

Corporate Policy and Procedure

Policy	Traffic Calming Policy – Policy 016
Category	Departmental
Authority	Engineering and Transportation Services
Related Policies	N/A
Approved By	City Council
Effective Date	July, 1998
Revision Date	July, 2020

Policy Statement

The City of Guelph will undertake traffic calming on local and collector roads where validated by the criteria established in this policy.

Background

The Engineering and Transportation Services department receives numerous concerns each year from the public regarding speeding and high vehicle volumes, typically through residential neighbourhoods.

To resolve these concerns, staff will develop a traffic calming plan that incorporates traditional traffic control techniques and/or physical measures. Feedback from relevant stakeholders and area residents will be considered while developing the traffic calming plan. This policy will apply to local and collector roadways only.

Any road above 50 km/h will not qualify for traffic calming. The policy and procedures in this document therefore do not apply to arterial roadways. Concerns on arterial roadways will be addressed through the Community Road Safety Strategy.

Purpose

This policy document outlines procedures for initiating, reviewing, implementing, and evaluating traffic calming plans to address traffic safety concerns related to speeding and high vehicle volumes.

Introduction

This document presents a revised Traffic Calming Policy for the City of Guelph, initially adopted in July 1998 and previously revised in January 2006.

The use of traffic calming measures can reduce the speed and volume of traffic thereby increasing safety for all road users. Additional benefits include the reduction of vehicular traffic, occurrence of excessive speeding, noise, vibration, air pollution and collisions, while providing a safer environment for all road users.

The Transportation Association of Canada (TAC), in collaboration with Canadian Institute of Transportation Engineers (ITE), published 'The Canadian Guide to Traffic Calming', in 2018. The document provides guidance for traffic and transportation professionals in Canada on the use, application and recommended design parameters for various physical and passive traffic calming measures. The guide was designed to ensure uniformity in application of traffic calming measures throughout Canada. This policy is intended to define how and when the City will apply material contained in the 'Canadian Guide to Traffic Calming'.

Goals

To address traffic concerns in neighbourhoods, the Traffic Calming Policy will have the following goals:

- Improve public safety for all road users
- Encourage roadways to function as intended; and
- Encourage active transportation through infrastructure safety modifications

Objectives

Objectives to achieve the above goals will include:

- Reduce excessive vehicle speeds;
- Reduce vehicle volumes;
- Minimize conflicts between road users

Principals of Traffic Calming

The City of Guelph supports traffic calming initiatives that primarily reduce speeding, vehicle volumes and collisions in residential neighbourhoods. The following outlines the principals of traffic calming in Guelph:

1. Traffic Calming measures will be considered on all city roadways except arterial roadways.
2. Developers will be required to design new streets to limit the potential for excessive speeding and volume. If unable to do so to the satisfaction of the City Engineer or designate, then traffic calming measures will be designed and incorporated into new subdivision plans to try and limit vehicle speeds and the volume of traffic to the satisfaction of the City Engineer or designate, at the expense of the developer.
3. If a roadway has been identified in the Cycling Master Plan, any traffic calming measure would need to be designed to reduce negative impacts on the cycling facility.
4. To accommodate the installation of a traffic calming device there may be a requirement to locally restrict a portion of on-street parking.
5. Eligible traffic calming locations will be rated and prioritized annually by staff based on the criteria outlined in **Attachment 2.1 – Prioritization Rankings**
6. Traffic calming measures will be installed based on funding available through the City's capital budget process.
7. New and innovative methods of traffic calming will continue to be investigated, considered and used where feasible.

Applicable Traffic Calming Measures

The following is a list of traffic calming measures that the proposed policy will consider. Further information for the proposed measures can be found in **TCP Attachment 2.2 – Proposed Neighbourhood Traffic Calming Measures**.

Vertical Deflections

- Raised median island
- Raised median island through intersection
- Speed cushion
- Speed table

Horizontal Deflections

- Center island median
- Chicane
- Concrete median with flexible bollard
- Curb extension (including traffic calming curbs)
- Curb radius reduction
- Lateral shift
- Roundabout
- Traffic circle
- Traffic island
- Sidewalk extensions

Obstructive Measures

- Directional closure
- Diverter
- Intersection channelization

Traffic Calming Measures Not Recommended

Full road closures – The closure of a roadway will not be considered as a traffic calming measure under this policy. Full road closures are required to follow separate processes beyond the scope of this policy.

Raised crosswalk/Raised intersections – A raised crosswalk/intersection is a marked pedestrian crosswalk at an intersection or mid-block location constructed at a higher elevation than the adjacent roadway. Due to significant accessibility related concerns and the costs associated with construction, these measures will not be considered under this policy.

Rumble strips – The noise and vibration caused by this measure is significant, and generally not appropriate for urban areas.

Traffic Calming Policy Updates

The Traffic Calming Policy will be updated in 5-year cycles, or whenever significant changes in legislation (i.e. Highway Traffic Act) warrant its update.

Prioritization Process for addressing neighbourhood traffic concerns

Staff will prioritize all neighbourhood traffic concerns using the following process described in **Attachment 2.2– Proposed Neighbourhood Traffic Calming Measures:**

Measures:

- Minimum speed threshold (85th Percentile Speed)
- Minimum volume threshold (average total vehicles per day)
- Safety Rankings including collision history, severe/fatal injury collision history, presence of sidewalks, cycling facility (either existing or proposed through the Cycling Master Plan) and pedestrian generators.

Process for addressing neighbourhood traffic concerns

1.0 Initiation of Request

Residents who have a traffic-related concern on their street will submit their request for a traffic review to the Transportation Engineering department through a webform. The request, initiated by an individual or group of residents, may specify one or several residential local or collector roadways within a neighbourhood. Review of the historical data will be undertaken. If historical data is older than 3 years, updated traffic data will be collected. Further information can be found under [Attachment 2.3 – Neighbourhood Traffic Calming Review Flow Chart](#).

1.1 Eligibility

Requests for neighbourhood traffic reviews shall apply to local or collector roadways.

2.0 Defining the Affected Streets

The affected street(s) are defined as the roadway(s) under review for traffic calming measures. Staff may recommend that adjacent residential roadways be included in the traffic calming review that will likely be impacted by modifications on the subject roadway(s) within the neighbourhood.

3.0 Traffic Analysis

3.1 Data Collection

Transportation Engineering staff will analyse traffic patterns on affected streets to determine the extent and nature of the existing traffic characteristics. Traffic volumes, vehicular speeds and classification of vehicles data will be collected over a seven-day period. All studies will be conducted based upon established engineering practices.

3.2 Quantify the Problem

To qualify for prioritization, the following pre-screening eligibility criteria shall be met:

Is the road a local or collector

Does the road have a maximum of 2 travel lanes in either direction

Is the posted speed equal to or lower than 50 km/hr

Is average daily traffic (ADT) greater than or equal to 900 for a local roadway or 2000 for a collector roadway (does not apply to designated school or senior safety zones) for both one- and two-way streets

Does the 85th percentile speed meet the minimum threshold according to the road class:

- Local roadway must have a minimum volume of 900 vehicles per day (combined total – all lanes in both directions), and an 85th percentile vehicle speed of 5 km/h or more above the posted speed limit
- Local roadway within a school zone (defined as 150 m from the school frontage) - 85th percentile vehicle speed of 5 km/h or more above the posted speed limit (30 km/h), no minimum volume required.
- Collector roadway must have a minimum volume of 2,000 vehicles per day (combined total – all lanes in both directions), and an 85th percentile vehicle speed of 5 km/h or more above the posted speed limit

Roadways meeting the criteria will qualify for a traffic calming review and will be placed on the priority ranking list. Where staff has identified potential negative impacts to adjacent roadways within the neighbourhood, these roadways will be included in the review and considered affected streets regardless of whether they meet the minimum criteria.

The resident(s) will be notified of the results of the traffic analysis.

3.3 Roads Not Qualifying

For roadways not meeting the criteria in Section 3.2, the process is terminated, and the resident(s) is/are advised in writing with copies sent to the affected ward Councillors. If a street fails to meet the required criteria for a Traffic Calming Review, that street will not be considered for another review for a period of 24 months, after the date of final review, unless there is a significant change to the traffic patterns or development.

The Traffic Calming Policy is now one subsection of the City's Community Road Safety Strategy, roads that do not qualify for traffic calming measures may be eligible for other safety measures such as speed limit reductions, radar display boards, and other programs that address historical road safety concerns.

4.0 Identify Applicable Traffic Calming Measures

Upon reviewing the benefits and impacts associated with each of the traffic calming measures, staff will identify and select the appropriate measures for inclusion in the draft Traffic Calming plan.

5.0 Develop Plan Alternatives

Staff will develop plans in keeping with the goals, objectives and principles set out in this policy. Comprehensive traffic calming plans will be drafted as possible solutions to address identified traffic concerns. Affected internal stakeholders will be consulted to identify potential issues/concerns regarding impacts on their operations. Stakeholders can include, but are not limited to: Accessibility Services, Emergency Services, Guelph Transit, Guelph Police, Sustainable Transportation, Operations and Solid Waste Collection.

5.1 Select Recommended Traffic Calming Plan

A recommended plan will be selected and circulated to the affected residents in the neighbourhood. This plan will then be circulated to appropriate internal City stakeholders for approval. The plan may be modified by staff to address any concerns raised by internal stakeholders.

6.0 Implement the Plan

Staff will proceed with preparing designs, scheduling and staging implementation of the approved traffic calming measures. Installation will be implemented based on available funding. Where limited funds are available, temporary neighbourhood traffic calming measures may be implemented before permanent measures are considered.

Information signs pertaining to scheduling and pending changes to neighbourhood roadways will be installed at major gateways into the neighbourhood a minimum of two (2) weeks prior to neighbourhood traffic calming measures being installed.

The installation of neighbourhood traffic calming measures in a temporary manner may be used on a short-term basis. This will allow staff to test measures on a temporary basis prior to considering a permanent installation.

7.0 Evaluation & Follow-up

7.1 Evaluation

Data will be collected within the study area and on adjacent streets (where deemed necessary) two years after implementation to determine how traffic patterns have been affected by the traffic calming devices. Data collected will include traffic volumes, vehicle classification and speeds for a seven-day period using a variety of data collection methods. Collision rates before and after the traffic calming measure(s) was installed will also be reviewed.

7.2 Follow-up

Staff will evaluate the effectiveness of installed traffic calming measures by collecting data before and after the implementation period and make alterations if required.

Recommendations may include but are not limited to:

- Termination of the project;
- Converting temporary measures (e.g. flexible bollards) into permanent measures (e.g. concrete curbs);
- Removal of measures deemed ineffective; and
- Installation of additional measures.

Where additional measures are proposed, staff will advise new plan alternatives for resident comments.

Funding

The City funds the costs of implementing traffic calming measures through the tax-supported Capital budget.

Costs

Construction costs for traffic calming measures will vary depending on factors such as type of materials used, labour, drainage requirements, landscaping, presence of utilities and land acquisition. As a result, the cost of each measure will vary greatly. Staff will focus on using functionally effective and cost-efficient measures. This will ensure that funds can be distributed equally among the various roadways.

Neighbourhood Traffic Calming Sources

This policy was developed based on a review of traffic calming policies and programs from the following municipalities in Ontario:

- City of Brampton
- City of Hamilton
- City of Kitchener
- City of London
- City of Milton
- City of Oakville
- City of Toronto
- City of St. Catharines
- City of Sudbury
- City of Waterloo

In addition, the 2018 "The Canadian Guide to Traffic Calming" was consulted.

Definitions

Affected Street(s): Identified roadway(s) located within the study area under review for traffic calming measures.

Resident (s): The property owner of a household directly abutting (front, side or rear lot) the affected street(s).

Average Daily Traffic (ADT): The total volume of traffic in a 24-hour period.

City and Emergency Services: Refers to City of Guelph Departments including Guelph Transit, Waste Collection, Accessibility Services, Operations, Guelph Police Service, Guelph Fire Services and Guelph Emergency Services.

Household: A residential dwelling unit, including multi-unit residential (a residential building with 3 or more units as defined under the city's Official Plan).

Study Area: All roadways encompassed by the nearest collector roadway, arterial roadway and/or natural boundaries, as defined by Transportation Engineering staff

Traffic Calming: The combination of mainly physical measures that reduce speeding and improve conditions for all road users.

85th Percentile Speed: The speed at which 85 percent of the vehicles are travelling at or below on a roadway.

Horizontal measures: Deflect vehicles from a straight path of travel

Vertical Measures: A vertical change in the course or path of a vehicle as the result of a physical feature of a roadway

Local Road: The primary function of local roadways is to provide access to adjacent properties. Local roads are not intended for use as through routes or as important links to move traffic within an area's overall road network. An acceptable volume of traffic for a local road is up to 900 vehicles a day (combined total – all lanes in both directions).

Collector road: Collector roadways with a maximum of 2 travel lanes in either direction. The primary function of a collector roadway is to help circulate traffic from within the neighbourhood out to the arterial road network.

Attachments

Attachment 2.1: Prioritization Rankings

Attachment 2.2: Proposed Neighbourhood Traffic Calming Measures

Attachment 2.3: Traffic Calming Review Flow Chart

Attachment 2.1 - Prioritization Rankings

Speed

85th percentile speed (both directions combined)	0 to 40	2.5 points assigned per 1 km/h above the posted speed limit (max 40 points)
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Volume

Average Daily Traffic vpd = vehicles per day	0 to 30	Number of points based on road classification (max 30 points) Local road: 1 point per 65 vpd over minimum threshold Collector road: 1 point per 165 vpd over minimum threshold
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Safety

Three-year collision history	0 to 15	Based on total collisions for the roadway segment (1 point for every collision in excess of an average of 3 per year over three years. Does not include collisions involving parked vehicles)
Severe/fatal injury collision history		Weighted based on injury severity
Presence of sidewalks	0 to 5	0 points: sidewalks exist on both sides 2.5 points: sidewalks exist on one side 5 points: no existing sidewalks
Cycling	0 to 5	0 points: not identified as a cycling route in the Cycling Master Plan 2.5 points: directly connects to a street identified in the cycling master plan 5 points: identified as a cycling route in the Cycling Master Plan

Pedestrian generators 0 to 5
(within 450m of the
roadway under review)

0 points: no significant
neighbourhood community
destinations on street

1 point: other (transit stops, trail
heads)

2 points: commercial plaza

3 points: community
centre/university

4 points: community
park/hospital

5 points: elementary/ high
school/university/ senior centre

Attachment 2.2 – Proposed Traffic Calming Measures

Measure	Description	Vertical	Horizontal	Obstruction
Center island median	Center island medians are raised islands located along the centerline of a street that narrow the travel lanes at that location		X	
Chicane	A series of curb extensions on alternating sides of a roadway, which narrow the roadway and require drivers to steer from one side of the roadway to the other to travel through the chicane. Typically, a series of curb extensions is used		X	
Curb Extension	A horizontal intrusion of the curb into the roadway resulting in a narrower section of the roadway		X	
Curb Radius Reduction	The reconstruction of an intersection corner using a smaller radius, usually in the 3.0 m to 5.0 m range.		X	
Concrete median with flexible bollard	A series of poles placed in the centre of a road to separate opposing traffic. Flexible, so able to withstand impact from a vehicle and return to original upright position when the force is removed		X	
Directional closure	A curb extension or vertical barrier extending to approximately the centerline of a roadway, effectively obstructing (prohibiting) one direction of traffic			X
Diverter	A raised barrier placed diagonally across an intersection, that forces traffic to turn and prevents traffic from proceeding straight through the intersection			X

Measure	Description	Vertical	Horizontal	Obstruction
Intersection channelization	Raised islands located at an intersection, used to obstruct specific traffic movements and physically direct traffic through an intersection			X
Lateral shift	Lateral shifts can be described as one half of a chicane. Curb extensions or pavement markings are provided on otherwise straight streets that cause travel lanes to bend one way and then bend back the other way to the original direction of travel.		X	
Raised median island	An elevated median constructed on the centerline of a two-way roadway to reduce the overall width of the adjacent travel lines	X		
Raised median island through intersection	An elevated median located on the centerline of a two-way roadway through an intersection, which prevents left turns and through movements to and from the intersecting roadway.	X		
Roundabout	A raised island located in the centre of an intersection, which requires vehicles to yield on all legs, and travel through the intersection in a counter-clockwise direction around the island.		X	
Sidewalk extension	A sidewalk is continued across a local intersection and is lowered to the level of the roadway.	X		
Speed cushion	Similar to speed hump, with a center channel which allows for Emergency services to pass without deflection	X		

Measure	Description	Vertical	Horizontal	Obstruction
Speed table	Speed tables are flat-topped speed humps. Speed tables, which have a longer profile, may be considered with caution on higher-volume collectors. Speed tables should not be used on roads posted at 30 km/h, because vehicles will not have to slow down to pass over them	X		
Temporary flex post	Temporary flex posts are signs that are installed in the centre of the road, between opposing traffic lanes and designed to withstand impacts from, and avert damage to, vehicles if struck by collapsing and rebounding. The signs can have a narrowing effect on the lane or roadway which can give drivers' the perception of the need to slow down	X		
Traffic circle	A raised island located in the centre of an intersection, which requires vehicles to travel through the intersection in a counter-clockwise direction around the island		X	
Traffic island	Traffic Islands have the effect of narrowing the road and reducing the speed of passing traffic. They are not intended for pedestrians, as they have no dropped curbs and tactile paving		X	

Passive: The use of "Passive" traffic calming measures can include maintaining permissive on-street parking, installing textured pavement, police enforcement, radar speed boards, signage and pavement marking changes and signed turning restrictions. These are outlined in Guelph's Community Road Safety Strategy.

Moderate: The use of "Moderate" traffic calming measures can include traffic circles, speed humps and road narrowing (chokers/centre medians) to slow traffic.

Restrictive: The use of "Restrictive" traffic calming measures can include physical measures to prevent certain movements.

Attachment 2.3 - Neighbourhood Traffic Calming Review Flow Chart

