
CP. To be assigned by Clerks Services

Section:

Subsection:

Subject: Traffic Calming

Approval Authority:

Effective Date:

1. Policy Statement

This document presents a recommended traffic calming policy framework for the Town of Innisfil. Traffic calming is a tool available to the Town to address problematic traffic speeds on local and collector streets.

The original version of this document was prepared as part of the 2018 Town of Innisfil (Town) Transportation Master Plan (TMP) Update. The TMP Update furthers the development of a multimodal, multipurpose transportation network that serves people of all ages and abilities. The Traffic Calming Policy supports this goal by addressing increased traffic speeds and volumes, which pose a safety risk for all road users. The Policy is accompanied by - and should be read alongside - three other targeted documents: the *Pedestrian Crossing Policy*, the *Complete Streets Policy* and the *Town of Innisfil Traffic Calming Design Guide*. The policy is also informed by and aligns with the Town's draft *Official Plan*, and the Town's 2016 *Trails Master Plan*. Projects of this type do not require approval under the Ontario *Environmental Assessment Act*.

2. Purpose/Scope

This policy framework establishes methods for the initiation, preparation, and completion of traffic calming projects. The main components of the policy framework are:

- A description of traffic calming measures to be considered for use in Innisfil,
- An analysis and approval process that incorporates key requirements of resident participation, agency consultation, and Traffic Safety Advisory Committee Review, and that allows for pilot projects,
- Warrant criteria based on traffic conditions, safety and technical considerations, and impacts to emergency services,
- A ranking process that is used to prioritize traffic calming proposals.

While the process outlined in this document is intended to be clear and consistent, it is recognized that each location and traffic issue may be unique. This policy framework is intended to guide Town staff in applying their professional judgment to each unique situation.

The primary goals of this policy are to:

- Reduce traffic speeds and decrease through-traffic to acceptable levels to enhance the liveability of residential neighbourhoods;
- Promote safety, accessibility, comfort, and mobility for all road users
- Provide a tool that Town officials and the public are confident is effective, fair, and consistent in evaluating and prioritizing issues related to traffic speeds and volumes on local and collector streets.
- Support the retrofit of streets to align with the desired functionality and characteristics outlined in the Innisfil *Complete Streets Guidelines*.

Where possible, consideration should be given to improving the aesthetics of the roadway.

3. Definitions

Automated, Radar-Based Speed Collection: For longer term or permanent applications for speed data collection, automated, radar-based speed data collectors can be installed on roadsides within the study area. These speed data collection methodologies have been, and are currently being used by the Town.

Bicycle Network: Bicycle network refers to routes designated by the Town's Trails Master Plan, or in other Town Policy.

Horizontal Measures: Horizontal measures cause shifts in the horizontal alignment of the vehicle and forced turning movements, resulting in reduced vehicle volumes and short-cutting. Some horizontal deflection measures will also reduce vehicle speeds and conflicts between automobiles and other modes of travel.

Other Measures: Other measures are those that do not involve a horizontal or vertical change to the road surface, but still have an effect in changing driver behavior, most notably causing drivers to slow down. They are also effective in alerting drivers to the presence of people walking or cycling and encouraging predictable road use by all users.

On-the-ground Data collection: Traditional methods for collecting reliable speed and traffic data usually includes either a person(s), or a mechanical device (e.g., tube counters). More modern methods include the use of Traffic Cameras at the study location collecting traffic movements and/or speed data. These types of traditional and modern speed data collection methodologies are historically and currently in use by the Town.

Preventable Collisions: Preventable collisions are those that are considered preventable through the use of traffic calming measures (e.g. speed-related collisions).

StreetLight Data: StreetLight is an innovative company that uses "Big Data" (based on satellite-detected signals from cellphones and GPS units) to collect travel speeds and origins/destination. StreetLight's approach for data collection for all roadway facilities, 24 hours a day, all days of the year, is a viable method for obtaining recent (currently, within 2 months) traffic data in lieu of on-the-ground studies. The following is a summary of the positive and negative aspects of the StreetLight platform as it pertains to communities such as Innisfil.

Traffic Calming: Traffic calming, as defined by the Institute of Transportation Engineers (ITE) Subcommittee on Traffic Calming, 1997 is, “The combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behaviour and improve conditions for non- motorized street users.”

Traffic Cameras: Rather than have traditional on-the-ground data collectors situated within the study area collecting traffic volumes, devices such as traffic recording cameras can be temporarily installed to collect video footage. The footage can then be examined and analyzed.

Traffic Safety Advisory Committee: The Traffic Safety Advisory Committee (TSAC) is a committee that advises and makes recommendations to Council on matters respecting traffic safety within the Town of Innisfil.

4. Responsibility

As outlined elsewhere in this document Town Staff in Engineering and Operations are responsible for project initiation, initial screening, warrant criteria screening, project prioritization, and project implementation and maintenance. Staff are also responsible for the preparation of documents for Traffic Safety Advisory Committee and Council review and evaluation.

5. Application

This policy shall apply Town-wide primarily to existing roads eligible for the implementation of traffic calming measures as defined in the warrant criteria in **Section 6**. However, this policy does not restrict the application on new streets or in street re-design projects.

6. Administration

2.1 Background

This policy was developed taking into account Town and Provincial policy. It was based on the *Canadian Guide to Neighbourhood Traffic Calming*, prepared by the Institute of Transportation Engineers (ITE) and the Transportation Association of Canada (TAC), in 1998. It also considered traffic calming policies used by other municipalities throughout Ontario and pilot projects underway in Innisfil.

2.1.1 Legislative Framework

This document is being prepared as part of the Town of Innisfil (Town) Transportation Master Plan (TMP) Update. The TMP Update aims to further the development of a multimodal, multipurpose transportation network that serves people of all ages and abilities. The Traffic Calming Policy supports this goal by addressing increased traffic speeds and volumes, which pose a safety risk for all road users. The Policy is accompanied by and should be read alongside three other targeted documents: the *Pedestrian Crossing Policy*, the *Complete Streets Policy* and the *Town of Innisfil Traffic Calming Design Guide*. The policy is also informed by and aligns with the Town’s draft *Official Plan*, and the Town’s 2016 *Trails Master Plan*. Projects of this type do not require approval under the Ontario *Environmental Assessment Act*.

2.1.2 Best Practice Review

The traffic calming measures included in this policy are informed primarily by the *Canadian Guide to Neighbourhood Traffic Calming* (the Guide) and supported by recommendations from the National Association of City Transportation Officials (NACTO) *Urban Street Design Guide* and *Urban Bikeway Design Guide*.

Published in 1998 by the Transportation Association of Canada (TAC) and the Canadian Institute of Transportation Engineers (CITE), the Guide provides guidance on the design and installation of traffic calming measures. An update to the Guide is currently underway.

NACTO's *Urban Street Design Guide*, published in 2013, emphasizes the role of streets as public places, rather than solely conduits for traffic. It provides guidance on how to design for safe driving, biking, walking, and public activity. The *Urban Bikeway Design Guide*, published in 2014, provides an extensive review of speed and volume management techniques.

6.1.3 Review of Other Jurisdictions

This policy is informed by other traffic calming policies throughout Ontario, including: the Town of Milton's 2011 *Traffic Calming Policy*, the City of Barrie's *Traffic Calming Policy*, the Town of Ajax's *Traffic Calming Warrant Update*, the City of London's *Traffic Calming Practices and Procedures for Existing Neighbourhoods*, and the City of Toronto's 2010 *Traffic Calming Policy*

6.2 Traffic Calming Measures

This section discusses the traffic calming measures to be considered for Innisfil. Measures are grouped into three categories: vertical measures, horizontal measures, and other. The selected measure(s) will depend on identified issues and the road's function, however all measures shall be considered, as opposed to the exclusive use of speed humps. For the full list of the Town of Innisfil traffic calming measures toolbox, refer to the Town's Traffic Calming Design Guide.

6.2.1 Vertical Measures

Vertical measures are meant primarily to reduce vehicle speeds, but they may also contribute to volume reductions as it can take motorists longer to get to their destination as a result of reduced speeds.

6.2.2 Horizontal Measures

Horizontal measures cause shifts in the horizontal alignment of the vehicle and forced turning movements, resulting in reduced vehicle volumes and short-cutting. Some horizontal deflection measures will also reduce vehicle speeds and conflicts between automobiles and other modes of travel.

6.2.3 Other Measures

Other measures are those that do not involve a horizontal or vertical change to the road surface, but still have an effect in changing driver behavior, most notably causing drivers to slow down. They are also effective in alerting drivers to the presence of people walking or cycling,

and encouraging predictable road use by all users.

6.2.4 Benefits and Disadvantages

Effects from the implementation of physical measures may be both positive and negative. The Town of Innisfil Traffic Calming Design Guide presents the benefits and disadvantages of each include traffic calming measures as well as the relative cost for implementation.

6.2.5 Supplemental Measures

The traffic calming measures outlined in this policy can be supplemented by other measures. These options may be applied together with physical traffic calming measures or on their own when physical measures are not warranted.

Education

Traffic calming can be supported by education to encourage safe driving behavior. This can include brochures, public meetings, advanced warning or information signs, and street signs.

Signage

Traffic control signs should only be used in isolation when warranted or where physical measures are not feasible. Signage alone tends to be ineffective and not possible to enforce.

The use of stop signs solely as a traffic control measure is also not recommended. For example, introducing unwarranted midblock stop signs to slow traffic can cause driver confusion and potential enforcement problems.

The *Ontario Traffic Manual* provides the designer with the general requirements for most signing applications including islands, pedestrian crossings, object markers, lane lines and advance warning signs. The *Canadian Guide to Neighbourhood Traffic Calming* also provides direction with respect to the appropriate signage for specific traffic calming applications.

Enforcement

An increase of police presence is a viable solution to minimizing speeds and traffic related violations on the Town's roadways. Police visibility can reduce traffic-related issues on neighbourhood roadways. However, the effect of enforcement is limited to the resources available.

Roadside Design

A motorist's perception of the appropriate driving speed is influenced by the design aspects of the roadway. Research indicates that vehicle speeds are slower in areas where the vertical elements (such as street trees, adjacent buildings, light poles designed in a visually appealing manner), are greater than the width of the road. These elements can be implemented either separately or in conjunction with other traffic calming measures and have the added benefits of improving aesthetics and creating a sense of place as opposed to a vehicular thoroughfare.

2.3 Proposed Implementation Framework

The Traffic Safety Advisory Committee

The Traffic Safety Advisory Committee (TSAC) is a committee that advises and makes recommendations to Council on matters respecting traffic safety within the Town of Innisfil.

The role of the committee is to review traffic safety concerns as identified by various stakeholders including Council, staff, residents, South Simcoe Police Services, and other interested Parties. The Committee shall meet as required to evaluate potential solutions and to prepare recommendations or a plan of action for the approval of Council.

The goal of the Committee is to promote and support the implementation of strategies and solutions to alleviate traffic safety concerns through the use of public education and awareness, the recommendation of by-laws, and other methods that will have the effect of improving the general safety of the public at large.

Town Staff will engage with stakeholders to provide agenda items for Committee consideration, and the Committee shall meet as required to evaluate potential solutions. When required, the Committee will prepare recommendations or a plan of action for the approval of Council. If potential solutions are minor in nature and are within the scope of current Council-approved operating and capital budget amounts, Engineering and Operations staff may implement such solutions as suggested by the Committee without further approval from Council.

Project Initiation

The traffic calming review process can be initiated proactively by Town Staff to investigate areas of potential concern, or reactively, in response to a complaint from the public, community associations, school boards, or businesses.

PROACTIVE

Application of the ongoing proactive program involves continuous screening to be performed to update the program using the new data collected every year.

REACTIVE

A traffic calming concern could be raised directly in person, by letter, by telephone, by e-mail or via fax. A process must be established to record and track the issue so that it cannot be lost or set aside. A request form should be created and made available on the Town's website. A formal response to the originator is required at this point, to acknowledge receipt of their communication and to advise as to how the issue is to be handled.

Initial Screening

Once a traffic calming request is received, the first step is to pre-screen the request using the criteria shown in Table 1. This process will help determine if a location is eligible for the implementation of traffic calming measures. The pre-screening criteria presented in Table 1 should be considered as the minimum eligibility requirements for traffic calming measures. The location specified in the request is only to be considered as a potential candidate for traffic calming applications if all pre-screening criteria are met. Investigation

Review any past concerns and past traffic count data if not older than five years for volume data and not older than three years for speed data, otherwise conduct new counts (volume and speed). Speed and volume data may be collected using traditional on-the-ground studies using video analytics, radar, or manual studies. Alternatively, commercially available GPS and location-based services data (collected from smartphone apps) may be used.

Warrant Criteria Screening

Refer to the warrant criteria in Table 1. If warrants are met, proceed. If no warrants are met,

then request speed enforcement or implement a selection of the supplementary measures outlined above.

Development of Alternatives

The traffic calming alternatives as detailed in Section 4 may be implemented on a trial basis to gauge the impact of their permanent application in an adjustable and cost-effective manner. The proposals must be evaluated to determine if there may be significant traffic impacts on adjacent streets. If there is this potential, the review of the traffic calming proposal should be modified to include the adjacent, impacted streets.

Finalize Concept

Develop final traffic calming concept.

TSAC Review

Conduct Traffic Safety Advisory Committee (TSAC) Review of the traffic calming proposal. The TSAC makes all traffic calming recommendations to Town Council.

Prioritization

Determine ranking of installation as outlined in Table 2

Council Review

Present proposal to Council, either as part of the regular, two-year Capital Budget, or as a mid-year request. If approved by Council, proceed to implementation.

Evaluation

Conduct an after study of speed and volume following the implementation of a measure using the same methods outlined in the investigation stage. Both temporary and permanent measures shall be monitored for a period of six months to a year after implementation to determine their effectiveness.

The evaluation will assess the project's effectiveness in mitigating the traffic related problem and impact on the surrounding road network. An information report shall be prepared for the TSAC, summarizing effectiveness. The report will identify those projects that may require follow-up measures and reintroduction into the traffic calming program. Modifications to permanent or temporary traffic calming measures, or the conversion of temporary measures to permanent measures will require the same process as implementation of a new project.

The findings of post implementation studies will be used to make refinements to the Traffic Calming Policy. As more local experience is gained, the effectiveness of various traffic calming measures and impacts will be valuable in gauging their applicability in future projects.

6.3.1 Warrant Criteria for Traffic Calming

The warrant criteria for traffic calming measures are shown in **Table 1** All requirements must be met to meet the warrant and be eligible for traffic calming.

Table 1: Warrant Criteria for Traffic Calming Measures

Criteria	Requirement
Location Area	Primarily residential area
Road Classification	Local or Collector
Road Grade	Road grade \leq 8% (depends on mitigative measure)

Street Length	Street segment length with uninterrupted traffic flow (no traffic control) \geq 150 m
Traffic Volumes	Traffic volumes \geq 250 vpd (vehicles per day) (data no older than five years)
Posted Speed Limit	Posted speed limit of 50 km/h or less
Vehicle Speeds	85 th percentile speed is 10 km/h or more over posted speed limit (using available data, not older than 3 years)

6.3.2 Project Ranking Framework

The point-based ranking system to be used for implementation is outlined in **Table 2**.

Table 2: Ranking Criteria for Traffic Calming Project Prioritization

Criteria	Point Criteria	Max Pts.	Score
Vehicle Volumes	Local: 5 pts for every 1,000 AADT (rounded down). (e.g., 1,400 AADT would get 5 pts) Collector: 5 pts for every 2,000 AADT (rounded down). (e.g., 1,700 AADT would get no points, 2,400 would get 5 pts)	20	
Collision History	1 pt. per collision of any type (other than involving pedestrians/cyclists) in the last 5 years. 5 pts. per collision involving pedestrians or cyclists in the last 5 years.	30	
Public Complaints	5 pts. per complaint regarding vehicle speeds in most recent year to a maximum of 20 points.	20	
Pedestrians and Cyclists	10 pts for no sidewalk or bike lanes. 5 pts for every nearby (within 500 m) pedestrian generator (e.g., park, places of worship, town hall, mall, theatre, library). 10 pts for every nearby school.	30	
Total (minimum 15 to continue data collection)		100	

Criteria	Point Criteria	Max Pts.	Score
Vehicle Speeds	1 pt. for every 1 km/h that the 85 th percentile speed exceeds the posted speed limit. Additionally, 1 pt. for every 1 km/h 95 th percentile speed exceeds 20 km/h over the speed limit.	30	
Total (minimum 25 for TCM consideration)		130	

³ Preventable collisions are those that are considered preventable through the use of traffic calming measures (e.g. speed-related collisions)

⁴ Bicycle network refers to routes designated by the Town's Trails Master Plan, or in other Town Policy

6.3.3 Removal Process

The process to have traffic calming device(s) removed permanently is as follows:

- A citizen, agency, or stakeholder may request that traffic calming devices be removed.
- A petition form must be obtained through the Town where the Town staff would outline a study area corresponding with the properties abutting the

roadways forming the study area of the original traffic calming proposal. The petition must then be signed by a minimum of 60% of study area residents, agencies, and businesses, and property owners in support of the removal

- Once the petition form is completed and submitted to the Town, staff would review the project's effectiveness and potential problems associated with its removal and submit a formal report to Council with their recommendations.
- If recommended for removal and approved by Council, property owners within the study area would share the cost of the removal.
- If removed, no request a traffic calming study will be considered at that location for at least three years.

6.4 Program Planning & Resource Requirements

Resource requirements encompass a variety of factors and shall be considered upon the start of all traffic calming projects. The number of traffic calming initiatives undertaken annually will depend on the Town's Capital Budget allocation for traffic calming projects and availability of staff resources. The list of approved projects and their priority ranking will be maintained and updated annually. Depending on the types of traffic calming measures installed, materials used and extent of their application, the cost of implementation will vary. Where funding is limited, a phased project implementation plan shall be considered.

The evaluation of new traffic calming requests shall be coordinated with the annual construction schedule, or two times per year.

The following sections outline the costs associated with a traffic calming program.

6.4.1 Administration Costs

Administration Costs include staff time to obtain and analyze data, ongoing prioritizing of requests, public consultation and design of traffic calming measures. The associated costs for administration would fall under the normal operating budget by utilizing existing staff and resources.

6.4.2 Capital Costs

Capital Costs relate to the construction of traffic calming devices. Traffic calming capital costs will be solely the responsibility of the Town.

The budgeting of each potential TCM project will depend on the scope of the application, including the individual costs and timelines of the TCM measures employed. For projects not requiring significant roadway modifications, it is advised that the budgeting for the design and construction be done within the same year. For larger traffic calming projects, the budget for the design phase should be prepared for the first year and the construction budget should be prepared for the following year.

Design

Most of the potential TCM presented in this Guide require some measure of design. Potential TCM may have several variations which must be explored, with the appropriate application being chosen based on local traffic patterns, roadway configurations, environmental conditions, and other factors. It is advised that, once TCM are chosen and prioritized, the Town engage a professional designer who is thoroughly familiar with TCM, including their specific design and implementation requirements. The Town may choose to undertake some of the design process, themselves, but it is essential that a Traffic Engineer (or equivalent) at least review the Town's design and implementation plan.

The design process for virtually all the TCM presented in this Guide is already carefully outlined in various TCM design guides. The Transportation Association of Canada (TAC) has a detailed design process for TCM, as does the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO) in the United States. These design guides are complete and well researched and provide the necessary instructions for designing the TCM presented in this Innisfil TCM Guide.

The Town has previously implemented a variety of TCM on various roadways, including temporary and permanent mounted radar speed displays, as well as temporary roadside radar speed display boards carried by mobile trailers. The results of these TCM applications are discussed further in the Innisfil Pilot Study Report.

Construction

Once a TCM has been chosen, and a full design is completed, the application must be installed correctly at the designated location. Ideally, these measures would be constructed when weather and roadway conditions are suitable (i.e., not during late fall or winter months). Several of the potential TCM may need to be removed in the fall and reapplied during the spring as they may interfere with winter snow removal, and possibly get damaged. If several TCM are chosen for a particular location, they should all be implemented within a short period of time to achieve the desired, combined traffic calming effect.

6.4.3 Operations and Maintenance Costs

The costs for maintaining the traffic calming device shall be the responsibility of the Town. However, if the device in the future has a request for removal than the associated cost shall be the responsibility of the residents and stakeholders affected.

Winter Maintenance of Traffic Calming Devices

The design and implementation of traffic calming devices must include a consideration of winter maintenance to ensure their year-round effectiveness and safety, and to

ensure plowing and other winter maintenance activities are not unduly impacted. The *Canadian Guide to Traffic Calming* includes notes on the experiences of other Canadian municipalities with similar winter conditions to the Town of Innisfil and their approach to traffic calming. In general, devices can be used successfully in all four seasons, with the following considerations:

Vertical Deflection

- Snow clearing time may be increased.
- Plow operators must slow at edge of vertical deflection devices to avoid damage. Some plows may be required to lift the blade.
- Locations of vertical deflection devices should be marked by signage.

Horizontal Deflection and Obstructions

- Signage or vertical delineators should be employed to mark edges of irregular curbs.
- The design of traffic circles or roundabouts should include radii that plows can circulate.
- On-street parking should be restricted during and/or after snowfalls to facilitate plowing.
- Little or no increase in snow clearing time expected, depending on the device employed.

The temporary alternatives outlined above may also be removed during winter months, recognizing that their associated traffic calming benefits would then also be lost.

6.5 New Roadway Facilities

For greenfield developments involving the construction of new roadways and intersections, a traffic calming review should be conducted during the initial roadway network planning stage. During this planning process, a traffic calming plan should be required, with all potential TCM included on the site plans. All TCMs to be used for new developments should be selected and installed in accordance with the latest Innisfil Traffic Calming Design Guide.

7. Exceptions

No exceptions.

8. References

9. Revision History

Revision No.	Date	Summary of Changes	Approval Authority