



<b>Policy Name:</b> Neighborhood Traffic Management	<b>Policy No:</b> S801-02
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## 1. Purpose

The overall purpose of this policy is to provide a comprehensive process that addresses local neighbourhood traffic issues experienced in the Town of Pelham.

The specific goals of this traffic calming policy are to develop an integrated set of objectives and procedures that will combine to form a set of overall working guidelines that will:

- Educate residents about traffic calming so they can make more informed decisions and also understand the rationale behind the Town's decision making process.
- Provide a policy that Town officials and the general public are confident is an effective and fair tool in evaluating speeding and/or traffic volume problems.
- Provide a standard format for dealing in a consistent manner with complaints regarding speeding and traffic safety concerns.
- Reduce the workload and duplication of effort for Town staff in responding to resident traffic concerns.
- Educate people on how to create a safe and a pleasant roadway environment for residents, motorists, cyclists and pedestrians.
- Encourage public involvement in the traffic calming activities.
- Educate residents on pedestrian and cyclist safety.

This policy will also provide the guideline, procedure and criteria for the initiation, investigation and implementation of traffic calming measures within existing residential neighbourhoods. The policy will ensure safety concerns related to speeding and excessive volume are handled in a fair, transparent and efficient manner. Guidelines included in this policy will be applied to local and collector roadways within residential neighbourhoods as well as rural roads.

The policy does not apply to arterial roadways nor does it apply to anticipated future problems. This policy only applies to identify operational issues within existing residential areas. While similar traffic related issues may exist on arterial roadways, the primary functions of these roads are to move traffic efficiently. Therefore, traffic calming measure(s) that may be appropriate for use on urban residential roadways would not be suitable for use on arterial roadways.

## 2. Policy Statement

It will be the policy of the Town of Pelham to restore Town streets, with an identified problem, to their



intended function through applicable traffic calming measures, and hence, preserve and enhance the quality of Pelham communities.

### 3. Policy Constraints

The policy may be affected by the availability of Town staff, capital funding, design constraints, best practices and comments from other departments and agencies.

### 4. Definitions

“85<sup>th</sup> percentile” means, the speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions past a monitored point.

“Local roads” means, a street that is primarily used to gain access to the property bordering it.

“Rural roads” means, a low-to-moderate capacity road located outside the urban boundary which serves to move traffic to local streets and arterial roads as well as provide access to rural property.

“Collector roads” means, a low-to-moderate-capacity road which serves to move traffic from local streets to arterial roads as well as provides access to property.

“Arterial roads” means, a high-capacity urban road which serves to deliver traffic from collector roads to highways, and/or between urban centres

“Traffic Calming” means, the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.

“Pedestrian Generator” means, a location where pedestrians originate from or travel to, including; schools, parks, recreational facilities, senior living homes, apartment buildings.

### 5. General Provisions

#### 5.1 What is Traffic Calming?

Traffic calming, as defined by the Institute of Transportation Engineers (ITE) Subcommittee on Traffic Calming, 1997 is:

*“The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non-motorized street users.”*

According to the Canadian Guide to Neighbourhood Traffic Calming, prepared by the Institute of Transportation Engineers (ITE) and the Transportation Association of Canada (TAC), December 1998:



*“The purpose of traffic calming is to restore streets to their intended function.”*

The primary purpose of traffic calming under this policy is to reduce high traffic speeds within residential neighbourhoods and thus improving safety for pedestrians and area residents.

## **5.2 What is NOT Traffic Calming**

Over the past 30 years there has been a significant amount of knowledge gained through the implementation of successful projects to determine what traffic calming measures work and which traffic calming measures are not effective. The all way stop, 40 km/hr reduced speed zone, children at play signs, posted speed signs, rumble strips and speed bumps are all devices commonly mistaken for being traffic calming tools. None of these devices works to calm traffic. Further information regarding what is not considered traffic calming can be found in **Appendix A**.

## **5.3 Advantages and Disadvantages of Traffic Calming**

Traffic calming if used properly will address identified operational traffic issues. However it will also introduce some disadvantages to a residential neighbourhood that will impact area residents after the project is complete. Listed below are some of the advantages and disadvantages created or caused by traffic calming measures:

### **Advantages**

- Reduced vehicle speeds
- Reduced traffic volumes
- Reduced number of cut through vehicles
- Improved neighbourhood safety especially for pedestrians
- Reduced conflicts between roadway users
- Increased compliance with regulatory signs

### **Disadvantages**

- Potential increase in emergency vehicle response time
- Could make it more difficult to get into and out of neighbourhoods every day
- May result in expensive solutions (time and resources)
- May shift or divert traffic onto neighbouring roadways
- Increase maintenance time and costs
- Add visually unattractive warning signs to a residential area
- May splinter neighbourhoods with strong ‘for and against’ traffic calming operations

## **5.4 Pedestrians & Traffic Calming**



The principal purpose to reducing the speed of traffic in residential areas is to protect all vulnerable road users, such as pedestrians. Copied below is an excerpt from the Ontario Traffic Manual Book 15 - Pedestrian Crossing Facilities:

### ***Pedestrians' Rights and Responsibilities***

*Notwithstanding the distinction between controlled and uncontrolled crossings, the rights and responsibilities for pedestrians are recognized in the Highway Traffic Act:*

- 1. In the absence of statutory provisions or bylaw, a pedestrian is not confined to a street crossing or intersection and is entitled to cross at any point, although greater care may then be required of him or her in crossing. However, pedestrians crossing the highway must look to ensure the crossing can be made safely or possibly be held responsible for any ensuing collision.*
- 2. Pedestrians must exercise due care even when they are lawfully within a crossing and have right-of-way. It is not an absolute right and they must still exercise care to avoid a collision with a vehicle.*
- 3. If there is a crosswalk at a signalized intersection, pedestrians have to walk within the crosswalk*

The above excerpt is stating whenever a pedestrian crosses a road they have a duty of care to themselves to cross when it is safe. It is important to remember under the Highway Traffic Act motor vehicles are only required to stop or yield to pedestrians at a controlled crossing such as traffic signals or pedestrian signals. At all uncontrolled crossings pedestrians must wait for a safe gap in traffic sufficient for them to cross before entering the road.

When an area is studied for traffic calming pedestrian crossing points are primary focus points, since this potential conflict point is exactly where you want drivers to slow down. The installation of traffic calming tools such as raised crosswalks, raised intersections, curb extensions does not change the rules of the Highway Traffic Act, pedestrians must still cross the road responsibly.

## **5.5 Types of Traffic Calming**

Traffic Calming for the purpose of this policy is broken into two categories:

- i. Passive, i.e. line markings and/or signage
- ii. Physical, i.e. intrusive treatments that modify the shape and/or form of the travel lanes making it uncomfortable for drivers to attain high speeds.

### **Passive Traffic Calming**

Passive traffic calming treatments are simple modifications in comparison to physical treatments. Passive modifications are intended to visually reduce effective lane width for a motorist and in most circumstances re-allocate some of road space to cyclists and on- street parking. These treatments



have proven to be capable of reducing 85<sup>th</sup> percentile operating speeds by up to 5 km/h in other municipalities.

Passive treatments are implemented on a proactive and reactive basis and are typically applied uniformly over the entire road section, unlike physical treatments which are best described as spot treatments. The modifications associated with passive calming treatments are typically well received by the public. Staff provides the public with advance notification, including a plan of the proposed modifications prior to implementation. This level of public interaction appears to work well for the application of passive traffic calming.

**Physical Traffic Calming**

Physical traffic calming can be broken down into three categories: (1) vertical deflections, (2) horizontal deflections; and (3) physical obstructions.

Vertical traffic calming measures provide an obstruction that vehicles are able to travel over. The change in pavement height (and sometimes pavement materials) can cause discomfort to the occupants of vehicles that are exceeding the design speed of the traffic calming measure.

Horizontal traffic calming tries to prevent vehicles from traveling in a straight line at excessive speeds by using measures such as raised islands and curb extensions.

Physical obstructions involve a full or partial closure of the road.

Physical traffic calming measures that restrict or divert or divert traffic or introduce significant vertical deflections into the street should not be implemented on arterial or rural roadways as physical traffic measures are inconsistent with the typical role and function of these roads.

Examples of passive and physical traffic calming techniques are listed in **Table 1**. A more detailed explanation of the traffic calming devices listed below, including the advantages and disadvantages can be found in **Appendix B**.

**Table 1 – Applicability of Traffic Calming Measures in Pelham**

<b>Traffic Calming</b>	<b>Road Classification</b>			
<b>Technique</b>	Local Road	Collector Road	Arterial Road	Rural Road
<b>Passive and Mitigating Measures</b>				
<b>Education</b>	Yes	Yes	Yes	Yes
<b>Community Entrance Sign</b>	Yes	Yes	Yes	Yes



<b>Textured Crosswalk</b>	Yes	Yes	Yes	No
<b>Targeted Enforcement</b>	Yes	Yes	Yes	Yes
<b>Speed Display</b>	Yes	Yes	Yes	Yes
<b>On Street Parking</b>	Yes	Yes	Yes	No
<b>Road Diet</b>	Yes	Yes	Yes	No
<b>Physical Vertical Deflection</b>				
<b>Speed Cushion</b>	Yes	Yes	No	No
<b>Raised Intersection</b>	Yes	Yes	No	No
<b>Raised Crosswalk</b>	Yes	Yes	No	No
<b>Speed Table</b>	Yes	Yes	No	No
<b>Speed Hump</b>	No	No	No	No
<b>Physical Horizontal Deflection</b>				
<b>Curb Extension</b>	Yes	Yes	Yes	No
<b>Curb Radius Reduction</b>	Yes	Yes	No	No
<b>Neighbourhood Traffic Circle</b>	Yes	Yes	No	Yes
<b>Centre Island Median</b>	Yes	Yes	Yes	Yes
<b>One-Lane Chicane</b>	Yes	Yes	No	No
<b>Lateral Shift</b>	Yes	Yes	Yes	No
<b>Roundabout</b>	Yes	Yes	Yes	Yes
<b>Physical Obstruction</b>				
<b>Directional Closure</b>	Yes	Yes	No	No
<b>Raised Median Through Intersection</b>	Yes	Yes	Yes	No
<b>Right-in/Right-out Island</b>	Yes	Yes	Yes	No
<b>Intersection Channelization</b>	Yes	Yes	Yes	No
<b>Diverter</b>	Yes	Yes	No	No
<b>Full Closure</b>	Yes	Yes	No	No

## 5.6 Streets That Qualify of Traffic Calming

Traffic calming will only be considered on local, collector and rural roads, and not on arterial roadways in the Town. Through application of this policy and by applying good engineering judgment, traffic calming measures, when deemed prudent, will be installed in a manner that will ensure they provide the most effective solutions while continuing to support the intended function of the roadway



## 5.7 Policy Guidelines

The following guidelines will be considered when investigating, selecting and implementing traffic calming measures. These guidelines will ensure that the appropriate measures are considered and the potential negative impacts are minimized. Following these guidelines will maximize the effectiveness of traffic calming while building community acceptance and support for the final recommendations.

Traffic calming measures will:

- Be considered only after education, enforcement and traffic engineering efforts have failed to produce the desired results.
- Be considered when there is a demonstrated safety, speed or short-cutting traffic concern and acceptable alternative measures have been exhausted.
- Be considered and prioritized in areas surrounding pedestrian generators such as; schools, playgrounds, retirement homes, and libraries.
- Include consideration as to whether an area-wide plan versus a street-specific plan is more suitable: an area wide plan should be considered if a street-specific plan would likely result in displacement of traffic onto adjacent streets.
- Be predominantly restricted to two lane roadways (one lane of through traffic in each direction) and a posted speed limit no greater than 50 km/h.
- Not impede non-motorized, alternative modes of transportation and be designed to ensure pedestrian and cycling traffic is unaffected.
- Not impede Emergency and Transit services access unless alternate measures are agreed upon.
- Maintain reasonable automobile access to Town roads.
- Only be installed after Engineering staff has investigated existing traffic conditions and the necessary approvals have been received.
- Be monitored; follow-up studies will be completed to assess effectiveness and the results will be communicated to the community and Council.

## 6. Traffic Calming Process

The following process will be used when proceeding with a request for traffic calming. An established and formal process for investigating roads provides consistency and equality in the determination of whether traffic calming is warranted in a given location.

### 6.1 Public Input

In order for traffic calming to achieve the goal of restoring residential streets to their intended purpose, community involvement and support is paramount. Throughout the process, residents are encouraged to participate in the development of a traffic calming plan suitable to the neighbourhood and the concerns within it.



Before an area is considered for traffic calming a signed petition must be received by the Town showing a minimum of 25% support for traffic calming measures. If the petition does not show the required level of interest, the area will not qualify for traffic calming.

Later in the process, after passive measures have failed to address the traffic concerns, area residents will be asked by survey or at a Public Information Centre (PIC) for input on minor adjustments into a proposed physical traffic calming plan for the area.

In order for a traffic calming plan to be approved it must be circulated amongst all impacted area residents and must receive a majority response rate in favour from all residents surveyed before being considered for implementation.

The benefit of community involvement is that it generates support for a traffic calming program and assists in the implementation of a plan without significant opposition upon completion. Community involvement also enhances the credibility of the traffic calming program, particularly when it is eventually presented to Council for approval.

## 6.2 Process Initiation and Pre-Screening

Residents with traffic related concerns are instructed to submit their written request to investigate traffic calming within their neighbourhood to the Town. Staff will then conduct a brief preliminary assessment to determine if the requested roadway meets the Initial Screening Criteria, shown in **Table 2**.

**Table 2:** Traffic Calming Pre-Screening Assessment

1.	Is this a Local, Rural or Collector Road?	Pass	Fail
2.	Is the AADT (annual average daily traffic) >1000	Pass	Fail
3.	Is the posted speed 50km/h?	Pass	Fail
4.	Has the road been assumed?	Pass	Fail
5.	Is the road section primarily residential?	Pass	Fail



6.	Does the street provide an obvious by-pass to a major intersection or road?	Pass	Fail
7.	Is the section of road longer than 200m?	Pass	Fail
8.	Have any previous efforts been made within the last 12 months?	Pass	Fail

If the roadway fails any of the 8 areas listed in the pre-screening it does not qualify for physical traffic calming.

### 6.3 Traffic Calming Ineligibility based on Pre-screening

For locations not meeting the above-noted initial screening criteria, staff will consider front-line mitigating measures to address the neighbourhood traffic concerns. These methods could include tools such as the use of driver feedback boards, targeted police enforcement, sign installation and pavement marking modifications.

Front-line mitigating measures very rarely require public involvement such as surveys and public meetings. However, they may require monitoring and evaluation to assess their effectiveness. Details regarding front-line mitigating measures are provided in **Appendix B**.

### 6.4 Traffic Calming Neighbourhood Petition

After it has been determined that the requested location meets the initial assessment criteria, a petition will be distributed to the residents within the impact area. The Town is responsible for the initiation, distribution and collection of the Traffic Calming petition to ensure consistency of the process by managing the collection of public input and this will be done in a manner that incorporates community involvement. An example of a petition letter is shown in **Appendix C**. The focus of the petition will centre on whether or not there is neighbourhood support for the Town to initiate an investigation into the need for traffic calming on the requested roadway.

A minimum of twenty-five percent (25%) of property owners within the impact area must indicate their approval by signing the Traffic Calming Petition. The signatures must come from households with direct frontage or flankage onto the section of roadway that has been identified as the location for the potential implementation of traffic calming measures, as defined by Engineering staff.

Each household is represented by one signature, regardless of the number of people in the household. This step in the process is crucial in determining the level of concern from the residents.



Failure to meet the 25% support level will result in termination of the investigation; meeting the required 25% support level will trigger the commencement of a traffic calming study.

The Town shall allow twenty-eight (28) days for the petition to be returned. Day zero (0) is the date on which the Town delivers the Traffic Calming Petition to the citizen representative.

- a. If petition approval is achieved, the evaluation phase begins.
- b. If twenty-eight (28) days elapse and petition approval has not been achieved, the roadway will not be considered for traffic calming for twelve (12) months.

## 6.5 Data Collection

Once a successful petition is received the collection of data is scheduled based on a priority list. The Town shall collect information and data along roadway(s) in the project as deemed necessary by Engineering staff to qualify and quantify the extent of the local traffic problem. The data collection may include any of the following:

- Vehicle volume count to determine 24-hour traffic
- Speed study to determine existing speed data
- Classification count to determine heavy vehicle traffic
- Collision data for the most recent three (3) years (if available)
- Study to quantify cut-through traffic, if determined necessary by staff
- Existing roadway conditions (e.g. pavement condition, signing, marking)
- Pedestrian activity
- Presence of sidewalks on one or both sides of the road
- Presence of special pedestrian generators such as schools, seniors homes, playgrounds, etc. in the area

A review of the data will be completed using recognized engineering standards. Once collected and summarized, the data will be utilized in the point assessment system to determine a total point value. This assessment will be used to determine the need for traffic calming and assist in setting priority for locations of consideration.

## 6.6 Point Assessment System

The point assessment system is a screening process focused on the various attributes of a roadway in order to quantify its potential need for traffic calming. By means of assigning weighted points based on the severity of certain road attributes (e.g. 85th percentile speed), this process will bring to the forefront roadways requiring consideration while quantifying the current conditions. A point assessment system is provided in **Appendix D**.

The point assessment system will also be used to prioritize locations for consideration. Those locations with an extremely high point assessment will be given priority based on the quantitative



nature of the point assessment system. Depending on funding availability, locations will be selected based on the point system with those locations with the highest points constructed first. If funding does not permit all locations to be constructed in one year, roadways will be carried forward to the next year when they will then be re-prioritized to include any new locations.

The minimum number of points required to proceed with the investigation of traffic calming measures differs based on the classification of roadway. In keeping with the objective of restoring roadways to their intended function, local and collector roadways are designed and expected to convey varying levels of traffic volume. This, in turn, has a bearing on the minimum point value required to proceed, as traffic volume is a major consideration. Based on this, the following are minimum point values for each road type:

Local road - minimum 35 points

Collector road - minimum 52 points

Should a location fail to meet these requirements, residents will be notified in writing and the investigation for traffic calming measures will discontinue. However, staff will continue to address the concerns of the residents by means of the front-line mitigating measures.

## **6.7 Traffic Calming Design Considerations**

The data collected combined with site visits, historical information, future maintenance and construction plans, as well as resident feedback will be taken into consideration to determine potential traffic calming measures.

Appropriate traffic calming measures will be determined based on the list of traffic calming measures outlined in **Appendix B** of this policy. The traffic calming design could include one or more different types of traffic calming techniques. The proposed traffic calming measures will be in accordance with the design Guidelines found in the Canadian Guide to Neighbourhood Traffic Calming, engineering judgement and experience of staff.

The preferred design will first be presented to emergency and/or roads operations services. It will then be presented at a public meeting. After any required modifications to the preferred design as a result of public input, a traffic calming survey will be delivered to affected residents.

## **6.8 Comments from Emergency/Transit and Roads Operations**

Staff will provide the preferred design to the relevant review agencies (e.g. emergency and transit services). Comments from the potentially affected services will be solicited and feedback with respect to possible impacts will be encouraged. As required, Town staff will work with agencies to modify the design, as necessary. While it is preferable to modify the traffic calming design, if modifications are not able to remedy agency concerns, the traffic calming process will be discontinued for the roadway under consideration and residents will be notified.



## **6.9 Public Information Centre & Public Notice**

Staff will host a Public Information Centre (PIC) to present the purpose, objectives and implementation process of traffic calming in general. The PIC notice will be circulated to all residents who live within the affected area, which may include adjacent streets, as determined by staff. Staff will then present and explain the rationale behind the specific preferred traffic calming design. The public meeting will provide residents with an opportunity to become involved in the process, learn more about the proposed traffic calming treatment(s) and to provide their feedback. Each plan will include a procedure to communicate with and engage the neighbourhood, in keeping with the Council Policy on Community Engagement and its principles.

Notification of the meeting will be published in a newspaper and through other social media network, including Town website, Facebook and Twitter. The purpose of this notice will be to provide notification to the public regarding the meeting date, time and location. It will also present an opportunity to solicit comments on the alternative traffic calming measures.

## **6.10 Resident Notification**

Residents will be notified that traffic calming has been either approved or not approved by the Town on the subject roadway. The notice will be sent to the same mailing list used to deliver the traffic calming survey and any other persons having requested notification throughout the process.

## **6.11 Finalize Preferred Traffic Calming Plan**

Using technical data, community feedback, and in keeping with the goals, objectives and principles set out in this policy, staff will finalize the preferred traffic calming design to be put forward as the recommended preferred traffic calming plan. In finalizing the preferred traffic calming plan, general consideration will be given to the various aspects of road design such as utility placement, landscaping, sign requirement and drainage.

If, during the detailed design stage, limitations are identified which challenge the feasibility of the plan, alternatives will need to be considered. This may include alterations or a re-development of the preferred plan. If significant or major changes to the plan are required due to design constraints, agencies and residents on the mailing list will be consulted and notified of any changes. If staff believe that the required modifications to create the detailed design result in a significantly different final design from that which was presented to residents, staff may recommend additional agency consultation, and/or public meeting.

## **6.12 Implementation of Traffic Calming Measures**

Upon approval of Council, resident notification, and sufficient funding, traffic calming measures will be implemented. Residents will be notified of implementation timelines through the contact mailing list. Where feasible, staff may decide it is beneficial to phase in the traffic calming plan through the use of



temporary or removable traffic calming measures such as pavement markings or flexible delineators. This will allow time to examine the impact of the measures and their effectiveness before committing funding to permanent treatments.

### **6.13 Evaluation and Monitoring**

Engineering staff will monitor the roadway to determine the effectiveness of the utilized measures and their impact on the surrounding road network. This information will be used in recommending similar measures in the future. In addition to conducting before and after speed studies the Town will conduct studies to assess if the traffic calming plan has resulted in significant amounts of traffic diverting to adjacent, parallel streets in some cases. These after studies will be compared with the Town's 'before' studies to determine the change in traffic volume.

### **6.14 Removal of Traffic Calming Measures**

Traffic calming devices may only be removed at the direction of Council through the Traffic Calming Removal process. Traffic calming measures must be installed for at least 2 years before starting the process to remove them.

A minimum of twenty-five (25) percent of property owners within the impact area must indicate their approval by signing the Traffic Calming Removal Request. The signatures must come from households with direct frontage or flankage onto the section of roadway that has been identified as the location for the potential implementation of traffic calming measures, as defined by Engineering Staff. Each household is represented by one signature, regardless of the number of people in the household.

When Staff receives a successful petition, a survey will be sent out to all the area residents who were initially surveyed. The survey will be delivered to the same residents as was initially done to gauge support for traffic calming. The survey must indicate majority of respondents surveyed agreeing to the removal for the process to continue.

If the results of the survey show a majority support for the removal, staff will consult with any pedestrian generator within a 1km radius of the traffic calming measure, as well as other known stakeholders for comment. The successful petition and stakeholder comments will be reported to Council for direction on the removal of traffic calming measures.

If a request to remove a single traffic calming device, within an overall traffic calming plan, is received, all traffic calming devices will be considered for removal. Depending on circumstances, it could be possible to remove a single device constructed as part of an overall plan, however, in most cases all devices work together to be effective and to ensure that traffic is not diverted where it should not be.

The Town reserves the right to remove traffic calming measures if it determines that they are ineffective or unsafe, or if they have created a negative impact that cannot be corrected.



If traffic calming devices are removed, the subject street must wait at least 2 years before requesting a new traffic calming plan; at this point the approval process will start over.

## **6.15 Special Provisions**

### Traffic Calming Process Initiation

Under certain circumstances the Traffic Calming Process may be initiated by Staff without; receiving a written request from a local resident, completing a Traffic Calming Pre-Screening Assessment or distributing a Neighbourhood Petition (Sections 6.2 to 6.4).

The Traffic Calming Process may be initiated by Staff:

- If changes to the transportation network within the Town of Pelham, the Niagara Region and neighboring municipalities have resulted in increased speed, pedestrian safety concerns and cut through traffic on local, collector and rural roads.
- Upon request from a school, school board, senior living centre, or other municipal committee.
- If operational issues including excessive speed, cut through traffic, and pedestrian safety problems have been observed, or known to exist.
- As directed by Council.

Traffic calming processes initiated by staff must complete the following sections prior to implementation:

- 6.5 Data Collection
- 6.6 Point Assessment
- 6.7 Initial Traffic Calming Design
- 6.8 Internal Comments
- 6.9 Public Information Centre
- 6.10 Resident Notification
- 6.11 Finalized Traffic Calming Plan
- 6.12 Implementation of Traffic Calming
- 6.13 Evaluation and Monitoring

### Removal of Traffic Calming Measures

In certain locations where temporary traffic calming measures are installed and removed as part of a seasonal traffic calming plan, once the plan receives approval of Council, traffic calming measures may be installed and removed as directed by staff.



## Appendix A – What is NOT Traffic Calming

According to the Canadian Guide to Neighbourhood Traffic Calming, prepared by the Institute of Transportation Engineers (ITE) and the Transportation Association of Canada (TAC) the following examples are not to be used to calm traffic:

### Unwarranted All Way Stop

- Creates higher traffic speeds between stop signs. Studies have determined the speed is only reduced for 100 m on either side of the intersection.
- Results in poor compliance with stop signs due to driver frustration.
- Results in more frequent rear-end collisions caused by low percentage of motorists who actually do come to a complete stop.
- Requires frequent police enforcement as motorists do not stop, a drain on manpower resources.
- Potential risk to pedestrians **especially children and seniors** crossing an intersection, since not all motorists approaching an intersection will stop.
- Motorists get in the habit of stopping at unwarranted all-way stop locations, than assume at a 2 way stop cross traffic is going to stop and pull out in front of an opposing vehicle which results in a collision.

In light of the above, all-way stops should not be used as a tool to calm traffic. There are established criteria for all-way stop control based upon the numbers of pedestrians and vehicles sharing an intersection, the collision history and visibility. When these criteria are followed, risks are minimized and new safety concerns are not created. There have been numerous studies completed in North America which have validated all of the above findings.

### 40 km/h Speed Zone

- People travel at a speed they feel comfortable based on the environment though which they are driving regardless of the posted speed limit.
- Compliance with an artificially reduced speed is only achieved with consistent and visible police enforcement, a resource which is not always available.
- Collisions, when they occur, can be more significant due to the differences in speed between vehicles.
- Pedestrians may perceive the roadway to be safer due to the reduced speed limit. This false sense of security may lead pedestrians that are crossing the roadway to not be as cautious as they would be otherwise.

### 'Children at Play' Sign

- Many signs in residential areas, which are installed to 'warn' people of normal conditions, fail to improve safety.



- Warning signs can be effective tools if used sparingly and only to warn motorists of uncommon hazards that are not apparent to motorists.
- 'Children at Play' signs can give parents a false sense of security since motorists often disregard these signs.
- Children playing in the streets, while common place, is dangerous and prohibited in the Highway Traffic Act and the Traffic By-law.
- Since children live on nearly every residential block, 'Children at Play' signs would need to be placed on every roadway.
- Residential blocks with no signs might imply that no children live there, so it is acceptable to exceed the posted speed limit.

### **Speed Limit Sign**

- The posted speed limits for roadways are typically established based upon recognized engineering criteria related to the roadway design.
- Posted speed limits, which do not match the characteristics of the roadway frustrate motorists and tend to foster aggressive driving habits. There are several examples where speed concerns exist primarily as a result of assigned speed limits that neither reflects the design speed nor the operating conditions of the roadway. Large discrepancies between posted speed limits and operating speeds can create a false sense of security for all road users, including pedestrians and places an additional enforcement burden on the Police.
- Reducing posted speed limits, without changing the characteristics of the roadway to encourage reduced speeds has been shown to have a minimal impact on vehicle operating speeds.
- Posted speed limits should be implemented in a consistent manner so that the speed limits maintain a level of credibility and compliance when the posted speed limit is applied properly. Reduced speed limits seem to provide the greatest result in situations when they are self-enforcing.
- Additional signage and/or adjusting the posted speed limit of a roadway are not considered to be traffic calming measures.

### **Rumble Strip**

A Rumble Strip is a raised pavement section that can be closely spaced along a roadway at regular intervals. Rumble strips are a road safety feature used to caution inattentive motorists of potential danger. As the motorist travels over the rumble strips, the vehicle experiences both noise and vibration to alert the motorist.

They are typically installed along freeways and higher speed roadways to alert motorists that may begin to veer from the travel lane to the shoulder. Their purpose is to reduce the number of vehicles that depart the roadway; this is a common example of rumble strips used to enhance safety. Rumble strips can also be installed across the travel lane itself when unusual conditions exist ahead.

Rumble Strips can be installed along the travel lanes of a higher speed roadway that contains an isolated all-way stop controlled intersection. A motorist may grow accustomed to traveling at a certain speed and



otherwise may not expect to stop; the purpose of the rumble strip is to alert the driver. This is a common example of rumble strips to alert motorists of a condition that is unusual to a specific roadway.

Rumble strips should not be used as traffic calming measures. These measures become less effective over time as the motorists grow accustomed to them. Rumble strips also increase noise levels for nearby residents and commonly require additional maintenance.

### **Speed Bumps**

These measures should not be confused with speed humps. Speed bumps are vertical obstructions often found in privately-owned parking lots (shopping centers, schools, condominium complexes, parks, etc). Speed bumps typically measure between 75 mm and 100 mm in height and 3 m in length, and are often designed for a design speed that is much lower than a typical posted speed limit along a public roadway.

Traffic calming measures should be designed and implemented with the purpose that vehicles will be able to comfortably travel at the posted speed limit. In contrast, speed bumps require vehicles to travel much slower to attain a comfortable travel speed. The necessary braking and slow speeds can create a safety hazard, possibly causing rear- end collisions.

In summary, speed bumps should not be installed on public roads and are not considered to be a traffic calming measure.

## **APPENDIX B – Traffic Calming Techniques**

### **PASSIVE & MITIGATION MEASURES**

Passive traffic calming measures do not require construction of physical modifications to the roadway. Passive traffic calming often results in lower cost and prevents constructing a more-permanent change to the roadway. Physical (vertical and horizontal) traffic calming measures will be considered by the Town when either the passive measures have not alleviated the Neighbourhood concerns or the Town determines the need for their installation.



Passive traffic calming measures include education, targeted speed limit enforcement, radar trailer placement, dynamic speed display signs, and speed legends.

## Education

Activities that change people's perceptions and help alter driver behaviour are most preferred. Meetings and workshops with neighbours and the Town can help implement and direct traffic calming applications. Most traffic problems are a result of human behaviour. Through outreach programs and Neighbourhood watch programs such as the Active and Safe Routes to School program, residents can play a big part in spreading the information.

### Advantages:

- Flexible in the duration of meetings, workshops, etc.
- Inexpensive compared to other alternatives

### Disadvantages:

- Difficult to measure the effectiveness
- May take time to be effective
- Potential challenge in generating citizen participation

## Community Entrance Signs



The "Drive Slowly... Think of Us" sign is purely informational and as such, is intended to serve as a reminder to motorists that they are entering a residential area where the residents are concerned about the safety and integrity of the neighbourhood.

As the over use of any traffic control device or sign can have a negative effect on motorist activities, the Engineering Services Department limits the placement of community entrance signs using the following principles/guidelines:

Limits its installation to entrances to residential neighbourhoods off collector and arterial roadways where the neighbourhood experiences a degree of non-residential through traffic.

The sign is meant to serve as a reminder for motorists to "turn off" the highway driving mode and to be aware that they are entering a residential area where reduced speeds are required to negotiate vehicles entering and exiting driveways as well as the potential for children to be playing adjacent to the roadway.

## Textured Pavement



Textured pavement and stamped asphalt can be used alone as a traffic calming measure or in combination with other physical measures. Drivers typically slow down when crossing textured pavement due to vibration created by the pavement surface. However, this also creates considerable noise that may be a disadvantage for neighbours.



Textured Pavement

Advantages:

- Pleasing visual aesthetics

Disadvantages:

- Noise pollution
- Higher cost
- Not as effective in reducing speeds



Textured Pavement



## Targeted Speed Limit Enforcement

The Niagara Region, through the Niagara Regional Police (NRP), can provide targeted speed limit enforcement in response to identified operational issues. Targeted speed limit enforcement purpose is to make drivers more aware of their speed within a residential area. This measure typically only provides a temporary benefit, since speed limit enforcement is not available on a regular, on-going basis.

The Niagara Regional Police Service has set up a hotline to allow citizens to provide feedback on traffic safety issues. The hotline allows the public to provide information on where traffic is dangerous, problems you're encountering on the roads, and other traffic safety complaints. This initiative doesn't replace existing methods of dealing with accidents and other traffic issues, but serves as an additional way of reporting incidents you may have witnessed or become aware of. By the public and police working together, the Niagara Region becomes a safer place for everyone.

Speeding and other traffic issues may be reported to the NRP utilizing the traffic hotline: 905-688-4111, ext. 5555. Or website: <https://niagarapolice.formbuilder.ca/Public-Website/Traffic-Complaint>

### Advantages:

- Does not require time for design
- Does not slow emergency vehicles
- Effective in reducing speeds in a short timeframe

### Disadvantages:

- Effectiveness may be temporary
- Expensive to maintain a continued program of enforcement
- Fines lower than enforcement cost
- Time and resources constrained

## Speed Display

A dynamic speed display sign performs the same function as a radar trailer, but is meant to be installed as a permanent device. Real-time speeds are relayed to drivers and flash when vehicle speeds exceed the posted speed limit. Dynamic speed display signs are typically placed in on a street for a period of 1 week. The Town has one (1) mobile unit which is rotated through a number of locations during the spring, summer and fall. A higher priority is placed on locations with younger or older pedestrians. Portable speed display signs can also be utilized but only for a short durations.

### Advantages:

- Relatively Inexpensive



- Does not require time for design
- Does not slow emergency vehicles
- Effective in reducing speeds in a short timeframe

#### Disadvantages:

- Requires power source
- Requires staff for set-up and removal
- Only effective for one direction of travel
- Long-term effectiveness is uncertain
- Subject to vandalism



Portable Speed Display Sign

### **On Street Parking**

Most roads within residential areas are built wide enough to allow on street parking on at least one side of the road. Area residents often create the opportunity to speed by introducing No Parking zones. Eliminating parked vehicles from your street significantly increases the width of the road and will increase the speed of local traffic. There have been studies done in North America which have shown the introduction of a No Parking zone increased the speed of traffic by 20%. On Street Parking is not permitted between November 1st and April 1st during Winter Operations.

### **Road Diet**

A road diet refers to using pavement markings to make the travel portion of the road narrower, typically introducing bike lanes and or parking lanes. Passive speed control measures such as pavement markings attempt to change the fundamental sensory information available to drivers to influence their speed behaviour. By adding markings to the road, drivers' perceptions can be distorted creating the illusion that they are driving faster than they really are, persuading drivers to slow down.



Additionally, the new road markings can serve as a warning sign; because these pavement patterns are mostly unfamiliar to road users, they violate driver expectancy causing motorists to decelerate.



Road Diet  
(Including On Street Parking and Bike Lanes)



## PHYSICAL VERTICAL DEFLECTION

Vertical traffic calming measures provide an obstruction that vehicles are able to travel over. The change in pavement height (and sometimes pavement materials) can cause discomfort to the occupants of vehicles that are exceeding the design speed of the traffic calming measure. It should be noted that most vertical traffic calming measures are not preferred along roadways that are emergency vehicle routes or transit routes.

To reduce the chances of potential liability issues, vertical traffic calming measures should be signed and marked in accordance with reference material provided by the Institute of Transportation Engineers (ITE) and the Neighbourhood Traffic Calming (TAC).

Vertical traffic calming measures typically perform better when they are installed in a series, as opposed to a single isolated measure. The deceleration and acceleration of a vehicle, while negotiating a series of vertical traffic calming measures, is dependent on the number and spacing of the installations.

The implementation of vertical traffic calming measures can result in some traffic diverting onto parallel streets. This essentially moves the cut-through problem instead of solving it. Consideration should be placed on the concept of improving the Neighbourhood (not just improving the street).

Vertical traffic calming measures include speed humps, speed cushions, speed tables, raised crosswalks, raised intersections, and textured pavements.

### Speed Cushion

Speed cushions are narrower speed humps that are typically installed in the center of each travel lane. Speed cushions typically are six (6) feet in width. Speed cushions typically range in length between seven (7) and ten (10) feet. Passenger vehicles will traverse the speed cushions in the same manner as a speed hump. However, emergency vehicles are able to straddle the speed cushions due to their wider wheel track. Thus, response times for emergency vehicles are not increased as much (if at all).

#### Advantages:

- Less expensive than speed humps
- Effective in reducing vehicle speed
- Does not impact emergency vehicle response time as much as speed humps

#### Disadvantages:

- Increases noise and air pollution in Neighbourhood
- Passenger vehicles with larger axle widths may be able to straddle the speed cushions
- May be damaged by snow plows



Speed Cushions

**Raised Crosswalks**

Raised crosswalks have a similar shape to a speed table, but the flat top contains a striped pedestrian crosswalk. These measures should be elevated to a height that matches the adjacent sidewalk, such that the raised crosswalk is flush with the curb or top of sidewalk elevation at each end. Raised crosswalks must be installed with the appropriate sidewalk transitions on both sides.

Advantages:

- Provides a more visible pedestrian crossing
- Quicker response time for emergency vehicles than speed humps
- Effective in reducing vehicle speed, but not as well as speed humps
- Addition of brick or textured materials can improve aesthetics



Raised Crosswalks

Disadvantages:

- More expensive than speed humps
- Increases response time for emergency vehicles
- Increases noise and air pollution in Neighbourhood
- May be damaged by snow plows



NOTE: Lack of sidewalk infrastructure may result in a raised crosswalk not being applicable in the Town. Raised crosswalks can be constructed without the presence of sidewalks, as long as there are AODA-compliant pedestrian landing areas with detectable warning strips on both ends of the raised crosswalk

## Speed Tables

Speed tables are flat-topped speed humps. Speed tables typically measure between three (3) and four (4) inches in height and 22 feet in length, with the flat portion being ten (10) feet in length. Speed tables are typically long enough for the entire wheelbase of a passenger car to rest on the flat top. Their long flat fields give speed tables higher design speeds than speed humps. The brick or other textured materials are usually used on the flat top to improve the appearance of speed tables, draw attention to them, reduce speed, and may enhance safety. Like speed humps, discomfort increases as the speed of the vehicle traveling over the hump increases. Speed tables are good for locations where low speeds are desired but a somewhat smooth ride is needed for larger vehicles.

### Advantages:

- Quicker response time for emergency vehicles than speed humps
- Effective in reducing vehicle speed, but not as well as speed humps
- Addition of brick or textured materials can improve aesthetics

### Disadvantages:

- More expensive than speed humps
- Increases response time for emergency vehicles
- Increases noise and air pollution in Neighbourhood





## Speed Tables

### Speed Humps

Speed humps are raised areas of pavement which are rounded on top and placed cross the entire street. Speed humps typically measure between 75 and 100 millimeters in height and 10m in length. The height and length of the speed hump determines how fast it can be navigated without causing discomfort to the driver. Discomfort increases as the speed of the vehicle traveling over the hump increases.

#### Advantages:

- Low Cost
- Effective in reducing vehicle speed

#### Disadvantages:

- Unsupported by Emergency Services
- Increases response times and damage to emergency vehicles
- Negative impact on Transit buses
- Increases noise and air pollution in Neighbourhood
- May be damaged by snow plows



Speed Humps



## HORIZONTAL TRAFFIC CALMING MEASURES

Horizontal traffic calming measures incorporate raised islands and curb extensions to prevent vehicles from traveling in a straight line at excessive speeds. Vehicles either slow down while maneuvering around the horizontal obstacle, or slow down due to the physical perception of a narrower roadway. To reduce the chances of potential liability issues, horizontal traffic calming measures should be signed and marked in accordance with reference material provided by the Institute of Transportation Engineers (ITE) and the Transportation Association of Canada (TAC).

The implementation of horizontal traffic calming measures can result in some traffic diverting onto parallel streets. This essentially moves the problem instead of solving the problem. Consideration should be placed on the concept of improving the Neighbourhood (not just improving the street).

Horizontal traffic calming measures include Neighbourhood traffic circles, roundabouts, chicanes, lateral shifts, centre medians and curb extensions.

### **Curb Extension**

Curb Extensions reduce the roadway width at intersections and midblock locations, thereby reducing speeds when drivers experience the physical perception of a narrow roadway. Curb extensions offer the more important benefit of improving pedestrian safety by providing a refuge and shortening the crossing distance. Curb extensions have been found to be very effective in school zones where they offer the third benefit of defining the parking area.

#### Advantages:

- Encourages a safer pedestrian environment by providing a shorter crossing distance and increased visibility
- Very effective in front of elementary schools in addressing pick-up, drop off parking issues
- Prevents parking too close to intersections keeping sight lines open
- Opportunity for landscaping and improved aesthetics

#### Disadvantages:

- Effectiveness is limited by the absence of vertical deflection and if traffic volumes are low
- Difficult for right-turning emergency vehicles
- Increased cost for maintenance of landscaping if it exists
- May require bicyclists to briefly merge with vehicular traffic



Curb Extension(s)

### **Curb Radius Reduction**

The Curb Radius Reduction is the reconstruction of an intersection corner to a smaller radius. This measure effectively slows down right-turning vehicle speeds by making the corner 'tighter' with a smaller radius. A corner radius reduction may also improve pedestrian safety to a certain degree by shortening the crossing distance. This type of measure is acceptable primarily on local roads and to a lesser extent on collector roadways; its use is often limited to specific situations where the existing intersection geometry would allow the reconstruction. In addition, curb radius reductions should not be used on transit routes requiring a right turn.

#### **Advantages:**

- Shortens pedestrian crossing time
- Forces vehicles on approach to come to a full stop

#### **Disadvantages:**

- Large axle vehicles are unable to negotiate the turn without driving over the sidewalk



## Neighbourhood Traffic Circle

Neighbourhood traffic circles are raised islands placed in intersections, forcing traffic to circulate around the raised island. The traffic circle is typically circular in shape and can include landscaping within the raised island. The raised island in the center of the intersection typically measures between 16 and 24 feet in diameter. Neighbourhood traffic circles can be controlled by YIELD signs on all approaches, STOP signs on all approaches, or a combination of free-flow conditions along the major street and STOP signs along the minor street. Traffic circles prevent drivers from speeding through intersections by impeding the through movement. Neighbourhood traffic circles are most effective when there is vertical planting material in the center. This adds to its visibility to the driver and provides aesthetics to the Neighbourhood.

### Advantages:

- Effective in reducing vehicle speed
- Can reduce severity of motor vehicle collisions
- Opportunity for landscaping and improved aesthetics

### Disadvantages:

- Difficult for left-turning emergency vehicles
- Possible need for right-of-way, depending on size of raised island
- Increased cost/labor for maintenance of landscaping



Neighborhood Traffic Circle



## Center Island Median

Center island medians are raised islands located along the centerline of a street that narrow the travel lanes at that location. The presence of a median, resulting in a smaller roadway width, reduces speeds when drivers experience the physical perception of a narrow roadway. The medians can be landscaped to provide visual amenity.

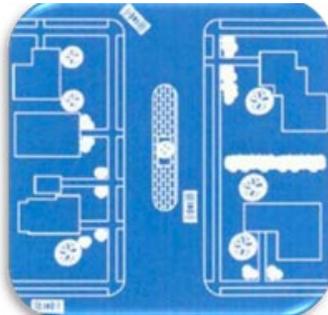
The median island can act as a “gateway” when placed at the entrance to a neighbourhood. A median island of adequate width can also be referred to as a “pedestrian refuge” if located at a crosswalk and the median is accommodating for pedestrians.

### Advantages:

- If designed well, can have a positive aesthetic value
- Opportunity for landscaping and improved aesthetics

### Disadvantages:

- Effectiveness is limited by the absence of vertical deflection
- May interrupt driveway access to adjacent properties
- Increased cost for maintenance of landscaping



Centre Island Median(s)

## Chicane

Chicanes are curb extensions that alternate from one side of the street to the other, creating S-shaped travel patterns. Raised landscaped islands or delineators are usually provided at both ends of a chicane in order to enhance the drivers awareness of the need for a lateral shift.

Along a section of roadway that contains a chicane; off-street parallel parking may be restricted along property frontages due to curb and gutter.

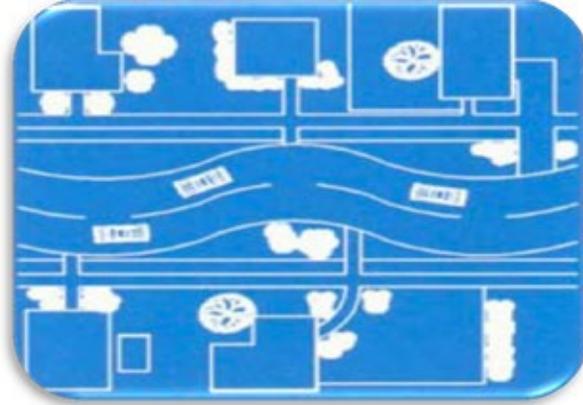
### Advantages:

- Discourages high speeds by forcing horizontal deflection
- Easily negotiable by emergency vehicles
- Opportunity for landscaping and improved aesthetics



#### Disadvantages:

- Must be designed carefully to discourage drivers from deviating out of the appropriate lane
- Curb realignment and landscaping can be expensive, especially if there are drainage issues
- Increased cost for maintenance of landscaping



Chicane

#### Lateral Shift

Lateral shifts can be described as one half of a chicane. Curb extensions or pavement markings are provided on otherwise straight streets that cause travel lanes to bend one way and then bend back the other way to the original direction of travel. With the appropriate degree of deflection, lateral shifts are one of the few measures that have been used on collectors or even arterials. When high traffic volumes and high posted speed limits prevent the use of other traffic calming measures, lateral shifts can be considered.

#### Advantages:

- Can accommodate higher traffic volumes than many other traffic calming measure
- Discourages high speeds by forcing horizontal deflection
- Easily negotiable by emergency vehicles
- Opportunity for landscaping and improved aesthetics

#### Disadvantages:

- Must be designed carefully to discourage drivers from deviating out of the appropriate lane
- Curb realignment and landscaping can be expensive (pavement markings are less expensive)
- Increased cost for maintenance of landscaping



Lateral Shift - With Road Paint

## Roundabouts

Unlike traffic circles, roundabouts are larger and typically require additional right-of-way. The central island diameter of a single-lane roundabout can measure between 55 and 110 feet. Roundabouts require raised splitter islands to channel approaching traffic to the right. Roundabouts are found primarily on arterial and collector streets, often substituting for intersections that are controlled by traffic signals or all-way stop signs.

### Advantages:

- Moderates traffic speed on an arterial, collector, or local road
- Enhanced safety compared to a traffic signal
- Less expensive to operate than a traffic signal Opportunity for landscaping and improved aesthetics

### Disadvantages:

- May require major reconstruction of an existing intersection
- Increases pedestrian distance from one crosswalk to the next
- Difficult for visually impaired pedestrian to navigate
- Increased cost for maintenance of landscaping



Roundabout(s)

### **Curb Face Sidewalk**

A curb face sidewalk is a wider than normal sidewalk retrofitted into an older area of the Town where putting a sidewalk in standard location would eliminate or damage a number of mature trees. The sidewalk is primarily built on the existing road bed, narrowing the road.

#### Advantages:

- Removes the pedestrians from the road improving pedestrian safe
- Narrowing the road will slow some drivers down
- No trees need to be remove

#### Disadvantages:

- May have to eliminate on street parking
- Expensive
- Reduced snow storage, difficult to clear large windrows





## Curb Face Sidewalk

### **PHYSICAL OBSTRUCTION**

Physical obstructions are the most severe traffic calming tool and are only used when it is determined a vertical or a horizontal measures won't address the identified problem. The primary purpose of physical obstructions is to eliminating short-cutting traffic by stopping specific vehicle movements. It is important to note that physical obstructions are intended to deter motor vehicle traffic only and not to obstruct bicycle or pedestrian traffic. These types of measures are typically implemented at intersections, but may also be applied at some mid-block locations.

Obstructions range from those that have a relatively minor impact on vehicular access to those that severely restrict access such as a road closure. It is important to remember once the vehicle restricted movement is in place area residents have to live with it every day.

#### **Directional Closures**

Directional closures are created using a curb extension or other barrier that extends into the roadway, approximately as far as the centerline. This device obstructs one side of the roadway and effectively prohibits vehicles travelling in that direction from entering. Directional closures are especially useful for controlling non-compliance of one-way road sections and are compatible with other modes such as bicycles.

At all directional closures, bicycles are permitted to travel in both directions through the unobstructed side of the road; however, some directional closures have a pathway built through the device specifically for bicycles. Since their purpose is to prevent short-cutting traffic, directional closures are applicable for use on local streets and minor collectors, at their intersection with collectors and arterials

#### Advantages:

- Directional closures typically result in about a 40% reduction in traffic volumes
- There may also be a reduction in travel speeds around the intersection
- Eliminates right angle collisions

#### Disadvantages:

- Restricts resident access to the neighbourhood
- May divert significant volume of traffic to parallel streets without traffic calming measures
- Could not be implemented without a larger traffic impact study

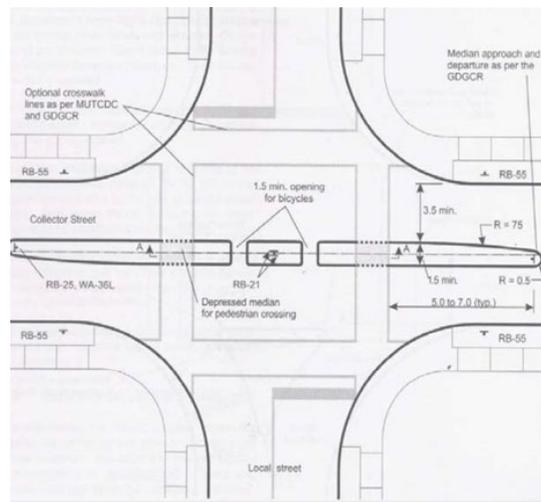


Directional Closure – Restricted Neighbourhood Access

**Raised Median Through Intersection**

These devices may be used on the centerlines of local and collector roadways to prevent left-turn and through movements to and from intersecting streets. This type of device is especially effective at preventing short-cutting and through traffic while providing some secondary pedestrian safety benefits.

The advantages and disadvantages are the same as the directional closure.



Raised Median Through Intersection



## Right-In / Right-Out

Right-in/right-out islands are raised triangular islands located on an intersection approach to limit the side street to right turn in and out movements. Similar to a raised median through an intersection, this device is used primarily to restrict movements to and from an intersection roadway.

Right-in/right out islands may be considered only for use in locations where local residential streets intersect another roadway of any class. The island needs to be designed properly or vehicles will drive left around it.

The advantages and disadvantages are the same as the directional closure.



Right-in / Right-out

## Diverter

A diverter is a raised barrier placed diagonally across an intersection that forces traffic to turn and prevents traffic from proceeding straight through the intersection. Diverters can incorporate gaps for pedestrians, wheelchairs and bicycles and can be mountable by emergency vehicles. The purpose of a diverter is to obstruct short-cutting or through traffic.

**Advantages:**

- Diverters can result in a 20% to 70% reduction in area-wide traffic volumes, depending on extent of diverters used

**Disadvantages:**

- Restricts resident access to the neighbourhood
- May divert significant volume of traffic to parallel streets without traffic calming measures
- Could not be implemented without a larger traffic impact study



Traffic Diverter

**Full Closure**

A full closure is a barrier extending the entire width of a roadway, which obstructs all motor vehicle traffic along the roadway. A closure can change a four-way intersection to a three-way intersection, or a three-way intersection into a non-intersection. Gaps can be provided for cyclists and they are typically passable by emergency vehicles. The purpose of a full closure is to eliminate short-cutting or through traffic.



Full Closure

Advantages:

- Eliminates all short-cutting or through traffic

Disadvantages:

- Restricts resident access to the neighbourhood
- May divert significant volume of traffic to parallel streets without traffic calming measure
- Could not be implemented without a larger traffic impact study



**APPENDIX C – Traffic Calming Form Letters**

20 Pelham Town Square  
PO Box 400  
Fonthill, On  
L0S1E0

Date:

**PETITION LETTER  
IMPORTANT INFORMATION REGARDING  
NEIGHBOURHOOD TRAFFIC CALMING REVIEW PETITION**

Please read before signing petition

The Town of Pelham has initiated this petition to evaluate who is interested in initiating a traffic calming review at the following location:

---

*Pelham Staff Note: Insert Street Name and extents (to/from) before sending and attach policy*

To initiate a review of whether or not the above-noted street warrants traffic calming, a petition, indicating support, is required. The Town of Pelham has provided the attached copy of the traffic calming petition and the Town’s Traffic Calming Policy to the resident initiating the request for a review. The focus of the petition is to determine if there is support from adjacent residents for Town staff to perform an investigation of traffic concerns on the above-noted roadway.

The results of the petition must show support from at least 25% of the households with direct frontage onto the roadway to be investigated. Each household is represented by one signature, regardless of the number of people in the household (an apartment/condo would count as one household). Failure to meet the 25% support level will result in termination of the investigation. Please note that you should indicate on the petition whether or not you support the request for a review. If you are neutral and do not feel strongly either way, please check off the ‘neutral’ box: neutral answers will be considered as not supporting the initiation of a review.

Initially passive measures will be used by the Town for a 1 year period in an attempt to address the identified operational traffic issues. If the outcome of the Town’s 1 year review indicates the problem still exists than physical traffic calming measures are warranted, all affected residents (households), as determined by the Town, will have the opportunity to indicate whether or not they support any future proposed physical traffic calming measures.



After the Town develops a traffic calming plan, the Town will conduct a public meeting to explain the plan, at which point residents will have the opportunity to provide their input. If you have any additional questions or comments please contact:

*Assigned Public Works Staff*

(905) 892-2607 ext. XXX  
[Publicworksstaff@pelham.ca](mailto:Publicworksstaff@pelham.ca)  
[www.pelham.ca](http://www.pelham.ca)



20 Pelham Town Square  
PO Box 400  
Fonthill, On  
L0S1E0

**PETITION LETTER  
IMPORTANT INFORMATION REGARDING  
NEIGHBOURHOOD TRAFFIC CALMING REMOVAL PETITION**

**Please read before signing petition**

The Town of Pelham has supplied this petition to a concerned resident who is interested in initiating a traffic calming removal petition at the following location:

---

*Pelham Staff Note: Insert Street Name and extents (to/from) before sending and attach policy*

To initiate a review of whether or not the above-noted street warrants traffic calming removal, a petition, indicating support, is required. The Town of Pelham has provided the attached copy of the traffic calming removal petition and the Town's Traffic Calming Policy to the resident initiating the request for a review. The focus of the petition is to determine if there is support from adjacent residents for Town staff to perform an investigation to remove the traffic calming devices

The results of the petition must indicate a majority of the total surveys delivered to residents with direct frontage onto the roadway to be investigated. Each household is represented by one signature, regardless of the number of people in the household (an apartment/condo would count as one household). Failure to meet the majority support from residents within the impact area will result in termination of the investigation. Please note that you should only sign the petition if you agree the devices should be removed.

If a request to remove a single traffic calming device, within an overall traffic calming plan, is received, all traffic calming devices will be considered for removal. Depending on circumstances, it could be possible to remove a single device constructed as part of an overall plan, however, in most cases all devices work together to be effective and to ensure that traffic is not diverted where it should not be. The Town reserves the right to remove traffic calming measures if it determines that they are ineffective or unsafe, or if they have created a negative impact that cannot be corrected. The Town will mail out a notification and advertise in local newspapers informing of its decision to remove traffic calming measures

If traffic calming devices are removed, the subject street must wait at least 2 years before requesting a new traffic calming plan; at this point the approval process will start over.

If you have any additional questions or comments please contact:

*Assigned Public Works Staff*



(905) 892-2607 ext. XXX  
Publicworksstaff@pelham.ca  
www.pelham.ca

**Traffic Calming Removal Request**

Citizen Representative Information

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

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

Telephone: \_\_\_\_\_

Email: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

The Citizen representative is requesting that the Town of Pelham consider the removal of traffic calming measures along the following roads:

\_\_\_\_\_ between \_\_\_\_\_ and \_\_\_\_\_

\_\_\_\_\_ between \_\_\_\_\_ and \_\_\_\_\_

\_\_\_\_\_ between \_\_\_\_\_ and \_\_\_\_\_

Select the concerns that apply and provide a brief description of the concerns

Speeding

Traffic Volumes

Cut-through traffic

Crashes

Pedestrian Safety

Bicycle Safety

Large Trucks

Other

Brief Description of Concerns:

The undersigned concur with the request for the traffic calming measures made by the citizen representative. Only one signature per property is permitted. In order for this request form to



be reviewed, a majority response in favour is required from property owners. Any signatures without valid addresses will be voided. This petition can only be circulated to homes contacted as part of the original traffic calming survey.

Name	Street Address	Signature

Town of Pelham Office:  
905-892-2607 Ext. 332  
[pelhamstaff@pelham.ca](mailto:pelhamstaff@pelham.ca)  
[www.pelham.ca](http://www.pelham.ca)

## APPENDIX D – Traffic Calming Point Assessment

 <span style="margin-left: 150px;"><b>TRAFFIC CALMING POINT ASSESSMENT</b></span>				
Location:			Date Compiled:	
Roadway Type:	Local	Collector		
<b>Traffic Data</b>				
	<u>Feature</u>	<u>Range</u>	<u>Criteria</u>	<u>Total</u>
1a.	Speed	0 to 35	5 points for every 2 km/h that the 85 <sup>th</sup> percentile speed is greater than 10 km/hr over the speed limit	
1b	High Speed	0 to 5	5 points if minimum of 5% of daily traffic exceeds posted speed by 15-20 km/hr	
2.	Volume	0 to 20	Local Roadways: 5 points for every 1,500 ADT Collector Roadways: 5 points for every 2,000 ADT	
3.	Short-Cutting Traffic	0 or 15	5 points if there is a presence of 25% or more short-cutting traffic, additional 5 points for every 10% increment above 25%.	
4.	Collisions	0 to 10	1 point for every 2 collisions/year over a 3 year period	
<b>Road Characteristics</b>				
	<u>Feature</u>	<u>Range</u>	<u>Criteria</u>	<u>Total</u>
5.	Sidewalks	0 or 10	10 points for no sidewalks with evidence of pedestrian activity, 5 points for sidewalks on only one side	
6.	Pedestrian Generators	0 to 15	5 points for each nearby* pedestrian generator such as a school, playground, community centre, libraries, retail centres, etc.	
<b>Total</b>				
	Does the location meet the minimum requirements			
	Local roadway = minimum 35 points			
	Rural roadway = minimum 45 points			
	Collector roadway = minimum 52 points	YES	NO	

Following the public meeting, the traffic calming plan will be modified, as required.