



Traffic Calming Policy
Engineering & Development Services Department

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The City of Belleville

Traffic Calming Policy

Adopted: July 27, 2020

1. Introduction

1.1 Background

The City of Belleville is responsible for ensuring roadways serve the needs of all users such as cars, transit, pedestrians, cyclists, emergency vehicles and snow removal equipment.

Every year the City receives numerous complaints and/or concerns from residents regarding speeding, requesting additional stop signs to decrease speeds, and increasing traffic volumes. The Transportation Committee responds by monitoring the area of the complaints, while not having many options to rectify the issues.

Studies across North America have shown that using the wrong tool to address a traffic issue does not solve the problem and may result in additional safety concerns in the area. Within this policy, traffic calming will be defined and traffic calming methods will be explored. The goal of introducing traffic calming is to create safe and attractive roadways and promote active transportation and transit use in residential neighbourhoods.

This policy outlines how enquiries into traffic calming measures should be initiated and executed based on the experience gained by the City of Belleville and other municipalities in Ontario.

1.2 Traffic Calming Purpose and Goals

The overall purpose of this policy is to provide an inclusive process that addresses local neighbourhood traffic issues in the City of Belleville. The ideal resolution for traffic calming under this policy is to reduce high traffic speeds within residential neighbourhoods and thus improving safety for pedestrians and area residents. The specific goals of this traffic calming policy are to develop an integrated set of policies, objectives and procedures that will combine to form a set of overall working guidelines that will:

- Provide a policy that City 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 City 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.

This policy will also provide the guideline, procedure and criteria for the initiation, investigation and execution of traffic calming measures within existing residential neighbourhoods. The policy will ensure concerns related to speeding and excessive volume are handled in a fair, transparent and efficient manner.

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 function of an arterial road is to move traffic efficiently. Therefore, traffic calming measure(s) that may be appropriate for use on non-arterial roadways would not be suitable for use on arterial roadways.

1.3 Advantages & 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:

1. Reduced vehicle speeds
2. Reduced traffic volumes
3. Reduced number of cut through vehicles
4. Improve neighbourhood safety, especially for pedestrians
5. Reduced conflicts between roadway users
6. Increase compliance with regulatory signs

Disadvantages:

1. Potential increase in emergency vehicle response time
2. Could make it more difficult to get into and out of your neighbourhood every day
3. May result in expensive solutions (time and resources)
4. May shift or divert traffic onto neighbouring roadways
5. Increase maintenance time and costs

6. May add visually unattractive warning signs to a residential area
7. May splinter neighbourhood with strong 'for and against' traffic calming opinions

2. Types of Traffic Calming

2.1 Passive Traffic Calming

Passive traffic calming methods are intended to visually reduce the effective lane width for a vehicle operator, consecutively reducing the comfortable operating speed. A few examples of passive traffic calming include line paint, signage and vegetation. These types of treatments are typically installed throughout the length of the roadway, both proactively and reactively. Due to the range of available passive methods, they are usually well received by the residents.

2.2 Physical Traffic Calming

There are a variety of physical traffic calming methods that are available; vertical, horizontal and physical. Vertical methods are an obstacle that the vehicles must travel over (speed humps), sometimes accompanied with a material change. Horizontal methods are obstacles that prevent a vehicle from travelling in a straight path along the roadway such as curb extensions. Physical methods are full or partial road obstructions.

3. Qualified Streets

Traffic calming will be considered on local roads within residential areas within the urban boundary and Hamlet areas as defined in the Official Plan. Traffic calming will not be considered on collectors or arterial roadways in the City as these would be addressed through a complete streets policy. To guarantee that traffic calming measures are warranted and will offer the most effective solutions within the intended function of the roadway, a combination of this policy and engineering best practices must be used.

Local Roads within Urban Boundary and Hamlet Areas

The primary function of local roadways is to provide access from individual properties to minor and major collectors and arterial roads. The anticipated use of local roads is not for through routes or as a vital link for traffic. An acceptable volume of traffic for an urban local road is up to 1,000 vehicles a day. Examples of urban local streets are Lexington Crescent, River Road and Pringle Drive.

Hamlet Areas as outlined in the Official Plan are defined as areas with limited urban growth outside the urban serviced area. The city of Belleville Hamlet areas includes the following: Foxboro, Plainfield, Latta, Roslin, Halloway, and Point Anne.

4. Policy Guidelines

To ensure that there is consistency when considering traffic calming measures, guidelines must be in place. The purpose of these guidelines are to assure that the implemented traffic calming measures are appropriate and have minimum negative impacts. This policy will:

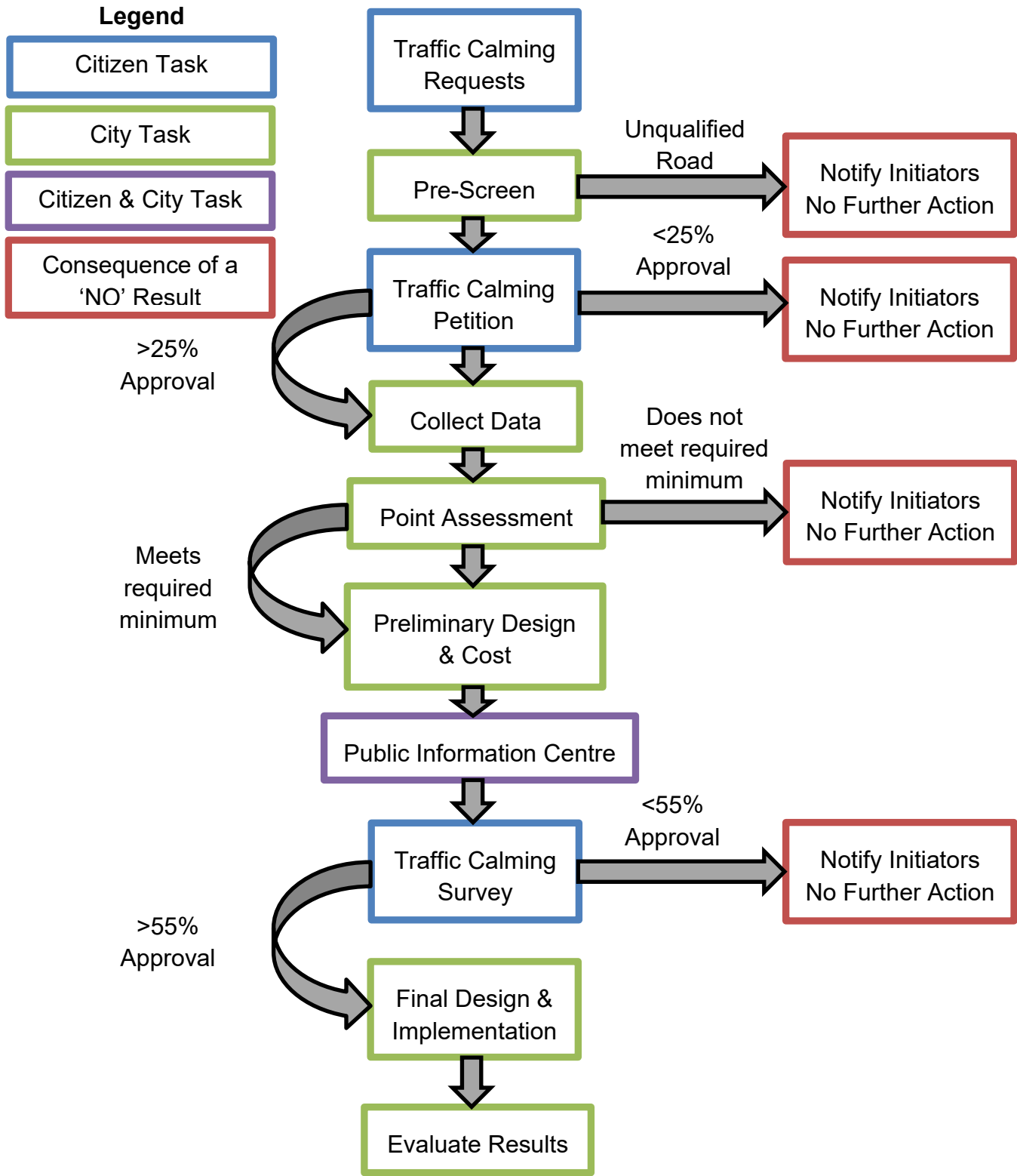
- Be considered only after education, enforcement and traffic engineering efforts have failed to produce the desired results. There must be a safety, speeding, or cut-through traffic concern present.
- Include consideration as to whether a network-wide plan versus a street-specific plan is more suitable: a network-wide plan should be considered if a street-specific plan would likely result in displacement of traffic onto adjacent streets.
- Be mainly 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 hinder non-motorized, alternative modes of transportation and be designed to ensure pedestrian and cycling traffic is unaffected and/or promoted.
- Not impede Emergency and Transit services access unless alternate measures are agreed upon.
- Be installed after City staff has investigated existing traffic conditions and the necessary approvals have been received.
- Have follow-up studies to determine effectiveness.

5. Traffic Calming Process

To implement traffic calming methods, the process shown in **Figure 1** will be used. The purpose of establishing an official process is to provide consistency and fairness in determining whether traffic calming is warranted and implemented.

Community support for traffic calming methods is vital to attain the goal of reestablishing the roadways to their intended use. Resident feedback is required throughout the process of implementing traffic calming methods to create a suitable plan. There are various different times throughout the process that the public's opinion/feedback will be required.

Figure 1 – Traffic Calming Process



5.1 Initiation and Verification

To initiate the process of installing traffic calming methods, a written request must be submitted to City staff regarding a concern of speeds, traffic, short-cutting etc. Staff would then follow-up with the request to determine if the roadway in question meets the initial criteria for implementing traffic calming methods. The initial criteria is as follows:

- Is the road classified local and in the urban boundary or in a Hamlet as identified through the Official Plan?
- Is the AADT less than 1000?
- Is the posted speed less than or equal to 50km/h?
- Is the road assumed?
- Is the road primarily residential?
- Does the street provide an obvious cut-through for a major intersection/roadway?
- Is the 85th percentile speed greater than 10km/h over the posted speed limit?
- Have any previous efforts been made within the last 12 months?

If the answer to any of the above questions is no, then the roadway in question, does not qualify for traffic calming.

All requests to be evaluated within the same year must be received by March 31. Requests will be accepted year-round but may not be evaluated until the following year.

5.2 Neighbourhood Petition

If the roadway does qualify for traffic calming, the City will distribute and collect a petition to determine if there is public support for traffic calming methods in that area. A template of a petition letter to be followed can be found in Appendix A. The petition will be distributed to each household with direct frontage or flankage on the roadway in question. Only one signature per household is counted, regardless of the amount of people living in the household. The City shall allow the petition twenty-eight (28) days to be returned, with the day of distributing the petition being Day Zero (0). If the petition shows twenty-five percent (25%) support level from the total surveys distributed, the data collection phase of the policy will begin.

If the twenty-five percent (25%) support level is not met, the roadway may not be considered for traffic calming methods for twelve (12) months. The City may waive the twelve month waiting period at their discretion.

5.3 Data Collection

Once the petition passes the twenty-five percent (25%) support rate, the next step is data collection. City staff shall collect data regarding the roadway in question and any

related roadways the City deems necessary. Some of the data collected may include 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
- Study to quantify cut-through traffic, if necessary
- 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
- History of traffic operations for the area within last 5 years

The data collected will be used in a point system to determine a total “point value”. This point value will be used to determine the level of need for traffic calming methods as well as its priority level.

5.4 Point Assessment

The point system is a means of focusing on various attributes of a roadway to measure the roadway’s need for traffic calming and the severity of the need. The points are weighted based on the attribute being studied. The point system can be found in Appendix B.

Depending on the funding available, if multiple roadways are qualified for traffic calming methods, the roadways with the highest point values shall be addressed first. If not all roadways are able to be addressed in the current year, those not addressed shall be reassessed the following year with any new roadways.

To ensure that the roadways require traffic calming methods, and that the point value for each roadway meets certain standards, the minimum point value is based on the road classification.

- Local Road – 35 points

If the roadway does not meet the minimum point value, the residents shall be informed in writing that the process will not be continuing. Other optional modifying measures may be taken by City staff.

5.5 Design

The data collected, joined with resident feedback, roadway maintenance, historic information and any other information deemed relevant will be considered when designing the traffic calming measures to be implemented. The traffic calming methods approved for use within the City can be found in Appendix C.

This design will first be distributed to emergency services, transit/operations and any other relevant agencies for feedback. Based on the feedback, the City will modify the design as required. If modifications are not able to address the concerns, the traffic calming process can be discontinued and the residents notified.

The preferred design will then be reviewed by the public. City staff is to host a public information meeting to gain feedback from the public. Notice of the public information centre will be distributed to all residents that live within the affected area of the street being considered. Additional promotion of the public information meeting via social media will occur to allow all public the chance to attend.

If there are multiple traffic calming designs for separate roadways being considered, City staff may opt to hold all the public information centres concurrently.

5.6 Community Support

The feedback from the agencies and public will provide the preferred design. This design shall be distributed to the residents owning property on the roadway or flanking the roadway affected by the traffic calming methods to allow an opportunity to oppose the implementation of the methods. Fifty-five percent (55%) of the surveys returned to the City must be in support of the traffic calming methods. If less than majority support the traffic calming design, a written notice will be distributed to those members of the public directly affected informing them that the project will not proceed due to lack of public support. Written notice will also be delivered to those affected if the project is to proceed.

5.7 Detailed Design

Staff will finalize a detailed design based on all the feedback and technical considerations. If major changes are made to the design, the public must be informed and have their feedback requested.

5.8 Implementation

Following approval from Council, notification to the residents and funding approval, traffic calming methods can be implemented. If it is feasible, City staff may decide to phase the traffic calming methods, to provide time to examine the impact of the methods and their effectiveness, prior to installing permanent methods.

5.9 Evaluation and Monitoring

City staff will monitor the implemented traffic calming methods annually. The monitoring will produce data that determines the effectiveness of the traffic calming methods and their impact on the traffic network. The data collected will provide information for future use of similar traffic calming measures.

5.10 Removals

Traffic calming methods may be removed two (2) years after their implementation at the residents' request. Twenty-five percent (25%) of the property owners within the impact area (determined by City staff) must show their support to have the traffic calming methods removed by signing the Traffic Calming Removal Request form attached in Appendix D. The same qualifications for petitioning will be required for removals, direct frontage or flankage of the roadway, one signature per household etc. Following the request form being submitted and meeting the requirements, the City will distribute a survey regarding the removal of the traffic calming methods to all the residents that were initially surveyed to implement the methods. If this survey shows a majority of the residents want the traffic calming methods removed, then the removal process has been successful and the methods shall be removed. If the traffic calming methods are removed, the roadway must wait five (5) years before requesting a new traffic calming plan.

If only a portion or part of the traffic calming methods are being requested to be removed, all traffic calming methods for that roadway will be considered for removal. If it is possible to remove a single or a portion of the traffic calming plan while ensuring that the overall traffic calming plan remains effective, the City may decide to remove a single or a portion of the traffic calming plan.

The City shall distribute notification and promote via social media if it is decided to remove any traffic calming methods.

Appendix A – Petition Letter



Date:
Petition Letter
Traffic Calming Review Petition
Please read before signing petition

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

_____ between _____ and _____

To initiate a review of whether or not the above-noted street warrants traffic calming, a petition, indicating support, is required. The City of Belleville has provided the attached copy of the traffic calming petition and the City'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 City 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.

If the outcome of the City's review indicates that physical traffic calming measures are warranted, all affected residents (households), as determined by the City, will have the opportunity to indicate whether or not they support any future proposed physical traffic calming measures. After the City develops a traffic calming plan, the City will conduct a public meeting to explain the plan, at which point residents will have the opportunity to provide their input. Following the public meeting, the traffic calming plan will be modified, as required, and the City will then deliver a Community Support Survey to all affected residents to determine the level of support for the specific traffic calming plan.

If you have any additional questions or comments please contact:

Maria Godfrey, Engineering in Training - Engineering & Development Services

613-967-3200 x3336 or mgodfrey@belleville.ca

www.belleville.ca/traffic-calming

Appendix B - Point System

Traffic Calming Point Assessment

Location:

Date Compiled:

Roadway Type:

Local:

Traffic Data			
Feature	Range	Criteria	Total
Speed	0 to 35	5 points for every 2 km/h that the 85th percentile speed is greater than 10 km/hr over the speed limit	
High Speed	0 to 5	5 points if minimum of 5% of daily traffic exceeds posted speed by 15-20 km/hr	
Volume	0 to 20	Local Roadways: 5 points for every 1,500 ADT	
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%.	
Collisions	0 to 10	1 point for every 2 collisions/year over a 3 year period	
Road Characteristics			
Feature	Range	Criteria	Total
Sidewalks	0 or 10	10 points for no sidewalks with evidence of pedestrian activity, 5 points for sidewalks on only one side	
Pedestrian Generators	0 to 15	5 points for each nearby* pedestrian generator such as a school, playground, community centre, libraries, retail centres, etc.	
Total			
Does the location meet the minimum requirements?			
Local roadway = minimum 35 points			

Appendix C - Traffic Calming Methods

Traffic Calming Measures

Physical traffic calming measures include both vertical and horizontal measures. Descriptions of these measures are provided below.

Vertical Deflection:

Provide an obstruction that vehicles are able to travel over. The change in pavement height can cause discomfort to the occupants and vehicles if they are traveling at a speed higher than the designed speed. Vertical traffic calming measures include the following:

- Speed humps – A raised area of a roadway, which deflects both the wheels and frame of a traversing vehicle. Vehicles traversing a properly designed speed hump at a reasonable speed can drive with relative ease across the hump. Not to be confused with speed bumps, which are sometimes installed on private roadways and in parking lots and can be very abrupt and jarring to motorists. Only properly designed speed humps are recognized within the Canadian Guide to Neighbourhood Traffic Calming.

Figure 1 - possible option of a speed hump



- Raised crosswalks – a marked pedestrian crosswalk at an intersection or mid-block location that is constructed at a higher elevation than the adjacent roadway.
- Raised intersections – an intersection, including crosswalks, that is constructed at a higher elevation than the adjacent roadway.
- Rumble strips – raised buttons, bars or grooves closely spaced at regular intervals on the roadway that create both noise and vibration in moving vehicles.
- Sidewalk extensions – A sidewalk is continued across a local street or intersection. For a “raised” sidewalk extension, it is continued at its original elevation, with the local roadway raised to the level of the sidewalk at the intersection. For an “unraised” sidewalk extension, the sidewalk is lowered to the level of the roadway.

- Textured crosswalks – A crosswalk incorporating a textured and/or patterned surface which contrasts with the adjacent roadway.
- Speed Cushions – speed cushions are narrower speed humps that are typically installed in the centre of each travel lane. These may be preferred by emergency vehicles as they can straddle the cushion due to the wider wheel track.

Horizontal Deflection:

Horizontal traffic calming measures include the following:

- Chicanes – A series of curb extensions on alternating sides of a roadway, which narrow the roadway and require drivers to steer from one side of a roadway to the other to travel through the chicane. Typically, a series of at least three curb extensions is used.
- Curb extensions – A horizontal intrusion of the curb into the roadway resulting in a narrower section of roadway.

Figure 2- possible curb extension



- Curb radius reduction – The reconstruction of an intersection corner using a smaller radius, usually in the 3.0 m to 5.0 m range.
- On-street parking – The reduction of the roadway width available for vehicle movement by allowing motor vehicles to park adjacent and parallel to the curb.
- Raised median island – An elevated median constructed on the centerline of a two-way roadway through an intersection, which prevents left turns and through movements to and from the intersection roadway.
- Mini roundabout – A raised island located in the center of an intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island.
- Lateral Shifts – half of a chicane, curb extensions or pavement markings or on street parking cause travel lanes to bend one way then back the other way.

Notes:

- Both vertical and horizontal measures shall be considered when implementing traffic calming, as opposed to the exclusive use of speed humps.

- If traffic calming measures are installed in a heritage area, the local streetscape will be considered in choosing appropriate measures.
- Traffic calming shall be implemented only on local roads within the urban boundary and in Hamlet areas
- Traffic calming measures should be considered during the design and implementation of reconstructed streets and new residential subdivisions.
- Opportunities to combine traffic calming and improvements to on-street bicycle facilities should be considered during the design and implementation process.

Appendix D - Removal Request



Date:
Petition Letter
Traffic Calming Removal Petition
Please read before signing petition

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

_____ between _____ and _____

To initiate a review of whether or not the above-noted street warrants traffic calming removal, a petition, indicating support, is required. The City of Belleville has provided the attached copy of the traffic calming removal petition and the City'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 City 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 City 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 City will mail out a notification and promote via social media informing of its decision to remove traffic calming measures.

If traffic calming devices are removed, the subject street must wait at least 5 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:
Maria Godfrey, Engineering in Training - Engineering & Development Services
613-967-3200 x3336 or mgodfrey@belleville.ca or www.belleville.ca/traffic-calming

Traffic Calming Removal Request

Citizen Representative Information

Name: _____ Street Address: _____

Telephone: _____ Email: _____

Signature: _____ Date: _____

The citizen representative is requesting that the city of Belleville 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

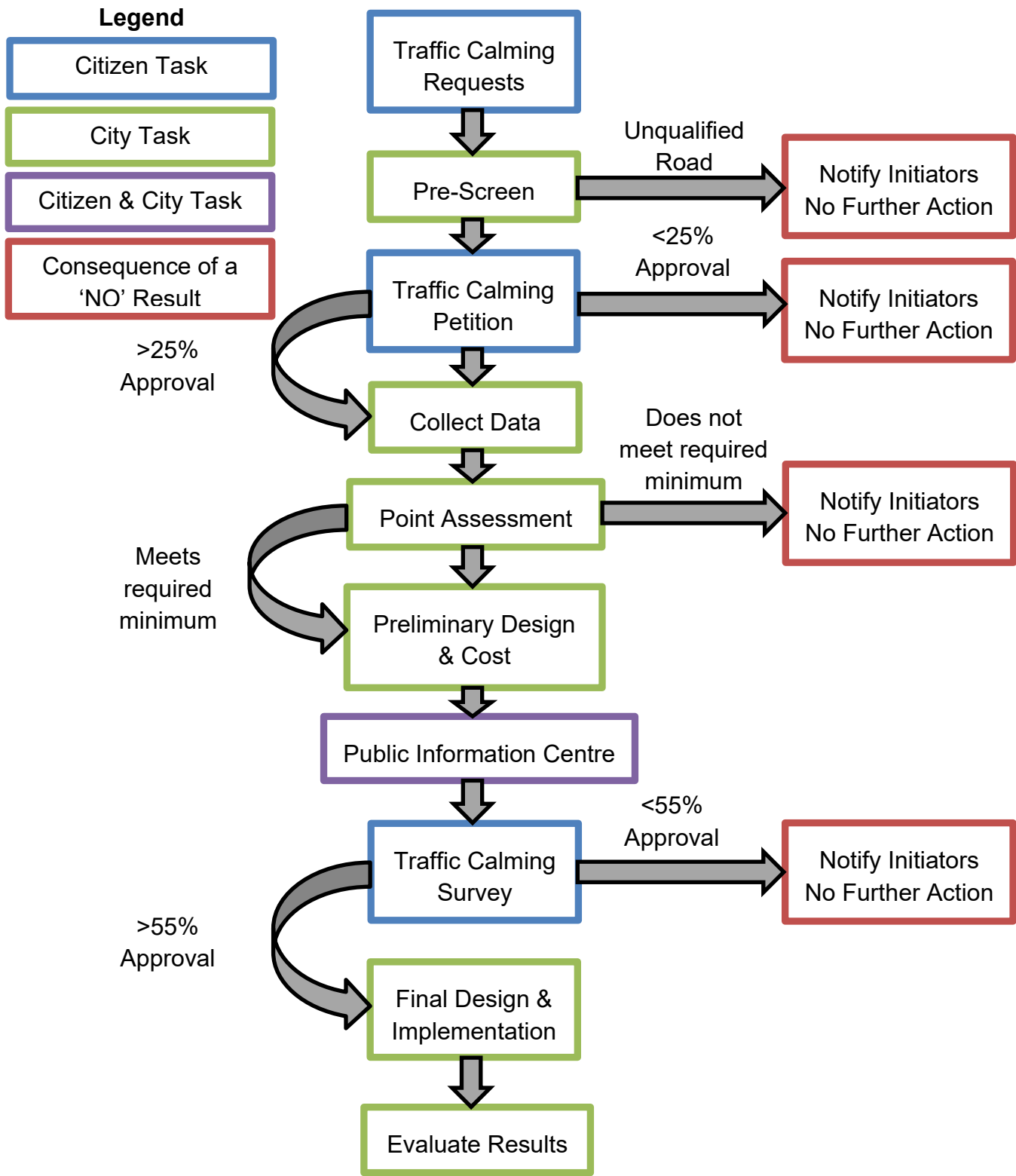
- Speeding Traffic Volumes Cut-through Traffic
 Crashes Pedestrian Safety Bicycle Safety
 Large Trucks Others

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

The City of Belleville
613-967-3200 x3336 or mgodfrey@belleville.ca
www.belleville.ca/traffic-calming



Identifiers	Maximum Points	Point System
Speed	25 points max	1 point for each km/h that the 85th percentile speed exceeds 45 km/h up to 10 points; and 2 points for each km/h that the 85th percentile speed exceeds 55 km/h 20 points max.
Volume	20 points max	1 point for every 200 vehicles of daily traffic 20 points max.
Schools	20 points max	15 points for each adjacent school; and 5 points for each nearby school 15 points max.
Collisions	15 points max	1 point for each collision per kilometre in the previous five years; and 5 points for each injury collision per kilometre in the previous five years 10 points max.
Pedestrians	10 points max	5 points if no continuous sidewalks on at least one side of the road; and 5 points for each pedestrian generator (i.e. park, seniors centre, recreation centre, church, public institution, etc.) not including schools 10 points max.
Cycling	10 points max	10 points for an on-street bicycle lane or signed bicycle route; or 5 points for every 25 cyclists during an 8 hour traffic count
Total	100 points max	