



The Corporation of the Town of Milton

Report To: Council

From: Jill Hogan, Commissioner, Development Services

Date: March 6, 2023

Report No: DS-017-23

Subject: Traffic Calming Policy - Warrant Update

Recommendation: **THAT** the Traffic Calming Warrant Update be adopted by Council;
AND THAT Council approve a budget increase to Capital Project C40012623 - Traffic Calming, funded by the Project Variance Account, in the amount of \$110,000 to provide a one-year Contract Traffic Technician position.

EXECUTIVE SUMMARY

- The Town of Milton is committed to keeping our community safe.
- In 2022, through Report DS-30-22 - Supporting Safe Roads in Milton, Council directed staff to introduce programs geared towards making our roads safer for all users.
- To-date, staff has implemented the following as part of continuous improvement road safety initiatives:
 - Pilot Projects for a 40 kilometre per hour neighbourhood and 30 kilometre per hour in school zones;
 - Nine (9) new Community Safety Zones (speeding fines doubled and required for future Automated Speed Enforcement);
 - Ten (10) new pedestrian crossovers (PXOs); and,
 - Education and outreach through the *Milton Moves Together* campaign in partnership with Halton Police and the School Boards.
- To further Milton's road safety initiatives, this Report seeks Council support to lower the speed threshold that would warrant the installation of speed humps.
- This Report also recommends that Council approve a one-year employment contract for a Traffic Technician, who would undertake traffic studies in support of potential traffic calming measures.

REPORT

Background

In 2011, the Town adopted a Traffic Calming Policy. The purpose of this policy is to provide guidelines, procedures and criteria for the initiation, investigation and implementation of traffic calming measures within residential neighbourhoods to address safety concerns related to speeding and excessive volume in a fair and efficient manner. The policy is applied to local and collector roadways and will not be considered on arterial roads.

Traffic calming is defined as the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for all road users. Traffic calming measures combined with engineering, education and enforcement tools can significantly improve the liveability and safety of neighbourhoods.

Included within the Town of Milton's Traffic Calming Policy, a process is outlined to review traffic calming for a particular roadway. Since 2011, the Town has received a number of requests for implementing physical traffic calming (e.g.: Speed Humps) on both local and collector roads. The Town has installed passive traffic calming on a number of streets. Passive traffic calming consists of urban shoulders (Childs Drive, Woodward Avenue east of Ontario Street North) and parking lanes (Pine Street, Duncan Lane).

Discussion

A jurisdictional review of several municipalities' warrants within their Traffic Calming Policy was completed earlier in 2022 and included the following municipalities: Towns of Halton Hills and Oakville and the Cities of Brampton, Burlington, Cambridge, Hamilton, Kingston, Mississauga and Niagara Falls.

The following warrant criteria is used for all municipalities including Milton:

- traffic volumes
- 85th percentile speeds
- Short-cutting traffic
- Collisions
- Sidewalks
- Pedestrian generators

The following is the criteria in the existing traffic calming policy from 2011:

85 th Percentile speed	Volume	Short-cutting Traffic	Collisions	Sidewalks	Pedestrian Generators	Warrant
5 points for every	Local Road: 5	5 points if 25% or	1 point for every 2	5 points for no	5 points for each	Local Road:

Discussion

2 km/h that is > 15 km/h over the posted speed	points for every 1,500 ADT Collector Road: 5 points for every 2,000 ADT	more short-cutting traffic, additional 5 points for every 10% increment above 25%	collisions/year over a 3 year period	sidewalks with evidence of pedestrian activities	nearby pedestrian generators within the study area, such as a school, playground, library, retail centres, etc.	>=35 Collector Road: >=52
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The following is the proposed criteria for the updated traffic calming policy shown in bold. The remainder of the criteria remains the same.

85 th Percentile speed	Volume	Short-cutting Traffic	Collisions	Sidewalks	Pedestrian Generators	Warrant
5 points for every 2 km/h that is > 10 km/h over the posted speed	Local Road: 5 points for every 1,000 ADT Collector Road: 5 points for every 2,000 ADT	Local Roads Only	1 point for every 2 collisions/year over a 3 year period	10 points if no sidewalks with evidence of pedestrian activity; 5 points if sidewalks on only one side	5 points for each nearby pedestrian generators within the study area, such as a school, playground, library, retail centres, etc.	Priority Ranking

In summary the proposed changes are as follows:

- Reduce 85th percentile speed threshold from 15 km/h over to 10 km/h over the posted speed limit
- Reduce Average Daily Traffic (ADT) volumes on local roads by 500 vehicles
- Short-Cutting Traffic only used on local roads (Collectors are designed to carry traffic from locals to arterial roads)

Discussion

- Points changed to 10 points if no sidewalks with evidence of pedestrian activity
- Reduce warrant from points to priority ranking system

Traffic Calming Applications will be accepted between January 1 and September 30 each year for the following year. Residents will be required to fill out a Traffic Calming Application on the Town's website (Appendix I) and the initial screening criteria will then be completed. This initial screening criteria remains unchanged. The screening criteria is as follows:

- Must be a local or collector roadway
- Must have a minimum 500 Annual Average Daily Traffic (AADT)
- The posted speed limit shall not be greater than 50 km/h
- All reasonable efforts have been made to address the concerns utilizing other means including engineering, education and enforcement tools
- Roadway must be assumed and maintained by the Town of Milton
- Zoning should be primarily residential in nature

Once a roadway has passed the initial screening process, Town staff will schedule required technical studies to be completed by the end of October each year. After all studies have been completed and analyzed, the results will be entered into the ranking system and the process will continue for streets ranked #1 and #2 on the list pending budget approval (Appendix II).

If the minimum resident support has been met, staff will spend the winter months preparing preferred design, hosting public meetings, preparing/sending out community support survey, preparing reports to Council and working on implementation for Spring.

Each year, the top two locations on the priority list will have temporary traffic calming devices installed during the Spring and removed prior to Winter. While the traffic calming devices are in place, additional studies will be completed to determine their effectiveness on improving road safety. If they are effective, traffic calming will be made permanent the next year pending budget approval.

The Traffic Calming Policy has been updated to reflect the above recommended changes and will be made available on the Town's website once endorsed by Council. (Appendix III).

Through the 2023 budget, funding was approved through capital project C40012623 for the capital costs associated with a traffic calming program including the purchase, installation and removals of temporary traffic calming devices. The delivery of this program will result in staffing requirements. It is anticipated that additional staff will be required to administer this program on an ongoing basis. Prior to adding new staffing on a permanent



Discussion

basis, it is recommended that a budget amendment be made to increase the capital budget by \$110,000 in order to fund a temporary one-year contract Traffic Technician. This temporary staff position will be used to establish and administer the program and will be evaluated for consideration on a permanent basis through the 2024 operating budget

Financial Impact

The 2023 budget includes an approved capital project C40012623 - Traffic Calming, in the amount of \$85,068, which provides for the purchase, installation and removal of traffic calming devices in the first year of implementation.

The request for a one year contract staff position will result in a budget increase of \$110,000 to this project, funded from the Project Variance Account.

Respectfully submitted,

Jill Hogan
Commissioner, Development Services

For questions, please contact: Heide Schlegl, C.E.T., MITE, Phone: Ext. 2506
Dipl. M.M., Manager, Traffic

Attachments

Appendix I - Traffic Calming Application
Appendix II - Traffic Calming Flow Chart
Appendix III - Updated Traffic Calming Policy

Approved by CAO
Andrew M. Siltala
Chief Administrative Officer

Recognition of Traditional Lands

The Town of Milton resides on the Treaty Lands and Territory of the Mississaugas of the Credit First Nation. We also recognize the traditional territory of the Huron-Wendat and Haudenosaunee people. The Town of Milton shares this land and the responsibility for



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the water, food and resources. We stand as allies with the First Nations as stewards of these lands.



Sample Traffic Calming Application

Applicant Information

First Name*

Please enter a first name as it is found on your government issued ID.

Last Name*

Please enter a last name as it is found on your government issued ID.

Address*

Please specify the applicant's address.

Town/City*

Please enter a town or city for the mailing address.

Province*

Please select a province for the mailing address.

Postal Code*

Please enter a postal code for the mailing address. example: A1A 1A1

Phone Number*


Please enter a valid phone number with 10 digits. ###-###-####

Phone Type*

Please choose a type of phone number.

Email*

Please enter a valid email.

 john.smith@milton.ca

Traffic Calming Details

In which season is traffic speeding an issue? (Select all that apply)*

Winter

Spring

Summer

Fall

When is traffic speeding an issue? (Select all that apply)*

Weekdays

Weekends

What time of day is traffic speeding an issue? (Select all that apply)*

Early morning

Morning rush
hour

Midday

Afternoon rush
hour

Late evening

What is the area/zone of your traffic speeding concern? (Select all that apply)*



Community centre



Community safety zone



Hamlet/village



Park



Road with limited visibility



School zone



Subdivision



Unsure

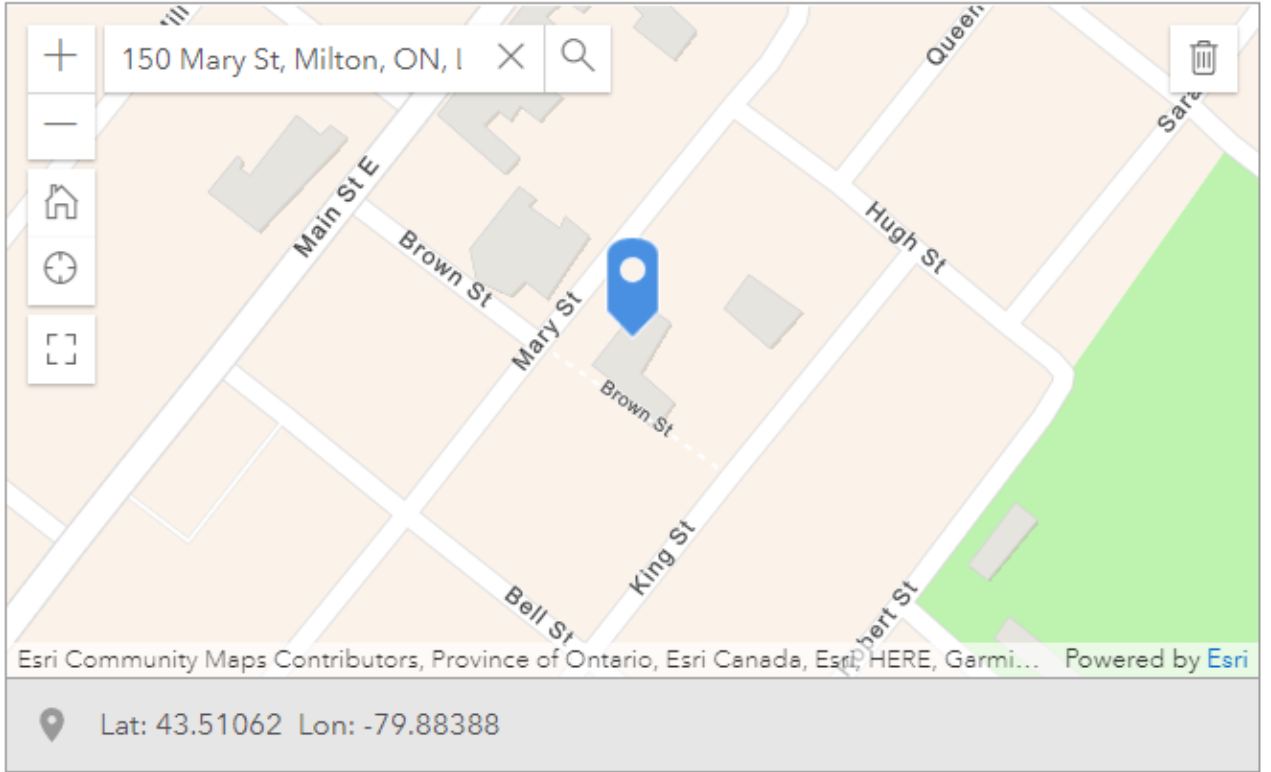
What is the main traffic speeding concern?*

Type Reason.....|

232 //

Please indicate a location of traffic speeding on the map below.*

Find a location in the Search Box or zoom in to an area on the map and click an area on the map. The blue marker will indicate the location of your submission.



Back

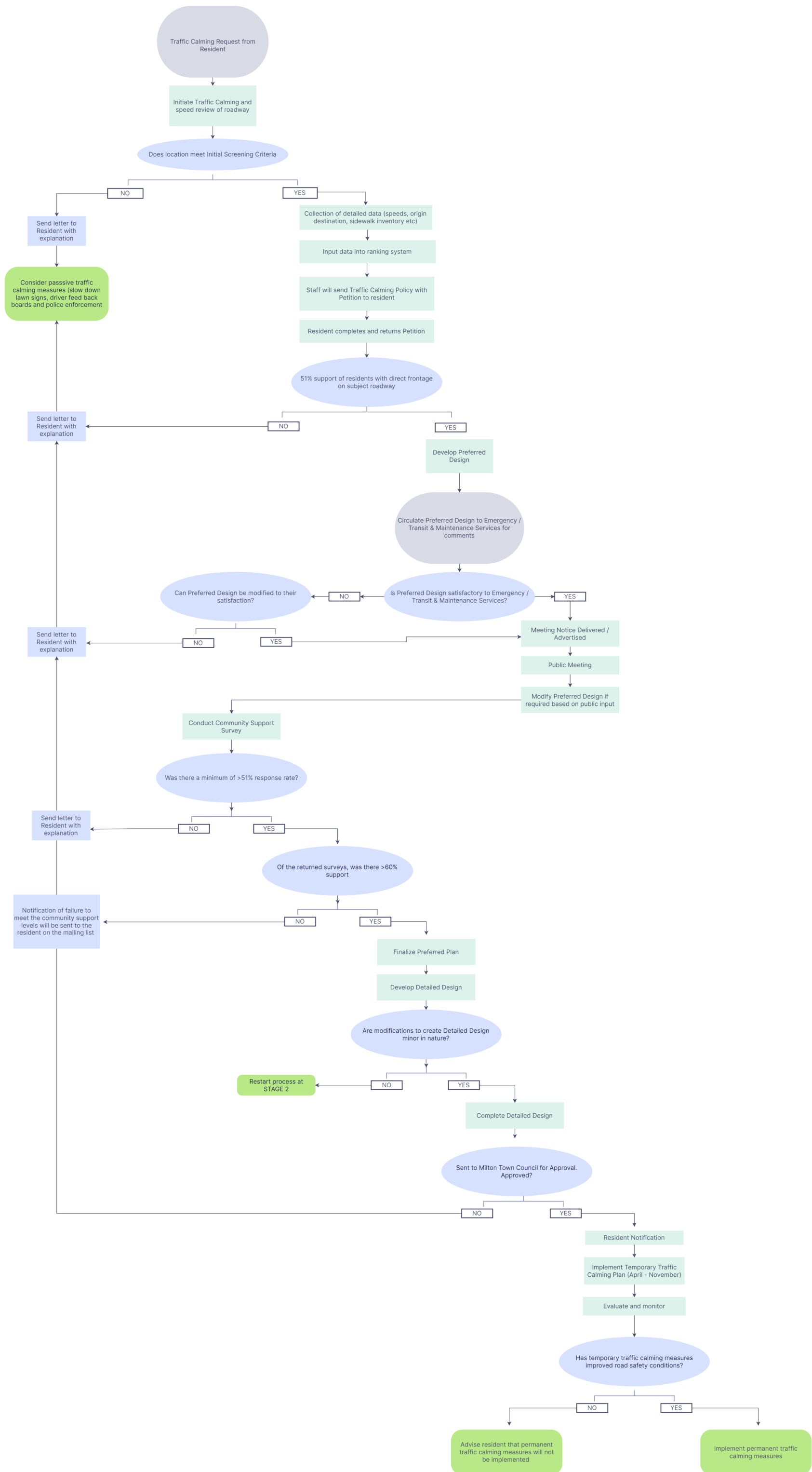
Next

Declaration

Signature (This constitutes your electronic signature)*

Back

Submit





**Town Of Milton
Traffic Calming Policy
Development Services**

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Appendix B: Front-Line Mitigating Measures

Appendix C: Neighbourhood Traffic Calming Review Petition

Appendix D: Traffic Calming Point Assessment System

Appendix E: Neighbourhood Traffic Calming: Frequently Asked Questions

1 INTRODUCTION

1.1 Background

Neighbourhood traffic issues such as high traffic volumes, short-cutting, and speeding are a growing concern for many residents in the Town of Milton. However, they are not typically addressed through any current policies of the Town of Milton and require a comprehensive approach to develop workable solutions beyond spot treatments. Contributing to excessive traffic volume within neighbourhoods is an increase of volume and delay on the arterial road network. When faced with delays, motorists may begin seeking alternate routes, often utilizing residential roadways. These conditions can be attributed to the overall population, growth, and the current infrastructure within Milton. In addition, many vehicle trips are generated from surrounding communities as commuters use Milton roads en route to Mississauga and other areas.

The Traffic Engineering section receives numerous concerns each year from residents regarding speeding, excessive volumes, and overall neighbourhood safety. In an effort to address these concerns, staff will typically use the resources available to them such as signs, pavement marking and driver feedback boards. Other tools include educational programs such as Neighbourhood Speed Watch and Road Watch programs, as well as traffic enforcement conducted by Halton Regional Police Services.

1.2 Purpose

The purpose of this policy is to provide guidelines, procedures and criteria for the initiation, investigation and implementation of traffic calming measures within residential neighbourhoods to address safety concerns related to speeding and excessive volume in a fair and efficient manner. Guidelines included in this policy will be applied to local and collector roadways within primarily residential neighbourhoods. The policy does not apply to arterial roadways.

While similar traffic related issues may exist on these roadways, their primary function 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 What is Traffic Calming?

Traffic calming is defined as “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.”¹ Traffic calming measures can be effective in addressing issues related to vehicle speed, excessive traffic volume and overall neighbourhood safety. Traffic calming measures combined with engineering, educational and enforcement tools, can significantly improve the liveability and safety of neighbourhoods.

The physical traffic calming measures referred to in the above-noted definition refer to a combination of vertical and horizontal deflections in the roadway as well as obstructions and traffic regulations. Commonly utilized traffic calming measures include speed humps, traffic circles, curb extensions, curb radius reductions and raised median islands.

¹ Canadian Guide to Traffic Calming, Institute of Transportation Engineers, 2018, Page 1.

The TAC/ITE Canadian Guide to Neighbourhood Traffic Calming provides a detailed list of traffic calming measures including a brief description as well as the potential benefits and disadvantages of each technique (presented in **Appendix A**).

1.3.1 Traffic Calming Advantages and Disadvantages

Some advantages and disadvantages of traffic calming measures are outlined below:

Advantages

Traffic calming may:

- Reduce motor vehicle speeds;
- Reduce traffic volume;
- Discourage through traffic;
- Improve neighbourhood livability; and
- Reduce conflicts between roadway users.

Disadvantages

Traffic calming may:

- Increase emergency vehicle response time;
- Reduce ease of access in and out of neighbourhoods;
- Result in expensive solutions (time and resources);
- Shift or divert traffic onto neighbouring roadways
- Increase maintenance time and costs (e.g. snow clearing, garbage pick-up); and
- Result in the implementation of measures some consider visually unattractive and/or cause increased noise pollution.

1.4 Objectives

To address undesirable traffic conditions such as speeding and excessive volume on local and collector roadways, the specific objectives of traffic calming and this policy are to:

i. Increase the Safety of Neighbourhoods

Excessive traffic volume and speeding on residential roads is the basis for many of the concerns received from residents. Through the use of physical measures to alter driver behaviour, traffic calming can improve safety on neighbourhood streets. The resulting reduction in volume and speed will create a safer environment for all residents including pedestrians, cyclists, children, disabled persons and seniors.

ii. Improve the Liveability of Neighbourhoods

Traffic calming is intended to uphold and restore the liveability and sense of community within neighbourhoods by minimizing the volume and speed of through traffic. As a result, negative impacts such as excessive noise, air pollution, visual presence of numerous vehicles, and potential safety hazards are minimized. In addition, when

attractively designed, traffic calming measures can enhance the aesthetics of a neighbourhood and improve streetscapes.

iii. Restore Streets to their Intended Function

The intended function of a local roadway is to accommodate low to moderate volumes of traffic travelling at low speeds in and out of neighbourhoods or from points of origin to the collector road system. Local roadways provide direct vehicle access to residences that typically front onto these roads. Through traffic should be discouraged from using local roadways. Milton's collector streets are intended to provide access to properties as well as to provide linkages between local roadways and other collector and arterial roadways, again at lower operating speeds.

iv. Preserve Access and Minimize Impact to Emergency Services, Public Transit and Other Maintenance Services

The potential impacts to these services have been considered in the development of this policy and will continue to be considered throughout the implementation of traffic calming measures. The needs of these services will be balanced against the need to slow and/or reduce traffic. In addition, this policy outlines the process through which all potentially impacted services will have the opportunity to comment on any proposed plans before implementation.

v. Promote Public Participation and Community Support

Traffic calming measures have a direct impact on neighbourhoods and the residents living in them. As such, an integral part of the process includes resident communication and feedback. Good community involvement leads to solutions to specific local traffic issues. Effective communication with residents provides staff with the opportunity to explain to residents the benefits of traffic calming measures while deterring them from less effective countermeasures. The importance of community involvement will be seen further in Section 1.6 *Community Involvement*.

1.5 Guidelines

The following guidelines will be taken into consideration when investigating, selecting and implementing traffic calming measures. This will ensure that the appropriate measures are considered fully, 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 after focus is placed first on improvements to the arterial road network, such as signal timing optimization.

- 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 roadways.
- Consider parking removal on a project-by-project basis. Parking needs of residents should be balanced with the equally important functions of traffic, emergency vehicle access, transit, bicycle, and pedestrian movement.
- Only be installed after Traffic 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.

1.6 Community Involvement

Restoring neighbourhood streets to their intended function and improving overall liveability are primary objectives of traffic calming. In order to achieve this goal, 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.

Communication with residents is made at various stages throughout the process as the traffic calming plan is developed and implemented. Traffic calming plans should be developed with an understanding of current and historical traffic patterns within the area under investigation. For a traffic calming program to be successful, the community must support and be committed to the solution. The only means of gaining this commitment is to involve the residents by informing them of the study location being considered for traffic calming measures.

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.

In order to obtain a working partnership with the community, meetings will be scheduled and survey's delivered to residents affected by the implementation of traffic calming measures. These forms of contact will provide the community with opportunities to offer input into the development of the plan, as well as publicize and increase the awareness of the study.

The review and implementation of traffic calming measures is a time consuming and expensive process requiring many resources. Without public support, the traffic calming measures intended to alleviate traffic concerns, could be met with negative public opinion, as a result jeopardizing the outcome and potential positive impacts to affected neighbourhoods.

1.7 Class Environmental Assessment

Traffic calming is exempt from the Ontario Environmental Assessment Act and is not an undertaking subject to the Municipal Engineers Association Municipal Class Environmental Assessment (October 2000, as amended in 2007)². Where appropriate, public consultation elements of the Municipal Class EA for a Schedule B project have been incorporated in this policy as a best practice.

1.8 Appropriate Streets for Traffic Calming

This policy defines the types of roadways that are suitable for traffic calming in the Town of Milton. Traffic calming will only be considered on local and collector streets and not on arterial roadways in the Town. Through application of this policy and by applying good engineering judgment, traffic calming measures, when installed, will be done so in a manner which will ensure that they provide the most effective solutions while continuing to support the intended function of the roadway. For example, to ensure that transit service remains efficient on collector routes, curb radius reduction would not be recommended at locations where transit vehicles must turn right since curb radius reductions significantly slow the turning speed of vehicles.

Local Roadways

The primary function of local roadways is to provide access to adjacent properties. Local streets are not intended for use as through routes or as important links to move traffic within an area's overall road network.

Local Roadway Examples: Duncan Lane, Bussel Crescent, Willow Avenue

Collector Roadways

Collector roadways balance access to adjacent properties with the need to collect and distribute residential traffic travelling into and out of a neighbourhood. For the purposes of this traffic calming policy, the Town's collector roadways are divided into 2 categories:

- **Minor Collectors:** Carry lower traffic volume (1,000-3,000 vehicles per day) between local roads and major collector roadways and some arterial roadways. Minor collectors help circulate traffic within individual neighbourhoods. Minor collectors link smaller crescent/cul-de-sac type local roadways to the larger road network but are relatively short as compared to major collector roadways which may extend from one side of Town to the other.
 - Minor Collector Roadway Examples: Pine Street, Heslop Road, Pringle Avenue

² The retirement of existing laneways, roads and road related facilities is classified as a Schedule A+ project under the Municipal Engineers Association Municipal Class Environmental Assessment (October 2000, as amended in 2007). Schedule A+ projects are pre-approved, provided that the public is advised prior to implementation. The manner in which the public is informed throughout this policy will serve as the preferred method of public notification for any traffic calming measures that involve the retirement of existing road facilities.

- **Major Collectors:** Carry higher traffic volume (3,000+ vehicles per day) between local roadways, other collectors and arterial roadways. Major collectors intersect with two or more arterial roadways and quite often extend from one end of Town to the other.
 - Major Collector Roadway Examples: Woodward Avenue, Scott Boulevard, Savoline Boulevard, Laurier Avenue

2 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 traffic calming. Traffic calming applications will be accepted until September 30th to be eligible for the coming year. If traffic calming applications are requested after September 30th, requests will be reviewed next year.

2.1 Process Initiation

Residents with traffic related concerns are instructed to submit a request online to investigate traffic calming within their neighbourhood to the Town. Town staff will then conduct a speed review assessment to determine if the requested roadway meets the following Initial Screening Criteria.

2.1.1 Initial Screening Criteria: Determination of Eligibility

When requests are received, a review of the roadway(s) is made to determine if the following initial screening criteria are met:

- Must be a local or collector roadway;
- Must have a minimum 500 Annual Average Daily Traffic (AADT);
- The posted speed limit shall not be greater than 50 km/h;
- All reasonable efforts have been made to address the concerns utilizing other means including engineering, education and enforcement tools;
- Roadway must be assumed and maintained by the Town of Milton;
- Zoning should be primarily residential in nature;

Following this initial review, the Town will inform residents as to whether or not their location meets the initial screening criteria. Residents with requests that meet the above-noted initial screening criteria will receive information about the traffic calming process. Roadways that do not meet the above-noted criteria may still be eligible for other mitigating measures and/or police enforcement initiatives, as discussed below.

2.1.2 Ineligible for Traffic Calming based on Initial Screening Criteria

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, promotion of the Neighbourhood Speed Watch and Road Watch Programs, targeted police enforcement, sign installation and pavement marking modifications.

Front-line mitigating measures will often not 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**.

2.2 Data Collection and Analysis

If the requested location meets the initial screening criteria a more detailed analysis will be conducted. The collection of traffic data, as deemed necessary by Traffic Engineering Staff, will serve to provide a better understanding of the current traffic conditions and to prioritize locations for the investigation of traffic calming.

2.2.1 Data Collection

Staff will conduct the necessary traffic studies to quantify and qualify the traffic concerns within a neighbourhood. The data collected will pertain to vehicle volume, vehicle speed (85th percentile), collisions, pedestrian activity, origin/destination study if request relates to short-cutting traffic, and historical site-specific information. Standard traffic engineering data collection methods will be used for the collection of data.

Once collected and summarized, the data will be utilized in the point assessment system to determine a total point value (See Section 2.2.2.). This assessment will be used to determine the need for traffic calming and assist in setting priority for locations of consideration. The 85th percentile must be 10km or more over the posted speed limit to be considered for traffic calming.

If the implementation of traffic calming could result in undesirable traffic displacement onto parallel roadways, 'before' traffic volume data will be collected as deemed necessary by traffic engineering staff. This data will then be utilized to determine if corrective action is required on parallel streets after comparing the 'before' and 'after' traffic volume.

2.2.2 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. However, staff will continue to address the concerns of the residents by means of the *front-line mitigating measures* (refer to **Appendix B**).

2.2.3 Traffic Calming Neighbourhood Petition

After it has been determined that the requested location meets the initial screening criteria, the proponent must submit a written request, accompanied by a petition. Staff will provide a copy of the petition to the proponent (**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.

The petition must contain an indication of support from at least 51% of the 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 Traffic 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 51% support level will result in termination of the investigation; meeting the required 51% support level will trigger the commencement of a traffic calming investigation.

2.3 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 Section 3 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 outlined in the Canadian Guide to Neighbourhood Traffic Calming and the engineering judgement and experience of staff.

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

2.4 Comments from Emergency/Transit/Maintenance Services

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.

2.5 Define Survey Canvas Area

Using summarized comments from the submitted petition and preliminary information about the roadway and surrounding area, staff will define the survey canvas area. As part of this process, surrounding roads may be identified as part of the investigation. As a minimum, households with

direct frontage onto the roadway to be investigated will be surveyed, in addition to each property whose side yard abuts the subject roadway section. Households that do not directly front the subject roadway, but who have no other option but to use the section of roadway where traffic calming is being proposed (e.g. in the case of a cul-de-sac), will not receive the survey; however a public meeting notice will be delivered to their homes.

2.6 Public Input Notice

Notification will be published in the local newspaper having general circulation in the project area. 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.

2.7 Public Meeting

Staff will host a public information meeting to present the purpose, objectives and implementation process of traffic calming in general. 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.

2.8 Community Support Survey

Based on input received from emergency, transit and maintenance services as well as from the public at the public meeting, the preferred design will be modified. The objective of the community support survey is to determine the level of support for the traffic calming design and to provide an opportunity for the most directly affected residents to oppose any modifications to the road. It is also intended to measure the support of the preferred design proposed to the residents.

2.8.1 Survey Scope

Surveys will be delivered by mail and at a minimum, will contain:

- A brief description of traffic calming, including its advantages and disadvantages;
- The results of the traffic studies undertaken by staff;
- A survey question asking if residents are in favour, opposed or neutral to the implementation of traffic calming measures in the identified location(s);
- The preferred traffic calming design;
- A request for comments and feedback; and
- An indication that this is the final opportunity to modify and improve the preferred design to address any outstanding concerns and to incorporate resident input.

2.8.2 Measuring Community Support

In order for the process to continue, a minimum of **51%** of total surveys delivered must be returned to the Town. Of this **51%**, **60%** acceptance for the implementation of traffic calming is required³. This reinforces that community support is vital for the ultimate success of traffic calming.

For example, if **100** surveys are delivered, a minimum of **51** surveys is required to be returned. Of those **51** surveys, **31** must indicate acceptance for the implementation of traffic calming measures.

If this support rate is not met, the process will cease and a notification of failure to meet the community support levels will be sent to the residents on the mailing list.

2.9 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.

2.10 Detailed Traffic Calming Design

With a recommended preferred traffic calming plan in hand, detailed engineering drawings are required. These drawings will provide a high level of detail taking into consideration but not limited to the following:

- Surface drainage
- Sub base requirements (i.e. granular type and thickness)
- Roadway grade
- Adherence to Guide to Neighbourhood Traffic Calming, Transportation Association of Canada Geometric Design Guide and Town design standards
- Driveway and intersection locations
- Utility locations or relocations
- Surface type (asphalt, concrete, decorative concrete)
- Sightlines and sight distances
- Requirements for warning signs and pavement markings
- Cost considerations

At this point, the feasibility of the preferred traffic calming measures will be evaluated in detail. 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

³ Canadian Guide to Traffic Calming (2018) recommends minimum of 50-70% support from respondents, Page 33.

significantly different final design from that which was presented to residents as part of the survey, staff may recommend additional agency consultation, another survey and/or public meeting.

2.11 Resident Notification

Staff will mail notices to residents to inform them that traffic calming has been either approved or not approved by Town of Milton Council 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. If the traffic calming plan is approved, the notice will include information about the traffic calming review process for the subject roadway and will include the following details:

Copy of Preferred Traffic Calming Plan clearing showing locations of treatments;

Information about where residents may review the detailed design drawings; and

Implementation timeframe (April - November)

2.12 Implementation of Temporary Traffic Calming Measures

Upon approval of Council, resident notification, and sufficient funding, temporary traffic calming measures will be implemented. Temporary traffic calming measures will be implemented from April to November of that year. This will allow time to examine the impact of the measures and their effectiveness before committing funding to permanent treatments.

2.13 Evaluation and Monitoring

Traffic 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, 4-6 months after implementation, the Town will conduct studies to assess if the traffic calming plan has resulted in significant amounts of traffic diverting to adjacent, parallel streets. These after studies will be compared with the Town's 'before' studies to determine the change in traffic volume. While every attempt will be made to avoid transference of traffic onto other streets, if it is found that traffic has increased by greater than 15% (with a minimum of 150 vehicles), on a parallel street due to traffic calming implementation, the Town will explore corrective action opportunities to remedy the situation and/or reduce the impact.

2.14 Removal of Traffic Calming Measures

Traffic calming devices may be removed, at the request of residents provided that at least the same level of support exists to remove as was measured for installation (51% returned surveys, with 60% of respondents agreeing to the removal). The survey will be delivered to the same residents as was initially done to gauge support for traffic calming. Traffic calming measures must be installed for at least 2 years before starting the process to remove them. If traffic calming devices are removed, the subject street must wait at least three years before requesting a new traffic calming plan; at this point the approval process will start over.

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.

3 TRAFFIC CALMING MEASURES

This section of the policy provides a brief description of each traffic calming technique that is appropriate for use within the Town of Milton.

3.1 Measures Considered for Use in Milton

The Canadian Guide to Traffic Calming identifies traffic calming techniques that are commonly used in Canada. However, the Guide notes that not all measures that have been used for traffic calming purposes are appropriate as traffic calming measures. Some measures, such as stop signs and maximum speed signs, for example, should not be used for traffic calming purposes. Although effective for other purposes, these measures have proven to be less effective for traffic calming and are therefore not recommended for use as traffic calming techniques in Milton. The Canadian Guide to Traffic Calming Table 3.1 lists traffic calming measures most commonly used in Canada (also included in **Appendix A**).

This section of the policy identifies the traffic calming measures (identified in **Table 1**) that are appropriate for the Town of Milton. Some traffic calming measures may be considered for both local and collector roadways, whereas others should be used only on one type of roadway.

Other factors affecting the applicability of traffic calming measures in Milton include access for emergency vehicles, transit service, and ongoing maintenance of roadways. Measures that are not suitable for primary emergency response and transit routes are identified in the table.

Table 1- Applicability of Traffic Calming Measures in Milton

Traffic Calming Technique	Measure Applicable On:				
	Road Classification			Other Considerations	
	Local Roadway	Minor Collector Roadway	Major Collector Roadway	Emergency Response Route	Transit Route
Vertical Deflection					
Speed Cushion	YES	YES	YES	YES	YES
Horizontal Deflection					
Curb Extension	YES	YES	YES	YES	YES
One-Lane Chicane	YES	YES	NO	NO	NO
Curb Radius Reduction	YES	YES	YES	YES ⁴	YES ⁵
On-Street Parking ⁶	YES	YES	YES	YES	YES
Raised Median Island	YES	YES	YES	YES	YES
Traffic Circle	YES	YES	NO	NO	NO
Road Diet	YES	YES	YES	YES	YES
Obstruction⁷					
Directional Closure	YES	YES	NO	NO	NO
Raised Median Through Intersection	YES	YES	YES	YES	YES
Right –In / Right-Out Island	YES	YES	NO	NO	NO
Intersection Channelization	YES	YES	YES	YES	YES
Diverter	YES	YES	NO	NO	NO
Full Closure	YES	YES	NO	NO	NO
Signage					
Traffic Calmed Neighbourhood Sign	YES	YES	YES	YES	YES
Other					
Textured Crosswalk	YES	YES	YES	YES	YES

3.2 Vertical Deflection

Traffic calming measures utilizing vertical deflection can be problematic for emergency and transit vehicles since most (e.g. speed humps and raised intersections/crosswalks) requires significant speed reduction to navigate the treatment and should be used as a last resort. Therefore the only vertical deflection technique approved for usage in the Town of Milton is speed cushions.

⁴ No curb radius reduction if emergency vehicles typically turn right at a particular corner being considered

⁵ No curb radius reduction if transit vehicles typically turn right at a particular corner being considered

⁶ No on-street parking on side of street if already banned on that side of street due to roadway width. Narrower design standard does not allow room for parking on both sides.

⁷ Obstructions are more extreme measures and should only be considered after other vertical and horizontal traffic calming measures have been tried. Traffic Diverters and closures should be a very last resort due to their restrictive nature.

Speed Cushions are small speed humps designed to slow passenger vehicles but are typically designed so that the wheel base of emergency vehicles straddle the speed cushion. The wider wheelbase on emergency vehicles allows them to pass over the speed cushion without slowing down. Speed cushions can be sized and designed in sets of 2-3 cushions (one in the middle and one on each side). Another technique is to use a mountable centre island design with a 'knock-down' post in the middle (shown in picture below). The separation between speed cushions is designed with enough space for emergency vehicles to avoid touching the speed cushions and thus not having to slow down. Speed cushions may be used on local and collector roadways with design modifications tailored to suit individual roadway dimensions to ensure smooth passage for emergency and transit vehicles.



Figure 1 - Speed Cushions with Mountable Centre Median⁸, Oakville, ON



Figure 2 - Speed Cushions, Calgary, AB⁹



Figure 3 - Speed Cushions for Emergency Vehicles¹⁰

⁸ The centre, mountable median with speed cushions on either side as shown in image is a design developed by staff at the Town of Oakville using temporary rubber speed cushions developed by TrafficLogix. Photo courtesy of the Town of Oakville.

⁹Image from city of Calgary website: http://www.calgary.ca/portal/server.pt/gateway/PTARGS_0_0_784_203_0_43/http%3B/content.calgary.ca/CCA/City+Hall/Business+Units/Roads/Services+for+your+Neighbourhood/Traffic+Management+Measures+FAQs.htm

¹⁰ Image from website: <http://streetswiki.wikispaces.com/Speed+Bumps,+Humps,+and+Cushions>.

3.3 Horizontal Deflection

This section describes traffic calming measures that cause a horizontal deflection of vehicles. These types of measures discourage short-cutting or through traffic to varying degrees and may also reduce vehicle speeds, reduce conflicts and enhance the neighbourhood environment.

Curb extensions (intersection and/or mid-block) improve pedestrian safety by reducing the distance that pedestrians must travel to cross a roadway, by improving the visibility of pedestrians for approaching motorists, and the visibility of approaching vehicles for pedestrians. Curb extensions are sometimes referred to as bulb-outs or neck-downs. They can be used at intersections and at midblock locations, and can be used alone or in combination with a textured crosswalk and/or a median island. In addition to their pedestrian safety benefits, curb extensions on one or both sides of the roadway also help to reduce vehicle speeds. Curb extensions may be considered for use on both local and collector roadways, including transit and emergency response routes.



Figure 4 - Curb Extension

One-Lane Chicane has a set of two or more alternating curb extensions that narrow a two-lane road to a one-lane road for a short distance. Chicanes require drivers to slow down to drive around them. The effect is to create a serpentine or snake-like driving pattern. Depending on the width of a roadway, chicanes can also be achieved by alternating on-street parking. The Canadian Guide to Neighbourhood Traffic Calming does not recommend using a one-lane chicane on transit or emergency routes. The Institute of Transportation Engineers and the U.S. Federal Highway Administration specify the following applications for chicanes:¹¹

- Appropriate for midblock locations only
- Most effective with equivalent volumes on both approaches
- Typically, includes a series of at least three curb extensions.

A one-lane chicane is most applicable to the Town of Milton's application on local and minor collector roadways that are not designated transit or emergency routes.



Figure 5 - One-Lane Chicane¹²

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 on local and collector roadways, but 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.



Figure 6 - Curb Radius Reduction

¹¹ Hayes, Jolene M., Managing Traffic in Residential Neighborhoods: A New Challenge in Modeling Transportation in Urbanized Regions, Page 8.

¹² Image of one-lane chicane from: <http://www.talkingtraffic.org/index.php/2008/02/05/episode-11-traffic-calming/>: Photo credits go to Richard Drdul. This photo is licensed as a Creative Commons 2.0 Attribution, Share-alike, per the original photographer.

On-street parking is a practical way of decreasing the effective road width by allowing vehicles to park adjacent and parallel to the road edge. This type of measure is applicable on most local and collector roadways. The primary benefit of allowing on-street parking as a traffic calming measure is the reduction in vehicle speeds due to the narrowed travel space. This type of measure may prove to be effective for older residential neighbourhoods closer to the Town Centre. In newer Town subdivisions some roadways have a narrower design to accommodate parking on only one side (parking banned on opposite side). In this situation, changing the parking configuration to permit parking on both sides is not recommended.



Figure 7 – On-street Parking on Both Sides, James St., Milton, ON

Raised median islands are installed in the centre of a roadway to reduce the overall width of the travelled lanes. They help slow traffic without affecting the capacity of the road. Raised median islands can be combined with curb extensions and/or textured crosswalks to further improve pedestrian safety. This measure may be considered on both local and collector roadways.



Figure 8 - Raised Median (with Textured Crosswalk)¹³

Traffic circles are a raised island located in the centre of an intersection designed to reduce vehicle speeds and reduce vehicle-vehicle conflicts. Intersection should have balanced traffic volumes. Traffic circles should not be used on major collector or arterial roadways, even where these roads intersect local residential streets. Experience in other communities has shown that, where traffic circles are located on more major roads that carry significantly higher traffic volume, traffic entering the traffic circle from the major road often fails to yield to traffic that has already entered from the local street, creating a safety concern. Traffic circles should not be confused with the modern roundabout which is typically larger with raised median islands at all approaches and it may serve two or more entry lanes of traffic.



Figure 9 - Traffic Circle, Ancaster, ON

¹³ Image from pps.org (Project for Public Spaces)

Road diets are a new technique used to better define road space for various users and to encourage motorists to slow down. In many cases, wide local and collector streets do not have pavement markings (other than a centre line in the case of collectors) to clearly indicate where motorists should drive. Road diets involve the addition of pavement markings to define driving space, parking space, and, in some cases, bicycle facilities. More clear definition of driving space can induce drivers to reduce their speed. Road diets can be applied to local and collector roadways.

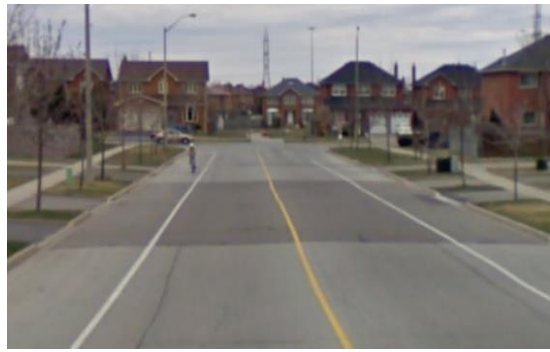


Figure 10 - Road Diet, Mississauga, ON

3.4 Obstruction

This section describes those traffic calming measures that obstruct specific vehicle movements with the intention of deterring or preventing short-cutting traffic from making certain traffic movements. It is important to note that they 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. Although these types of measures are effective at discouraging short-cutting and through traffic to varying extents, they are only recommended for use when horizontal or vertical deflection measures would not be effective or appropriate. The following obstruction traffic calming techniques are appropriate for use in the Town of Milton.

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.



Figure 11 - Directional Closure, Kitchener, ON

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.



Figure 12 - Raised Median through Intersection, Kitchener, ON

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.



Figure 13 - Intersection Channelization and Right-in/Right-out Island, Kitchener, ON

Intersection channelization is used to delineate specific movements at or through an intersection. They typically restrict access to and from cross-streets and therefore impact access to neighbourhoods for residents and emergency vehicles. They may be used on both local and collector roadways.

The following techniques could be used where significant short-cutting problems exist and should only be considered in extreme circumstances, as they severely restrict access for residents. The following 2 techniques should not be used on transit or emergency routes.

1. **Diverters**¹⁴ are raised, physical barriers placed diagonally across an intersection that prevent motorists from travelling straight through an intersection (they are forced to turn).
2. **Full closures** are typically only considered as a last resort, as they completely restrict access for residents and others travelling to and from locations within a neighbourhood. They also restrict emergency and transit access. Less restrictive measures should be considered first, as in most cases these can achieve the same results, without the severe impacts associated with a full closure.



Figure 14 – Diverter

3.5 Signage

Signage prohibiting turns and through movements should only be used as an alternative in situations where appropriate traffic calming measures cannot be used. The use of signage without accompanying physical traffic calming devices should be avoided where possible, as this can create an enforcement problem and, as a result, can be costly in terms of police resources. There is, however, one type of signage that can be used to complement the physical devices installed through a traffic calming plan.

¹⁴ Photo by Richard Drdul. This photo is licensed as a Creative Commons Attribution-Share Alike 2.0 Generic license

“Traffic-Calmed Neighbourhood” signage is used to notify motorists and other road users that they are about to enter a neighbourhood that has been ‘calmed’ by the installation of various traffic calming measures. Although this signage alone does not have any significant impact on driver behaviour, it aims to make the motorist aware of the conditions they are about to enter and could potentially act as a ‘deterrent’ for motorists looking for a short-cut.

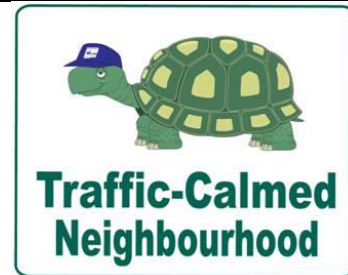


Figure 15 - Traffic Calming Sign, Mississauga, ON

3.6 Other

Textured Crosswalks incorporate a textured or patterned surface which contrasts with the adjacent roadway. It helps to better delineate the crossing locations and helps reduce pedestrian-vehicular conflicts. This treatment may be used on both local and collector roadways. Textured crosswalks can be combined with curb extensions and/or raised median islands to further improve pedestrian safety. They should only be used at formal pedestrian crossing locations with painted crosswalk pavement markings such as those found at signalized or stop controlled intersections.



Figure 16 - Textured Crosswalk, Portland, OR

Appendix A
TAC/ITE Canadian Guide to Neighbourhood Traffic Calming Reference Tables

TABLE 3.2: APPLICABILITY OF TRAFFIC CALMING MEASURES						
Measure		POTENTIAL BENEFITS				Page
		Speed Reduction	Volume Reduction	Conflict Reduction	Environment	
Vertical Deflection	Raised crosswalk	●	○	◐	◑	3-5
	Raised intersection	◐	○	◐	◑	3-8
	Rumble strip	○	○	○	○	3-9
	Sidewalk extension	◐	○	◐	○	3-10
	Speed hump	●	◐	●	◐	3-12
	Textured crosswalk	○	○	◐	◑	3-15
Horizontal Deflection	Chicane — one-lane	●	●	●	◐	3-17
	Chicane — two-lane	◐	○	◐	◑	3-17
	Curb extension	◐	○	○	●	3-19
	Curb radius reduction	◐	○	○	◐	3-21
	On-street parking	◐	○	○	◐	3-22
	Raised median island	◐	○	◐	○	3-24
	Traffic circle	●	◐	●	●	3-25
Obstruction	Directional closure	○	●	◐	◑	3-29
	Diverter	○	●	◐	◑	3-30
	Full closure	○	●	●	◑	3-32
	Intersection channelization	○	◐	◐	◑	3-33
	Raised median through intersection	○	●	◐	◑	3-35
	Right-in/right-out island	○	●	◐	◑	3-36
Signing*	Maximum Speed	◐	○	○	○	3-39
	Right (Left) Turn Prohibited	○	◐	◐	◑	3-40
	One-Way	○	●	◐	◑	3-40
	Stop	○	◐	◐	○	3-41
	Through Traffic Prohibited	○	◐	◐	◑	3-43
	Traffic-Calmed Neighbourhood	○	○	○	◐	3-44
	Yield	○	○	◐	○	3-44
● = Substantial benefits ◐ = Minor benefits ○ = No benefit						
* The primary purpose of signing is to regulate traffic movements, not to calm traffic.						

TABLE 3.3: IMPLICATIONS OF TRAFFIC CALMING MEASURES							
MEASURE		POTENTIAL DISBENEFITS					
		Local Access	Emergency Response	Other Travel Modes	Enforcement	Maintenance	Emplacement Cost
Vertical Deflection	Raised crosswalk	○	◐	◐	○	◐	\$ to \$\$
	Raised intersection	○	◐	◐	○	◐	\$\$\$
	Rumble strip	○	○	◐	○	●	\$ to \$\$
	Sidewalk extension	○	○	○	○	◐	\$\$
	Speed hump	○	◐	◐	○	◐	\$ to \$\$
	Textured crosswalk	○	○	◐	○	◐	\$ to \$\$
Horizontal Deflection	Chicane — one-lane	○	◐	◐	○	◐	\$\$ to \$\$\$\$
	Chicane — two-lane	○	○	○	○	◐	\$\$
	Curb extension	○	○	◐	○	◐	\$ to \$\$
	Curb radius reduction	○	○	○	○	◐	\$ to \$\$
	On-street parking	○	◐	◐	○	◐	\$ to \$\$
	Raised median island	◐	○	○	○	◐	\$ to \$\$
	Traffic circle	○	◐	◐	○	◐	\$\$ to \$\$\$\$
Obstruction	Directional closure	◐	○	◐	◐	◐	\$\$
	Diverter	◐	◐	◐	○	◐	\$\$ to \$\$\$\$
	Full closure	●	●	◐	○	◐	\$\$ to \$\$\$\$
	Intersection channelization	◐	◐	○	○	◐	\$\$ to \$\$\$\$
	Raised median through intersection	◐	◐	◐	○	◐	\$ to \$\$
	Right-in/Right-out island	◐	◐	◐	◐	◐	\$\$
Signing	Maximum Speed	○	○	○	●	○	\$
	Right (Left) Turn Prohibited	◐	○	○	●	○	\$
	One-Way	◐	◐	◐	○	○	\$
	Stop	○	◐	○	●	○	\$
	Through Traffic Prohibited	◐	○	○	●	○	\$
	Traffic-Calmed Neighbourhood	○	○	○	○	○	\$
	Yield	○	○	○	○	○	\$

● = Substantial disbenefits ◐ = Moderate disbenefits ○ = No disbenefits
 \$ = Low cost \$\$ = Moderate cost \$\$\$ = High cost

Appendix B
Front-Line Mitigating Measures

Driver Feedback Boards are pole-mounted devices equipped with radar speed detectors and an LED display. The boards are capable of detecting the speed of an approaching vehicle and displaying it back to the driver. When combined with a regulatory speed limit sign, a clear message is sent to the driver displaying their vehicle speed. The objective of the program is to improve road safety by making drivers aware of their speed, evoking voluntary speed compliance.



Figure 17 - Whaley Way, Milton, ON

Community Entrance Signs “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 their 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.



Figure 18 - Scott Blvd., Milton, ON

Police Enforcement. The Halton Regional Police Services deploys officers to perform targeted enforcement on all roadways within Milton. The District Response Unit (DRU) conducts the majority of the speed enforcement within the Town of Milton and works closely with traffic engineering staff.

The intended benefit of targeted police enforcement is to make drivers aware of local speed limits and to reduce vehicle speeds. Enforcement will only be undertaken after studies have revealed a concern.

Advantages:

- Visible enforcement is very effective
- Driver awareness increased
- Will reduce speeds temporarily while police present

Disadvantages:

- Temporary measure
- Requires long-term use to be effective
- Fines lower than enforcement cost
- Disrupts traffic on high volume streets
- Time and resource constraints

Special Considerations:

- Police enforcement is continually in effect throughout the Town
- Usually conducted on streets with documented speeding problems
- Typically only effective while officer is actually monitoring speeds
- Acceptable speeding tolerance could send motorists incorrect message
- Helpful in school zones
- Short-term benefits (benefits not sustainable) without regular enforcement

Road Watch Program is a community initiative that gives residents and visitors an opportunity to report dangerous and aggressive drivers to the police. Within Milton, the Halton Regional Police operate the Road Watch Program and Citizen Report Forms are available at all Halton Regional Police Stations or they can be obtained at www.haltonpolice.ca.



Neighbourhood Speed Watch Program is a community-based educational initiative that provides immediate awareness to both the motorist and residents of vehicle operating speeds. The program consists of a portable message board and radar speed gun which when installed on the roadside by the Halton Regional Police, electronically displays the speed of an approaching vehicle compared to the posted speed limit. The unit is designed to alert the motorist to their operating speed.

The Neighbourhood Speed Watch Program is not intended to be viewed as an enforcement program. The primary focus of the program is to raise community awareness related to vehicle operating speeds on residential and collector roadways.



Appendix C
Neighbourhood Traffic Calming Review Petition



Town of Milton
150 Mary Street
Milton, Ontario
L9T 6Z5

Date: Milton Staff Note: Insert date before sending

To: Resident/Homeowner

Re: Neighbourhood Traffic Calming Review Petition

Thank you for your interest in traffic calming. We have confirmed that your requested location meets the traffic calming initial screening criteria which indicates that your location may be eligible for traffic calming. Therefore, you may proceed with the next step in the process which is to complete the Neighbourhood Traffic Calming Review Petition (attached). Completion of the petition is an important step in the process to determine if your neighbours support your request for a traffic calming review.

Restoring neighbourhood streets to their intended function and improving overall liveability are primary objectives of traffic calming. In order to achieve these objectives, 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. Please see the attached Traffic Calming Process Flow Chart for a step-by-step outline of the process.

If your submitted petition receives the required minimum support from residents, a traffic calming review will be initiated for the requested roadway. The results of the petition must show support from at least 51% of the households with direct frontage onto the roadway to be investigated. If the traffic calming review determines that traffic calming is warranted on your roadway, Town staff will determine the type(s) of traffic calming measures most suitable to resolve issues particular to your roadway and will proceed through the traffic calming process.

Please request that residents read the attached 'Petition Letter' to help them gain a better understanding of the rationale behind the petition, before they sign it.

If you have any additional questions or comments please contact

Insert staff member's name.



Town of Milton
150 Mary Street
Milton, Ontario
L9T 6Z5

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

Please read before signing petition

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

Milton 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 Milton 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 51% 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 51% 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 supporting the initiation of a review.

If the outcome of the Town's review indicates that 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 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. Following the public meeting, the traffic calming plan will be modified, as required, and the Town 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:

Insert staff member's name.

Appendix D
Traffic Calming Point Assessment System



MILTON

Town of Milton

Traffic Engineering Services

TRAFFIC CALMING POINT ASSESSMENT

Location:

Date Compiled:

Roadway Type:

Local

Collector

3.6.1.1 Traffic Data

	<u>Feature</u>	<u>Criteria</u>	<u>Total</u>
1.	Speed	5 points for every 2 km/h that the 85 th percentile speed is greater than 10 km/h over the posted speed limit	
2.	Volume	Local Roadways: 5 points for every 1,000 ADT Collector Roadways: 5 points for every 2,000 ADT	
3.	Short-Cutting Traffic	Local Roadways only	
4.	Collisions	1 points for every 2 collisions/year over a 3 year period	

3.6.1.2 Road Characteristics

	<u>Feature</u>	<u>Criteria</u>	<u>Total</u>
5.	Sidewalks	10 points for no sidewalks with evidence of pedestrian activity; 5 points if sidewalks on only one side	
6.	Pedestrian Generators	5 points for each nearby* pedestrian generator such as a school, playground, community centre, libraries, retail centres, etc. (*Nearby = must have direct connection to subject roadway)	

3.6.1.3 Warrant

Where does this location rank on the priority ranking list?

#

Appendix E
Neighbourhood Traffic Calming: Frequently Asked Questions

Neighbourhood Traffic Calming: Frequently Asked Questions

1. What programs or measures are available in The Town of Milton in order to address the traffic concerns on my street?

The Town of Milton and Halton Regional Police have measures, such as increased enforcement, the Road Watch program, Neighbourhood Speed Watch Program, the Radar Message Board Program and regulatory measures (e.g. signage). Traffic Calming may also be a possible solution on your roadway. Stringent criteria are followed in order to approve and implement any of these programs on a street or within a neighbourhood.

2. Who do I contact to get any of these programs or measures on my street, or to report any traffic problems?

Please contact The Town of Milton, Development Services-Traffic Engineering, 150 Mary Street, 905 878 7252 ext 2500

3. What can be done about speeding and short-cutting traffic on my street?

An investigation can be undertaken by Town staff to determine which programs listed under question 1 are most suitable for your street.

5. Why doesn't the Town use more stop signs to slow traffic?

Stop signs should only be installed where warranted based on traffic volumes or collision history. Motorists tend to ignore unwarranted stop signs, leading to potential safety hazards for pedestrians and drivers alike. The Town has a stop sign warrant guide that must be followed and satisfied in order for stop signs to be installed at an intersection.

6. Why doesn't the Town just reduce the speed limit to slow traffic?

Setting speed limits on public roadways is governed by the Highway Traffic Act (HTA) and speed limit reduction alone does not necessarily result in reduced travel speeds on a roadway.

7. Why doesn't the Town use photo radar to catch speeders?

Automated Speed Enforcement has been approved in Ontario and at this time, the Town of Milton is in the process of reviewing the new regulations related to Automated Speed Enforcement.