



## POLICY MANUAL

**POLICY NUMBER: PUBLIC WORKS-008**

**SUBJECT: TRAFFIC CALMING POLICY**

### **POLICY STATEMENT: (Purpose/Objective)**

To provide a guideline for the City of Brantford to determine when it is appropriate to undertake a Traffic Calming Study. Provides for a standardized procedure for the analysis of a street section to determine whether traffic issues can be addressed through a traffic calming measure.

#### Policy Objectives

The goal of the Traffic Calming Policy is to develop a set of integrated policies, objectives and procedures that will be used as a guideline when undertaking a traffic calming study. The objectives are as follows:

- Provide a warrant procedure to determine whether traffic calming measures are applicable based on various operating conditions such as speed, volume, and collisions;
- Provide a standard format for handling traffic calming requests;
- Improve neighbourhood livability by mitigating the impacts of vehicular speeds on local and collector streets;
- Promote safe and pleasant conditions for residents, motorists, cyclists, and pedestrians;
- Encourage public involvement in the traffic calming activities.

The secondary outcome of the Traffic Calming Policy subsequently is:

- Increase the motorist's awareness of the street functions and thereby reduce vehicular speeds;
- Discourage non-local traffic from travelling through a neighbourhood on local streets, thereby reducing the traffic volume;
- Increase compatibility between various street users, including motorists, cyclists, and pedestrians;
- Aesthetically enhance the neighbourhood environment with landscaping and design features;
- Make efficient use of City of Brantford resources by prioritizing traffic calming projects.

### Traffic Calming Measures

The City of Brantford has identified a number of traffic calming measures that are applicable to the City's road network. Generally, there are four (4) approaches to calming traffic within a neighbourhood:

- Vertical Deflection Measures
- Horizontal Deflection Measures
- Horizontal Narrowing Measures
- Traffic Volume Reduction Measures

#### **1) Vertical Deflection Measures**

Vertical deflection measures use variations in pavement height and alternative paving materials to contribute to a driver's discomfort at high travel speeds. The purpose of the deflection is to reduce speeds along a street within a neighbourhood or at a specific location in order that other users, such as pedestrians, are presented with a roadway feature that better meets their needs. Some common vertical deflection devices include:

- Raised Crosswalks
- Raised Intersections
- Speed Humps/Cushions
- Speed Tables

#### **2) Horizontal Deflection Measures**

Horizontal deflection measures use raised islands and curb extensions to deflect the motorist's path away from a straight line along roadways and through intersections. The intention of the deflection is to reduce the vehicular speed through a corridor in order that others in the area are not impacted by speeding traffic. Some common horizontal deflection devices include:

- Raised Islands
- Mountable Islands
- Curb Extensions
- Chicane
- Traffic Circles
- Roundabouts
- Realigned Intersections
- Pavement Markings
- Flexible Bollards

### **3) Horizontal Narrowing Measures**

Horizontal narrowing measures use raised islands and/or curb extensions to narrow the street, making the area more “*pedestrian friendly*”. The intention of the narrowing is to increase the motorist’s awareness of pedestrian activity, and to reduce their speed through an intersection or mid-block pedestrian crossing. Some common horizontal narrowing devices include:

- Neckdowns (curb extensions at an intersection)
- Chokers (curb extensions at mid-block location)
- Centre Islands

### **4) Volume Control Measures**

Volume control measures include physical diverters, street closures, and median barriers, which restrict vehicles from turning at specific locations. Their main purpose is to divert, and ultimately reduce traffic volumes from residential streets. Volume control measures typically move traffic volumes and the associated negative impacts from one street to an adjacent street, and therefore, will only be considered under special circumstances. Some volume control devices include:

- Full street closures
- Half closures
- Diagonal Diverters
- Median Barriers

## **RELATED POLICY PROCEDURES/GUIDELINES:**

To initiate a traffic calming review, Public Works requires a request in writing from a Councillor, constituent, or community association. In the event that a constituent initiates the traffic calming study, the individual will be designated the spokesperson for the Affected Neighbourhood and will be the contact person should further public involvement be required.

The Affected Neighbourhood is defined as households that will be affected by a proposed traffic calming installation. All households fronting or flanking a local street where traffic calming is proposed are part of the Affected Neighbourhood. Where traffic calming is proposed on a collector road, households that rely on the corridor for passage are considered part of the Affected Neighbourhood. The Affected Neighbourhood for a collector road is generally one block of intersecting streets and may include an expanded area based on staff feedback.

### Program Criteria

Upon receipt of a complaint, an investigation will be undertaken to determine whether the specified street section meets all of the traffic calming program policies. The program policies are as follows:

- Street must have a classification of local or collector;
- Posted speed limit on the street must be 50 km/h or less;
- Minimum length of the street or street segment under consideration for traffic calming shall not be less than 300 metres;
- Street must have adequate sight distance for the proposed design speed.

### Traffic Calming Study

Traffic calming will be considered only after other less intrusive measures have been implemented and found to be ineffective (i.e. public education, police enforcement, signing, etc.). If all the above criteria are met, Public Works staff will conduct a traffic calming study, which may include traffic counts, speed studies, collision analysis, pedestrian counts, parking studies, documentation of geometric information, and a review of the surrounding street network.

Based on the findings from the investigation, the data will be applied to the Severity Scoring Point Scale shown in Table 1 below, in order to calculate a score for the street section. A six (6) point minimum severity score is required to continue with the program. Streets that score less than six (6) may be considered again in three (3) years. The severity score will also be used to prioritize projects, wherein the street having the highest score will have the highest priority.

**Table 1: Severity Scoring Point Scale**

Points	Average Daily Traffic (2-way total)	85 <sup>th</sup> Percentile Speed (40 km/h speed limit)	85 <sup>th</sup> Percentile Speed (50 km/h speed limit)	Collisions/Year within one block of study location (5-year history)
1	500 – 1200	50 – 52	60 – 62	0.5 – 0.9
2	1201 – 1900	52.1 – 54	62.1 – 64	0.9 – 1.3
3	1901 – 2600	54.1 – 56	64.1 – 66	1.3 – 1.7
4	2601 – 3300	56.1 – 58	66.1 – 68	1.7 – 2.0
5	3301 – 4000	58.1 – 60	68.1 – 70	2.0 – 2.3
6	More than 4000	More than 60	More than 70	More than 2.3

One additional point will be awarded if the street section meets any of the following criteria:

- School property fronting or flanking the street;
- No sidewalks on either side of the street;
- Street wider than 9.0 metres measured from edge of pavement to edge of pavement.

If a street does not satisfy the traffic calming warrant at any point of the evaluation process, the requestor that initiated the study will be advised that the street does not presently meet the City's traffic calming criteria, and that the street may be reviewed again in three (3) years.

### Public Involvement

When the traffic review is completed and it is determined that the street has operational and geometric conditions that satisfy the traffic calming warrant, the process will continue. Prior to the planning of the traffic calming measures, input is requested from the residents of the Affected Neighbourhood by way of a neighbourhood opinion survey. The purpose of the survey is to determine the level of support for pursuing the study of traffic calming measures on a particular street. The goal is to receive a community driven response and majority support for the project. A majority (more than 50% of the households within an Affected Neighbourhood) must be in support of pursuing traffic calming for the project to continue. Each household will be counted as one vote. A household is a property with a unique mailing address. Each legal unit within a multi-dwelling location is considered a household.

In the event that majority support from the Affected Neighbourhood is not achieved, however more than 50% of those that responded to the opinion survey support traffic calming, temporary traffic calming measures may be installed for a trial period / pilot project for up to one year to further assess Affected Neighbourhood acceptance.

A copy of the Neighbourhood Opinion Survey is attached as Appendix "2". A package containing illustrated descriptions of traffic calming measures available for consideration will be included with the survey, as shown in Appendix "1".

In the event that the majority of Affected Neighbourhood supports the installation of some form of traffic calming measures in their neighbourhood, Public Works staff will develop alternative traffic calming designs using information received from the public.

Following the development of alternative traffic calming designs, Public Works staff will schedule a public meeting for the purpose of collecting feedback from residents and presenting the alternative traffic calming design plans. The desired outcome of the public meeting is a traffic calming plan that is both feasible and supported by the majority of those in attendance.

### Implementation

When all the previous steps of the process are completed, a report will be prepared and forwarded to City Council. Subject to Council approval of both the traffic calming plan and the required funding, the work can proceed.

Depending on the number of requests received, it may become necessary to use a priority ranking system to determine which traffic calming projects are prioritized in a given year. As there will be a limit to the number of projects that can be completed in a year, the "worst case" scenario would be focused on.

Table 2 below shows how projects will be ranked. This will be used in conjunction with the Severity Scoring Point Scale.

**Table 2: Priority Ranking**

<b>Criteria</b>	<b>Points</b>	<b>Basis</b>
Speed	0 to 40	5 points assigned for every km/h greater than 5 km/h above the posted speed limit [(85 <sup>th</sup> percentile speed limit – 5 km/h – posted speed limit) x 5]
Volume	0 to 40	ADT divided by 100
No Sidewalks	0 or 5	5 points if no continuous sidewalk
Collisions	0 to 5	1 pt for each collision / year at one location
School Crossing (signed, adult crossing guard and/or student safety patrol)	0 or 10	10 points if children must cross street to get to school
<b>Total Points Possible</b>	<b>100</b>	

Date of Enactment: August 2007	Related By-law Number/Staff Report Number: EN2007-133 70-2010 (consolidation) 2020-160/ 176-2020
Review and Amendment Dates: October 27, 2020	Department Responsible for Review: Engineering
Date of Next Review: 2024	Applicable Legislation/Legislative Authority:

## APPENDIX “1”

### Traffic Calming Measures Available for Consideration

Measure	Description	Illustration
<b>VERTICAL DEFLECTION MEASURES</b>		
Raised Crosswalk	Elevate the level of a pedestrian crossing. Pedestrians are more visible to approaching motorists. They are often constructed with brick or textured materials on the ramps to increase visibility for approaching motorists. The walking surface is typically asphalt.	
Raised Intersection	Flat raised areas covering an entire intersection, with ramps on all approaches. They often have brick or other textured materials on the ramp section. They usually raise the intersection to the level of the sidewalk. As a result, the crosswalks are more visible to motorists.	
Speed Hump	Raised pavement areas placed across the road. They are generally 3 to 4.5 metres long measured in the direction of travel, and are typically 10 centimetres high. Speed humps are very distinct from the shorter "speed bumps" found in many parking lots.	

Speed Table	<p>Flat-topped speed humps often constructed with brick or other textured materials on the flat section. They are typically long enough for the entire wheelbase of a passenger car to rest on the flat section, and allow for higher design speeds than speed humps. The brick or other textured materials improve the appearance of speed tables, draw attention to them, and may enhance safety and speed-reduction.</p>	
Speed Cushion	<p>A raised area of the road, similar to a speed hump, but does not cover the entire width of the road. The spacing is designed to allow larger vehicles, such as emergency vehicles, to travel between the cushions without difficulty, whereas light vehicles will have at least one side of the vehicle deflected upward.</p>	

<b>HORIZONTAL DEFLECTION MEASURES</b>		
Curb Extensions	<p>Extend the sidewalk or curb line out into the parking lane, which reduces the effective street width. Curb extensions significantly improve pedestrian crossings by reducing the pedestrian crossing distance, visually and physically narrowing the roadway, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street.</p>	
Chicane	<p>Curb extensions that alternate from one side of the street to the other, forming S-shaped curves. Alternating on-street parking from one side of the street to the other can also create chicanes. Each parking bay can be created either by striping the roadway or by raised islands at the ends of the parking bay.</p>	
Traffic Circle	<p>Raised islands, placed in intersections, around which traffic circulates. They are good for calming intersections, especially within neighborhoods, where large vehicular traffic is not a major concern but speeds, volumes, and safety are problems.</p>	

Roundabout	<p>Require traffic to circulate counterclockwise around a center island.</p> <p>Roundabouts are used on higher volume streets to allocate right-of-way between conflicting movements, where traffic circles are used on low volume roads.</p> <p>Roundabouts are effective at intersections with a history of collisions, and where queues need to be minimized.</p>	
Realigned Intersections	<p>Change road alignments at T-intersections from straight approaches into curving streets that meet at right-angles. A former "straight-through" movement along the top of the T-intersection becomes a turning movement.</p>	

<b>HORIZONTAL NARROWING MEASURES</b>		
Neckdown	<p>Curb extensions at intersections that reduce the roadway width from curb to curb. They effectively make an intersection more pedestrian friendly by shortening crossing distances and drawing attention to drivers. The curb radii at the corners are also tightened, reducing the speed of vehicles turning at the intersection.</p> <p>Neckdowns are good at intersections with high pedestrian activity.</p>	
Choker	<p>Curb extensions at midblock locations that narrow a street. Two-lane chokers leave the street cross section with two lanes that are narrower than the normal cross section. One-lane chokers narrow the width to allow travel in only one direction at a time. They are good for areas with substantial speed problems and no on-street parking shortage.</p>	

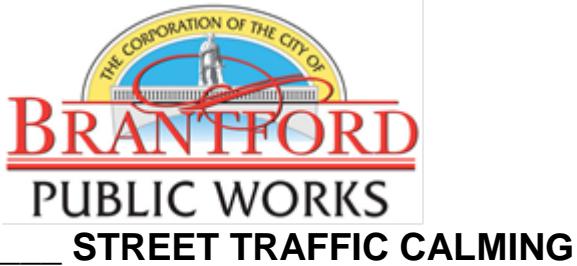
Centre Island	<p>A raised island located along the centerline of a street that narrows the travel lanes at that location. Placed at the entrance to a neighbourhood, and combined with textured pavement or landscaping, they create an attractive gateway to a neighbourhood. Centre islands work well on wide streets where pedestrians need to cross.</p>	
<b>VOLUME CONTROL MEASURES</b>		
Full Street Closure	<p>Barriers placed across a street to completely close the street to through motor vehicle traffic. Only the sidewalk is open.</p>	
Half Street Closure	<p>Barriers that block travel in one direction for a short distance on two-way streets.</p>	

Diagonal Diverter	<p>Barriers placed diagonally across an intersection, blocking through movements and creating two separate, L-shaped streets. Like half closures, diagonal diverters are often staggered to create circuitous routes through the neighborhood as a whole, discouraging non-local traffic while maintaining access for local residents.</p>	
Median Barrier	<p>Islands located along the centreline of a street and continuing through an intersection so as to block through movement at a cross street. They are ideal at intersections where left-turns to and/or from the side street are unsafe.</p>	

Sources:

TAC / ITE Canadian Guide to Traffic Calming  
[www.trafficcalming.org](http://www.trafficcalming.org)

## APPENDIX "2"



### NEIGHBOURHOOD OPINION SURVEY

As a result of a request to Public Works, staff is undertaking a review of the traffic operations on \_\_\_\_\_ Street between \_\_\_\_\_ Street and \_\_\_\_\_ Street. In conformance with the City of Brantford's Traffic Calming Policy, this street section warrants traffic calming measures. For traffic calming to be successful, the process requires the participation of the affected neighbourhood. The results of this survey will determine whether the evaluation process will continue.

Attached is a list of traffic calming measures available for consideration on your street. Traffic calming is the implementation of physical measures that enhances traffic safety on residential streets for all street users.

Please provide your comments on the attached form and return it in the self-addressed envelope provided. We would like to receive all comments by [Date].

Once the City has received your response, the results of the survey will be summarized. If the majority of the affected neighbourhood supports the installation of traffic calming measures on your street, staff of Public Works will take a recommendation to Committee of the Whole – Operations and Administration for traffic calming on \_\_\_\_\_ Street. If approved, you will be kept informed of the planning process. If the majority of the affected neighbourhood does not support the installation of traffic calming measures, the project will not continue. A street section can be reviewed again in three years.

Your input is important. Please provide feedback regarding this proposal by [Date] to [Name], [Position] directly at 519-759-4150 Ext. [Extension] or E-mail at [E-mail Address]. All feedback will be reported to Council for a decision on this proposal.

Yours truly,

[Name]  
[Title]

## **STREET TRAFFIC CALMING**

### **NEIGHBOURHOOD OPINION SURVEY**

As a result of a request to Public Works, staff is undertaking a review of the traffic operations on \_\_\_\_\_ Street between \_\_\_\_\_ Street and \_\_\_\_\_ Street. As per the City of Brantford's Traffic Calming Policy, this street section warrants traffic calming measures. For traffic calming to be successful, the process requires the participation of the affected neighbourhood. The results of this survey will determine whether the evaluation process will continue.

Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

As a resident of \_\_\_\_\_ Street, I

**Support**

**DO NOT Support**

the installation traffic calming measures on \_\_\_\_\_ Street.

Comments:

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**All personal information will be kept confidential.  
All responses must be received by [Date].**