



# *The Corporation of the City of Welland*



## *Traffic Calming Program Policy and Procedure*



*City of Welland  
Traffic & Parking Operations Division*

## **Introduction**

The purpose of local residential and collector roadways is to provide both access to and through neighbourhoods. On the majority of local residential and collector roadways, pedestrians, cyclists and motor vehicles travel through neighbourhoods in a relatively safe manner.

Increased vehicle volumes and vehicle speeds impact how residents perceive their roadways as being unsafe for motorists and other vulnerable road users (pedestrians, cyclists). Some of these concerns can be addressed by identifying and correcting any deficiencies in the arterial road network (i.e. signal progression, additional lanes, turning restrictions, etc.). Police enforcement of these problem areas is another solution. However as constraints on time and manpower for police enforcement has become limited, use of this option is difficult to achieve on local residential roadways.

On a yearly basis the Traffic and Parking Operations Division receives requests from residents and elected officials to address traffic concerns on local and collector residential roadways. Primarily these requests are to review concerns of speeding and volume. Many of these requests could be remedied through enforcement. However, there are many situations where enforcement is neither effective nor available. While enforcement will assist in solving residential concerns, it is unpractical to have police permanently monitor problem areas.

The primary function of Traffic Calming measures is to improve the liveability of neighbourhoods and improve public safety by reducing vehicle speeds, vehicle volumes and collision frequency. In addition, well-designed and landscaped Traffic Calming measures can enhance a neighbourhood's appearance and the quality of life for its residents.

Traffic Calming measures can be used individually or in combination. Not all of them are feasible or acceptable in all locations. Traffic Calming options are much more limited on collector streets, as collectors are designed to carry traffic to and from arterial roadways, as well as needing to provide emergency services response routes.

The purpose of this document is to establish a Traffic Calming Program, outline a policy and describe a procedure for investigating requests for the installation and implementation of traffic calming measures within the City of Welland. The Traffic Calming Program will benefit both residents and staff by providing a degree of consistency for investigations and possible traffic calming measures that could be installed on a roadway, and to respond to the findings.

This program will assist staff in reaching the objectives of:

- Providing mobility and accessibility to neighbourhoods
- Ensuring the overall safety and liveability of neighbourhoods
- Provide an efficient and consistent program to address residents and elected officials concerns
- To ensure locations are addressed in a priority manner

The purpose of this report is to supplement the Canadian Institute of Transportation Engineers (ITE), Canadian Guide to Neighbourhood Traffic Calming. This manual is intended to provide guidelines for the review of roadways for potential traffic calming measures.

The primary purpose of the City of Welland Traffic Calming Program, Policy and Procedure report, is to provide staff with consistent direction for completing investigations from request to completion. This includes setting goals and objectives and most importantly involving the community in the process.

### **Goals & Objectives of the Traffic Calming Program**

Traffic calming measures are self-enforcing devices that are used to address undesirable traffic conditions related to speeding, cut-through volumes and collisions on residential roadways. These conditions create an unsafe feeling for local motorists and other vulnerable road users such as pedestrians and cyclists.

The installation of traffic calming measures have the potential ability to improve traffic conditions for all road users, by slowing vehicle speeds and decreasing or eliminating cut-through traffic, without the presence of police enforcement.

The following goals and objectives have been established for the City of Welland Traffic Calming Program:

1. Improve neighbourhood liveability,
2. Discourage cut-through traffic on local streets (i.e. not arterial or collector roads),
3. Improve safety and minimize conflicts for local motorists and vulnerable road users,
4. Review alternative measures prior to the use of traffic calming measures utilizing the 3 E's Principle, Engineering, Education and Enforcement measures,
5. Preserve access for emergency services and public transit to residential roadways,
6. Establish a defined procedure to implement Traffic Calming measures in a consistent, efficient, fair, and timely manner in response to concerns,
7. Promote community involvement and awareness,
8. Reduce vehicle speeds on residential roadways,
9. Provide a priority implementation system for the utilization of designated annual capital project funds.

The priority implementation system would be a point assignment mechanism to determine a numerical score and prioritizing each request for traffic calming. The numerical score will rate the street situation according to traffic conditions and determine appropriate actions and prioritization.

### **Guidelines/Techniques & Principles**

Traffic Calming measures should be considered only after education, enforcement and operational efforts have failed to produce the desired results. Traffic Calming measures should only be installed after staff have investigated existing traffic conditions, determined that traffic calming measures are necessary and the proper approvals have been received. The following Guidelines/Techniques and Principles are established as part of the City of Welland Traffic Calming Program:

- Inclusion/involvement of the community in identifying and addressing the issues is key
- Cut-through traffic should be encouraged to remain or be directed to use arterial and collector roadways.
- Shifting traffic problems from one street to another similar street or neighbourhood is not an acceptable alternative.
- Emergency services access should be maintained in all Traffic Calming projects if possible.
- Reasonable automobile access to City roadways should be maintained.
- Pedestrian and transit access should be encouraged, wherever possible.
- Traffic Calming measures should be used when there is a demonstrated safety, speed or evident cut-through problem and there are no acceptable alternatives.
- The Traffic Calming Program should be limited to local and collector streets that are primarily residential in nature.
- No Traffic Calming measures should be undertaken on roads with arterial or non-residential usage.
- Traffic Calming measures on a collector street should be designed to address speed concerns. Collector streets are designed to serve some level of neighbourhood-related through traffic to/from arterials. In some cases, diversion of traffic from a local to a collector street may be appropriate.
- Where possible, implementation of traffic calming measures should be done on a trial basis for evaluation prior to permanent installations.
- The TAC/ITE Canadian Guide to Neighbourhood Traffic Calming and other resources, recognized as “key” source, should be utilized for guidance in the selection of traffic calming measures.
- The procedures established for the Traffic Calming Program should ensure that requests for Traffic Calming are treated consistently and fairly and locations will be prioritized according to a stated criteria. This criterion should be ranked for each studied location. The highest-ranking location(s) would have Traffic Calming measures implemented where budget approval allows.
- Installations should be monitored and reviewed to determine effectiveness.

### **Community Involvement**

Traffic Calming plans should be developed with participation from the community and with an understanding for the traffic history for the area under investigation. For a Traffic Calming Program to be successful, the community must support and be committed to the solution. The only means of gaining this commitment is to involve the residents of a study location that would be affected by Traffic Calming measures.

The benefit of community involvement is that it generates support for a Traffic Calming Program, the reasons and objectives of the traffic calming measures being selected and assists in the plan being implemented without significant opposition.

Community involvement also enhances the credibility of the Traffic Calming Program, particularly when it is eventually presented to Council for approval. In order to obtain this working partnership, community meetings will be held. These meetings provide the community with opportunities for input into the development of the plan, as well as publicize and increase the awareness of the study. During these meetings, staff will be able to present study and design information to the community.

As outlined in the 2001 Transportation Planning Study, the City of Welland is divided into Zones and through the classification of the road network. Pending location, neighbourhoods to be involved are to be identified by these two documents.

If a Zone is divided by Arterial or Collector roadways, then this will become the boundaries for the study area.

### **Traffic Calming Measures**

The decision process for the selection of Traffic Calming measures should be based on:

- Types of Traffic Calming measures available that will address volumes, collisions and vehicle speed reduction for site specific locations
- Consideration of classification of roadway
- Actual conditions

### **Types of Traffic Calming Measures**

The following categories are the types of Traffic Calming measures available for the City of Welland Traffic Calming Program, as outlined in the TAC/ITE Canadian Guide to Neighbourhood Traffic Calming.

Horizontal Deflection – refers to two types of Traffic Calming measures. The first type hinders the driver's ability to drive in a straight line by creating a horizontal shift in the roadway. This shift, forces drivers to slow their vehicles in order to safely navigate the measure. The second type is designed to narrow the width of the travel lane. Doing so reduces the usable surface of the roadway causing drivers to slow their vehicles to

maintain a comfortable driving condition. Horizontal deflection measures are mainly used to address speed concerns.

Vertical Deflection – refers to Traffic Calming measures that create a change in the height of the roadway. Vehicles must slow down over these measures in order to avoid unpleasant bumping sensations. Vertical deflection measures are mainly used to reduce vehicle speeds, with minor effects on traffic volumes.

Physical Obstruction – refers to measures that prevent particular vehicle movements, thereby discouraging and eliminating cut-through traffic. The reduction in volume will depend on the nature of the Traffic Calming measure.

Signs and Pavement Markings – can be used as Traffic Calming measures that regulate traffic movements in lieu of physical changes to the roadway. These measures may produce the same effect as physical Traffic Calming measures. However, police enforcement may still be required.

### **Various Types of Traffic Calming Measures**

The following is a list of Traffic Calming measures and a description of each:

Curb extension/bulb-out	An intrusion of the curb extending across a parking lane and narrowing the travel lane.
Chicane	A series of three (3) curb bulb-outs staggered on alternating sides of the roadway, narrowing the travel lane and forces motorists to slow down as they navigate side to side through the chicane.
On-Street Parking	Allow vehicles to park parallel to the curb, reducing the travel portion of the roadway.
Turning Prohibition	Restrict specific turning movements into neighbourhoods, reduces cut-through traffic, enforcement required.
Traffic Circles	A raised island located in the middle of an intersection and forces vehicles to travel through the intersection in a counter-clockwise direction around the island.
Textured Crosswalks	A crosswalk designed of a different texture or pattern surface than that of the roadway, warns motorists they are entering a heavy pedestrian area.
Speed Humps	A raised section of roadway, which deflects both the wheels and frame of a vehicle, forces vehicles to slow down over hump.

Raised Crosswalks	This section of roadway is raised 3 to 6 inches above street grade.
Semi-Diverter/Partial Street Closure	Physical barrier blocks half the roadway prohibiting a vehicle movement (one way in/out).
Right In/Right Out Island	A raised island at an intersection that prevents left turns and through movements to and from an intersection.
Street Closure	Extension of physical barrier across the width of a roadway creating a cul-de-sac and closing a roadway.
Raised Intersection	The section of roadway is raised to 6 inches above the roadway.
Diagonal Diverter	Physical barrier placed across the centre of an intersection, prohibiting one direction of traffic.

### **Traffic Calming Consideration Process**

There are several steps required in the traffic calming consideration process. The details of the process are as follows:

#### **1. Petition and Collection of Signatures**

A request for traffic calming measures from residents must start with a signed petition with a minimum of 60% of the block(s) of the street, including every developed property having frontage on the street. Each household may be represented by only one signature, regardless of the number of people in the household. A traffic-calming request may pertain to problems of speeding, cut through traffic or safety concerns (i.e. collisions).

Traffic Calming programs are timely and costly for municipalities. Taking into account the time required to collect and analyse data, conducting public meetings, preparing designs and installing measures, it is important to gauge public support from the inception of the request.

Determination of the initial support is vital and will reduce the chances of the traffic calming measures for the location being later defeated after the municipality and invested a considerable amount of time and money into the project.

## 2. Location Eligibility Criteria

Traffic Calming measures are generally self-enforcing physical features, which effectively change the design speed of a roadway. Locations for traffic calming measures should meet the following:

- The posted speed limit should not be more than 50 Km/h
- Lane configuration should be limited to two lane streets having only one lane of through traffic in each direction
- Street must not be primary emergency routes, unless steps are taken to provide emergency services access (ie.collapsible markers)
- Traffic Calming plan should not result in diversion of cut-through traffic onto other residential roadways

## 3. Collect Data

Should the residents meet the 60% requirement; staff will then begin to collect data once the defined neighbourhood has been identified. Various studies will be conducted to determine volumes, speed, collisions, pedestrian safety and physical street conditions.

## 4. Assess Priority Points

This program has been set not to reject any location, but rather to identify through the point system, priority locations. This process will allow staff to identify locations from highest to lowest. As a result, staff will then be able to identify to City Council the locations to be considered in the following years Budget Allocation for Traffic Calming.

The information that is gathered in the Data Collection will be used in the point assignment system and is implemented to determine the number of points the requested street receives. All locations in which studies have been performed will then be ranked by the locations final score.

Only the highest ranked locations will be funded to the limits of the available budget. Locations that do not receive financial approval for installation will remain on the list of locations for future traffic calming. New study locations will be included in the future year funding based on their priority score.

In addition, should the community believe the need for immediate action be required, funding for the project can be initiated by the residents of a neighbourhood to absorb the costs associated with the installation of traffic calming measures.

### 5. Survey of Residents on Solutions Available

Once the yearly point assignment had been completed and locations prioritized, staff would then conduct a survey of the residents with developed property having frontage on the street under investigation. Each survey will inform the residents of the results of studies that have been undertaken by staff. The survey will also ask residents if they would be in favour or opposed to the installation of the proposed traffic calming measures. In order for the program to continue, 60% of the total returned surveys must be in favour of the installation of Traffic Calming measures. If this requirement is not met, staff will report to City Council recommending Traffic Calming measures not be installed.

### 6. Public Meeting to Propose Traffic Calming Measures

Once the location is approved by City Council, staff will begin the Public Meeting process. Property owners potentially affected residents and elected officials will be invited to attend a public meeting to discuss the concerns raised and review the potential measures available.

During this meeting, the residents will be encouraged to review the neighbourhood and perform a design exercise for the installation of traffic calming measures. City staff will be on hand to facilitate and to be utilized as a reference tool for the public.

Once completed, staff will collect the proposed designs and create the final design based on the input from the residents.

### 7. Prepare Final Design

The design of all Traffic Calming measures shall be subject to the guidelines of the TAC/ITE Canadian Guide to Neighbourhood Traffic Calming (see Appendix “G”), and the local experience and recommendations of city staff. Once the public meeting has been completed and the residents preliminary design considerations reviewed, staff will prepare a recommendation for the type of Traffic Calming measure(s) to be utilized for the specific project. A final meeting will be held with residents and elected officials to present the final recommendations and design.

Once completed, staff will submit a report to City Council with the final design recommendation and budget allocation required.

### 8. Report to Council

Once all requirements are met, then staff will prepare a report to City Council for approval of the location for traffic calming measures and inclusion in the next budget approval process.

### 9. Implement Traffic Calming Measures

Once the aforementioned process is completed, where available, staff will implement temporary calming measures prior to the installation of permanent traffic calming measures.

This will assist in determining if the recommended measures will alleviate the concerns of the residents. In addition, the as the installation are temporary, modifications can be implemented at lower costs compared to that of permanent traffic calming measures.

Once it has been determined by staff that the recommended designs are appropriate, staff will arrange for the installation of permanent traffic calming measures.

### 10. Monitor Installation

Staff will continue to monitor the location once completed and provide follow up recommendations to City Council if required.

### *Conclusion*

Traffic Calming Programs are becoming increasingly popular throughout the world. Programs have proven to be very efficient in the control of neighbourhood vehicle concerns in many municipalities throughout Canada, United States and Europe. Motorist's behaviour can be altered through the design and installation of Traffic Calming measures that meets the concerns of residents. These measures improve pedestrian/motorist safety and greatly improve neighbourhood liveability. This report is the recommended process for the implementation of the City of Welland Traffic Calming Program.

With the increase in traffic concerns within the City of Welland, the need for a Traffic Calming Program that outlines the Policy and Procedure is important. Traffic Calming measures can be a supportive tool to improve the quality of life for the residents of Welland.

In order for the Traffic Calming Program to be successful, it is paramount that a working relationship be implemented between residents, elected officials, emergency and operations services and City of Welland staff. A strong relationship with these various groups will make for a successful Traffic Calming Program. For a Traffic Calming Program to be successful, it needs the support of the community. By including residents within the area under investigation to be involved in the study process, it allows them to get involved and gives them a feeling of self-ownership to the program by allowing them in the decision making process.

**TRAFFIC CALMING PRIORITY POINT ASSESSMENT**

**LOCATION** \_\_\_\_\_

<u>CRITERIA</u>	<u>POINTS</u>	<u>BASIS FOR POINTS</u>	<u>TOTAL</u>
1. Speed <i>Minimum 85<sup>th</sup> of 5km over posted speed limit</i>	0 to 35	5 pts. for every 2 km/h over posted speed limit (85 Km/h)	_____
2. Volume	0 to 30	5 pts. for every 1500 ADT	_____
3. Collisions	0 to 10	1 pt. for every 2 collisions/year over a 3 year period	_____
4. Sidewalks	0 or 5	5 pts. for no sidewalks or 5 pts. evidence heavy ped. traffic	_____
5. School or Playground	0 or 5	5 pts. for Elementary school	_____
6. Pedestrian Generators	0 or 5	5 pts. for Schools, libraries, playgrounds, bus stops, parks and stores	_____
7. Transit Route	0 or 5	5 pts. if not a Transit Route	_____
8. Cut-through Traffic	0 or 5	5 pts. if study indicates cut-through concerns	_____
<b><u>TOTAL ACCUMULATED POINTS:</u></b>			_____