regional Municipality of York supports municipal introduction of well-planned traffic calming measures into the municipal landscape. It is, however, necessary to continue to provide bus services to all areas of York Region while maintaining a safe and comfortable environment for the general public, transit customers and bus operators.

APPLICATION:

This policy shall be applicable where traffic calming measures and public transit are to coexist.

PURPOSE:

The Region wishes to ensure that buses can negotiate traffic calming schemes in a satisfactory manner without damage to the buses and to maintain a safe and comfortable environment for both our customers and bus operators.

DEFINITIONS:

The definition of traffic calming is:

"The implementation of physical and visual measures that are intended to reduce vehicle speeds and subdue aggressive driving behaviour to improve road safety and create an environment where the needs of all road space users, not just motor vehicles, are enhanced."

DESCRIPTION:

The Region supports non-physical and selected horizontal traffic calming devices and opposes the installation of vertical traffic calming devices on roads designated for transit.

The Region approves of non-physical type traffic calming devices. Where horizontal measures are to be installed, the Region requests that the local municipality work with Region to ensure the device design allows buses to negotiate through the scheme without damage to the buses or discomfort to our customers and bus operators.

The Region does not agree with the installation of vertical traffic calming devices on designated transit routes including roads that are deemed future transit routes.

As requested by the Town of Markham, the Region agrees to continue operating transit services on streets with vertical devices (speed humps/bumps) that were installed or approved prior to December 31, 2003. This is inclusive of all the local municipalities in the Region of York. If it is determined, however, that the vertical devices are causing significant service delays, damage to buses or operator and/or customer dissatisfaction, the Region reserves the right to request the removal of the devices. Refusal to remove the devices will result in the discontinuation of public transit service from the affected roadway.

RESPONSIBILITIES:

Local Municipality:

- At the earliest stage of development of a traffic calming scheme, YRT should be notified of the intent to introduce traffic calming on a particular road and where concerned, YRT should be consulted and be allowed to participate in the design of the scheme.

- Must ensure that vertical measures are not installed on roads where transit services exist and on roads designated for transit.

York Region Transit:

- YRT will make every effort to respond to the Region's and/or municipalities requests for comments within a reasonable amount of time so as not to delay the design and/or approval process.

- Will put in place a tool to assist municipal staff in predetermining roads that are designated transit roads.

NON-COMPLIANCE WITH POLICY:

Non-compliance with this policy will result in the removal of public transit service from the affected roadway.

REFERENCE:

City of Toronto Staff Report,
Subject: Traffic Calming Policy
City of Brampton
Traffic Calming Program
International Association of Public Transport

Traffic Calming Measures and Bus Traffic.

Victoria Transport Policy Institute
Traffic Calming Benefits, Costs and Equity Impacts.

City of West Sacramento
Community Development Department,
Residential Traffic Calming Program

Canada Safety Council
Traffic Calming Versus Safety

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APPROVAL INFORMATION				
CAO Approval Date:				
Committee:	**Clause:**		**Report No:**	
Council Approval:	**Minute No.**	**Page:**	**Date:**	

Schedule 'A'

The Region's preferred list of traffic calming measures:

Non-physical

Non-physical type traffic calming devices are the preferred methods of traffic calming on roads where transit operates service.

These devices do not alter the physical path of travel and do not require significant construction on the roadway. Examples of non-physical types:

- Speed Enforcement
- Photo Radar
- Radar Trailers
- Signage
- Pavement Markings
- Streetscaping
- Reduced Speeds
- High visibility crosswalks
- Gateway/Entryways
- Neighbourhood Watch

Horizontal

Select horizontal type devices are acceptable to transit. Lane widths and turning radii must be considered in the design of these devices. On-street parking would not be ideal for transit routes.

These devices decrease the width of the roadway through the use of physical measures and may not allow for straight-line travel. Examples of horizontal devices:

- Traffic Circles/Roundabouts*
- Chicanes
- Medians
- Centre Islands
- Choke points
- Realigning Intersections
- On-street parking

*Roundabout intersections may be more difficult for visually impaired pedestrians because they do not have straight traffic or regular breaks in traffic flow.