Neighbourhood Traffic Calming Policy

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CALM STREETS PTBO

peterborough

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1 Introduction

1.1 Purpose

The City of Peterborough Neighbourhood Traffic Calming Policy is intended to aid the municipality in identifying and prioritizing eligible locations for traffic calming and provide guidance on the application of traffic calming measures. The policy is intended to improve safety, especially more vulnerable roads users like pedestrians and cyclists, and reduce aggressive driving behaviour in local neighbourhoods to improve liveability. Accordingly, traffic calming is intended for use on existing and future Local Streets, Low Capacity Collectors, and High Capacity Collectors in residential neighbourhoods within Peterborough. The City will not consider requests for physical traffic calming measures on arterial roads (any type) under its jurisdiction or on unassumed roads in new development areas. For arterial roads, the City will consider utilizing non-physical approaches such as education and enforcement measures to improve driver behavior. Consult Schedule B (Roadway Network) of the City of Peterborough Official Plan for approved roadway classifications.

1.2 Background

Growth in traffic volumes and heightened resident concerns about excessive speeding, traffic infiltration/shortcutting, and other undesirable driver behaviour has led to an increase in requests for traffic calming interventions on neighbourhood streets in Peterborough. To provide a transparent, fair, and standardized process for addressing all traffic calming requests submitted for review, the City has developed this policy, which includes a:

- Neighbourhood driven process for receiving, evaluating, and responding to citizen requests for traffic calming, including a typical community engagement protocol;
- Methodology and evaluation criteria to determine if traffic calming is appropriate for a given street and prioritize locations being considered for measures;
- List of proven traffic calming measures (the "toolbox") the City will consider implementing on streets in Peterborough; and
- Procedure for monitoring and assessing the effectiveness of traffic calming measures after installation.

The policy incorporates best practices in traffic calming with local context to provide an appropriate, efficient, and flexible framework for addressing the variety of inquiries received by the City. It supplements guidance contained in the Transportation Association of Canada

(TAC) *Canadian Guide to Traffic Calming*[1] and *Geometric Design Guide for Canadian Roads*[2] with considerations specific to Peterborough. The protocol also reflects applicable Provincial legislation including the *Accessibility for Ontarians with Disabilities Act (AODA)* and the *Highway Traffic Act (HTA)*. The planning, design, and implementation of traffic calming plans in Peterborough must comply with relevant provisions of these and other statutes.

Development of the policy was informed by a jurisdictional scan of current traffic calming practices among municipalities in Ontario. The research examined a range of municipalities to capture similarities and differences between approaches to help guide this policy.

1.3 Policy Basis

1.3.1 City of Peterborough Official Plan

The Official Plan provides the basis for the Neighbourhood Traffic Calming Policy. Section 5.4.12 of the Official Plan[3] states:

Traffic management strategies and techniques shall be considered where they would provide for the safe and efficient use of existing transportation facilities and minimize the potential impacts of non-local traffic movements on low-density residential neighbourhoods. Such measures may include the diversion of non-local traffic to peripheral arterials, use of traffic calming deflections, control of on-street parking and inclusion of cycling and walking facilities within the road right-of-way.

As noted in Section 1.1, the policy is intended for use on existing and future Local Streets, Low Capacity Collectors and High Capacity Collectors in Peterborough. Section 5.4.1 of the Official Plan defines the intended function of these roads as follows:

- Local Streets are intended "*to serve traffic from abutting properties to collector streets within a right-of-way of 18.5 to 20 m. On-street parking may be expected and through traffic is usually discouraged. On-street bikeways maybe established to ensure a continuous, logical link in the network*". Local Streets are all roads in the City not classified as a collector or arterial (any types) and do not include unassumed roads.
- Low Capacity Collectors are intended "*to serve intra-neighborhood traffic for short distances between arterial and local streets, with access to adjacent properties. Low Capacity Collectors can be expected to accommodate a capacity of up to 400 vehicles*

1 Transportation Association of Canada. *Canadian Guide to Traffic Calming*. February 2018.
2 Transportation Association of Canada. *Geometric Design Guide for Canadian Roads*. June 2017.
3 City of Peterborough Official Plan (March 31, 2019 consolidation). The City was preparing a new Official Plan at the time of developing this document. The policy pertaining to traffic calming in the latest draft of the new Official Plan dated June 19, 2019 (Section 6.2.6, Clause k) is consistent with the current Official Plan.

per hour per lane with a potential cross-section of up to 2 travel lanes in a 20 to 23 m right-of-way. Low Capacity Collectors pass through primarily low-density residential areas with fronting properties, driveways, on-street parking and possible on-street bikeways". Examples include Hawley Street, Cherryhill Road, Romaine Street, Frances Stewart Road, and Franklin Drive.

- High Capacity Collectors[4] are intended *"to serve intra-municipal traffic for medium distances between arterials and local streets, with access to adjacent properties. High Capacity Collectors can be expected to accommodate up to 500 vehicles per hour per lane with a potential cross-section of up to 4 travel lanes in a 23 to 26 m right of way. Adjacent land use may be low to medium density residential. Private Driveways and on-street parking and bikeways may be expected along such streets"*. Examples include Fisher Drive, Glenforest Boulevard, Weller Street, McFarlane Street, and Royal Drive.

Section 1.1 further states physical traffic calming measures are not intended for use on existing or future arterial roads (all types) in Peterborough. For arterial roads, the City will consider utilizing non-physical approaches such as education and enforcement measures to improve driver behaviour. Section 5.4.1 of the Official Plan defines the intended function of these roads as follows:

- Low Capacity Arterials are intended "*to serve intra-municipal and inter-regional traffic at medium speeds through the City, with controlled access except where existing land use development makes this impractical. Low Capacity Arterials can be expected to accommodate up to 600 vehicles per hour per lane with a potential cross-section of up to 4 travel lanes plus turning lanes, in a 26 to 30 m right-of-way. Low Capacity Arterials may accommodate some on-street parking and or on-street bike lanes along routes with some residential land use*". Examples include McDonnel Street, Rubidge Street, and sections of Hunter Street.
- Medium Capacity Arterial are intended "*to serve intra-municipal and interregional traffic between major land use areas at medium speeds through the City, with controlled access primarily from collector streets except where existing land use development makes this impractical. Medium Capacity Arterials can be expected to accommodate up to 700 vehicles per hour per lane with a potential cross-section of up to 4 travel lanes plus turning lanes and on-street bike lanes in a 26 to 30 m right-of-way. Typically mixed land use would be located along Medium Capacity Arterials"*. Examples include Monaghan Road, Armour Road, George Street, and Hilliard Street.
- High Capacity Arterial are intended *"to serve intra-municipal and inter-regional traffic between major land use areas at medium speeds through the City, with controlled access*

[4] While High Capacity Collectors may not always be ideal candidates for traffic calming, several High Capacity Collectors in the City have two-lane cross-sections like Low Capacity Collectors.

primarily from arterial and collector streets except where existing land use development makes this impractical. The High Capacity Arterial can be expected to accommodate up to 800 vehicles per hour per lane with a potential cross-section of up to 6 travel lanes plus turning lanes and separated bikeways within a 30 to 36 m right-of-way. Land uses immediately adjacent to High Capacity Arterial roads will be predominantly non-residential". Examples include Lansdowne Street, Chemong Road, and Television Road.

1.3.2 City of Peterborough Comprehensive Transportation Plan

The 2012 Transportation Plan[5] includes a recommendation to "*continue the application of traffic calming measures in residential and school zones.*" Section 5.8.1 of the plan specifies a framework for traffic calming installations, a set of criteria for installation, and potential traffic calming measures, which were considered in developing the Neighbourhood Traffic Calming Policy.

1.4 Relationship to Other City Objectives

The application of traffic calming measures is consistent with and will help advance other City of Peterborough initiatives aimed at improving transportation safety. For example, the City participates in a transportation safety group with representatives from the Ontario Provincial Police, Peterborough Police Service, Peterborough Public Health, and Peterborough County to help address community traffic concerns.

Calming traffic also aligns with broader City objectives pertaining to accessibility, active transportation, public health, and community livability to name a few. The approach is consistent with "complete streets" and "complete communities" philosophies aimed at ensuring streets safely accommodate all users – pedestrians, cyclists, transit rides, and motor vehicle drivers – and enhance local neighbourhood character. This reflects the important interdependence between street design and the health of the City, its communities, its economy, and its people.

[5] The City was updating its transportation plan at the time of developing this policy.

2 What is Traffic Calming?

The TAC *Canadian Guide to Traffic Calming* describes traffic calming as:

> The process and measures applied by road authorities to address concerns about the behaviour of motor vehicle drivers travelling on streets within their jurisdictions.[6]

Traffic calming measures are usually applied in locations experiencing excessive vehicle speed and/or high volumes of shortcutting traffic with the goal of enhancing community livability and road safety, particularly for vulnerable users. The application of these measures is intended to restore neighbourhood streets to their desired function of providing mobility and access in differing combinations depending on the specific location, role, and classification of the roadway.

For the purposes of this policy, traffic calming measures are broadly categorized into the following two groups:

- **Physical Measures** consist primarily of vertical and horizontal deflections in the roadway. This group also includes treatments that narrow the roadway, alter the road surface, or restrict access; and
- **Non-Physical Measures** include tools and strategies intended to influence or modify driver behaviour, often described as education and enforcement.

The Traffic Calming Toolbox in **Appendix A** provides further information on the traffic calming measures applicable for use in the City of Peterborough.

When applied properly, traffic calming can help "reduce the negative effects of motor vehicle use, alter driver behaviour, and improve conditions for non-motorized street users"[7] by:

- Reducing motor vehicle speeds;
- Reducing traffic volumes;
- Lessening shortcutting (traffic infiltration);
- Reducing pedestrian crossing distances and times;
- Reducing the risk and severity of motor vehicle collisions; and
- Reducing conflicts between roadway users.

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6 Transportation Association of Canada. *Canadian Guide to Traffic Calming*. February 2018. p. 1.
7 Institute of Transportation Engineers Subcommittee of Traffic Calming. 1997.

However, physical measures can be costly and time-consuming to design, install, and maintain if used inappropriately. The installation of traffic calming can also cause unintended consequences, like:

- Increased emergency vehicle response and transit operating times;
- Reduced or impeded access and egress from neighbourhoods by vehicle;
- Shifting or diverting of traffic volumes and/or speeding concerns onto other roadways;
- Increased maintenance costs, including snow clearing and curbside waste collection; and
- Increased vehicle emissions and/or noise pollution.

As such, careful consideration and proper planning, design, and implementation is key to the success of a traffic calming scheme.

3 Policy

3.1 Application of Traffic Calming Measures

The City will consider the installation of physical traffic calming measures on Local Streets, Low Capacity Collectors, and High Capacity Collectors in residential neighbourhoods:

- When there is a demonstrated safety, excessive speed, and/or shortcutting traffic concern and acceptable alternative measures have been exhausted or are not appropriate;
- After exploring methods to improve operation of the arterial road network, such as signal timing optimization; and
- Only after non-physical measures have failed to produce the desired results.

For arterial roads (all types), traffic calming will typically be limited to non-physical measures.

The City may also consider implementing traffic calming:

- In new developments as part of the development approval process; and
- On-road reconstruction projects where safety, excessive speed, and/or shortcutting traffic concerns are anticipated to occur upon (re)opening the road to traffic.

The City will not entertain requests for traffic calming on streets in new development areas until they have been assumed by the City.

Where the installation of physical traffic calming measures is deemed the preferred course of action, the City will:

- Determine whether an area-wide plan or street-specific scheme is more suitable. An area-wide plan will be pursued if a street-specific scheme would likely result in the displacement of traffic onto adjacent streets.
- Take into consideration the needs of non-motorized modes of transportation through the introduction of traffic calming. Measures will typically be designed to enhance or minimize impacts to pedestrian and cyclist movement.

It should be noted that traffic calming measures may not be appropriate in every situation and, if considered, should ensure the equitable and consistent treatment of all City street users following the guidance in this document.

The City will not consider the use of regulatory signs for the sole purpose of traffic calming. Traffic control devices in this category include all-way stop control and maximum speed limit signs. Section 5.2 provides further information.

3.2 Initiating a Traffic Calming Study

The City will consider initiating a Traffic Calming Study following the Neighbourhood Traffic Calming Study Process detailed in Section 4.1 for streets meeting the screening criteria listed in Table 3.1. Requests for a study that do not satisfy these minimum thresholds will be denied. See Section 4.1 (Stage 2) for further information on the initial screening process.

The City will not entertain new requests for a Traffic Calming Study for a period of at least:

- Three years on streets reviewed and denied for physical traffic calming at any stage in the process (unless otherwise specified in Section 4.1); or
- Five years on streets where traffic calming measures have been removed (see Section 3.6).

3.3 Required Neighbourhood Support

The City will gauge the level of resident support to proceed to subsequent stages or steps in the Neighbourhood Traffic Calming Study Process through neighbourhood surveys. For each survey, a minimum response rate of:

- 25% of all eligible households for study areas comprising up to 40% apartment units; or
- 15% of all eligible households for study areas comprising 40% or more apartment units,

with a minimum of 51% of respondents in agreement (support rate), is required to move forward.[8] The City may adjust the minimum response and/or support rates required on a location-specific basis if deemed more representative for the study area. Surveys not meeting these minimum thresholds will typically result in the study being ended. See Section 4.1 (Stages 4, 5 and 7) for further guidance on the application of these criteria in the process.

The City will issue only one survey questionnaire to each household within the study area regardless of the number of residents living at the address.

[8] If multiple options are presented to the public, the minimum response rate must still be met. The option with the majority of respondents in agreement will be carried forward.

TABLE 3.1: SCREENING CRITERIA FOR INITIATING A TRAFFIC CALMING STUDY

Criteria	Threshold	A Traffic Calming Study may be considered if:
All Criteria Must be Met		
Previously Requested	Within Last Three Years	A prior request for traffic calming has not been denied within the last three years.
Measures Removed	Within Last Five Years	Traffic calming measures have not been removed within the last five years.
Roadway Classification	Local Street, Low Capacity Collector, or High Capacity Collector	The subject street is designated a Local Street, Low Capacity Collector or High Capacity Collector in the City of Peterborough Official Plan (Schedule B – Roadway Network).
Location	Transit Routes, Signed Hospital Routes, or Primary Fire Route	The subject street does not serve as a transit route, signed hospital route, and/or primary fire route in the City.
Speed Limit	≤ 50 km/h	The posted speed limit on the subject street is 50 km/h or less.
Road Grade	< 8%	The grade of the subject street is less than 8%.
Segment Length	≥ 150 metres	The distance between stop-controlled intersections along the subject street is 150 metres or more.
At Least One Criteria Must be Met for Local Streets and Low Capacity Collectors		
Operating Speed	≥ 5 km/h above posted speed limit	The 85th percentile speed is 5 km/h or more above the posted speed limit.
Shortcutting Traffic	> 30%	The percentage of non-local traffic is more than 30%.
At Least One Criteria Must be Met for High Capacity Collectors		
Operating Speed	≥ 10 km/h above posted speed limit	The 85th percentile speed is 10 km/h or more above the posted speed limit.
Shortcutting Traffic	> 60%	The percentage of non-local traffic is more than 60%.

Notes:

1. The 85th percentile speed is calculated from data collected using automated traffic recorders (or similar units) over a 7-day period.
2. The percentage of non-local traffic is estimated by comparing the expected trip generation for an area to the actual volume counts. Alternatively, data will be collected through a license plate trace survey or data collection units with Bluetooth readers.

3.4 Trial Installations

The City will typically implement the recommended Traffic Calming Plan on a trial basis using temporary/seasonal measures. See Section 4.1 (Stage 5) for further information on the trial installation process.

Undertaking a trial installation prior to committing to the permanent solution enables the City to:

- Further understand the plan potential and its desirability before investing in a permanent installation, thereby allowing for refinement of the final design;
- Avoid or defer the initial capital cost of more expensive permanent installations;
- Gauge community reaction on a concept in reality prior to permanent installation; and
- Retain flexibility to remove traffic calming measures seasonally.

Products typically used for temporary/seasonal traffic calming include:

- Removable rubber products (e.g., curbing, speed humps, tables, cushions);
- Removable/flexible posts and bollards;
- Pavement markings; and
- Temporary speed display boards.

After evaluating the trial application and surveying neighbourhood residents, the City will decide whether to install the approved Traffic Calming Plan permanently. See Section 4.1 (Stage 6) for further information on the permanent installation process.

In certain circumstances, the City may decide to move forward with permanent installation without a trial application after taking into consideration the possible negative aspects of using temporary/seasonal measures, which can include:

- Lower relative aesthetic value;
- On-going operational costs and/or additional operational resource requirements;
- Requirements for seasonal installation and removal;
- Potential to have similar or higher overall costs than permanent installations;
- Potentially lower effectiveness than permanent materials; and
- Quicker degradation of roadway surfaces (specifically where measures are anchored into existing road surfaces).

3.5 Pilot Projects

The City may elect to conduct traffic calming pilot projects to test new innovations and technologies. Requests of this nature will be brought to City Council for approval prior to consideration.

3.6 Reconsideration and Removal

The City may consider removal of permanent traffic calming installations if a majority of residents directly fronting the subject street support the request. The approved Traffic Calming Plan must be installed for at least three years before removal can be requested. If the measures are removed, the subject street must wait at least five years before submitting a new request for traffic calming. See Section 4.1 (Stage 7) for further information on the resident-initiated removal process.

If the City receives a request to remove one traffic calming measure within an overall approved Traffic Calming Plan, all measures may be considered for removal. While it may be possible in certain circumstances to remove only one traffic calming measure, in most cases, the entire plan will need to remain to be effective.

The City reserves the right to remove traffic calming measures determined to be ineffective or causing a safety risk, or if the treatments have created unplanned consequences that cannot be rectified. This may include an unintended diversion of traffic onto a parallel or adjacent Local Street, Low Capacity Collector, and/or High Capacity Collector rather than onto the arterial road network. See Section 4.1 (Stage 7) for further information on the City initiated removal process.

4 Process

4.1 Neighbourhood Traffic Calming Study

Figure 4.1 illustrates the Neighbourhood Traffic Calming Study Process for the City of Peterborough. The process, which involves both engagement and technical evaluation tasks, can be distilled into the following seven stages:

4.1.1 Stage 1 – Traffic Calming Request

Residents will submit their written request for a Traffic Calming Study to the City's Transportation Division using the Traffic Calming Request Form in Appendix B. The request must specify the subject street and the nature of the traffic concern. The Mayor and Ward Councillors can also request a study on behalf of their constituents.

4.1.2 Stage 2 – Initial Screening

City staff will conduct an initial screening of the request to determine if the subject street meets the criteria for a Traffic Calming Study per Table 3.1. Requests not satisfying these minimum thresholds will be denied, and the process ended. In some locations, the City may consider non-physical traffic calming measures such as education and enforcement to address resident concerns as an alternative or a first step.

The City will typically collect the data required to complete the initial screening in the spring, summer, and/or fall season. Requests received in the winter season will be investigated in the spring.

After completing the initial screening, City staff will notify the original requester whether the location satisfies the minimum thresholds for a Traffic Calming Study and, if so, outline the next steps in the process. If denied, City staff will provide an explanation as to why the request was refused.

4.1.3 Stage 3 – Technical Assessment

Requests satisfying the initial screening thresholds will be assessed against other eligible locations to determine relative priority for a Traffic Calming Study. The point system shown in Table 4.1 for Local Streets and Low Capacity Collectors and Table 4.2 for High Capacity Collectors provides the basis for ranking requests, with projects achieving the highest scores given top priority. The maximum score, calculated by summing the individual criteria points, is 100 points based on this methodology. Note the final prioritization score is not determined until after the neighbourhood survey results are incorporated in Stage 4.

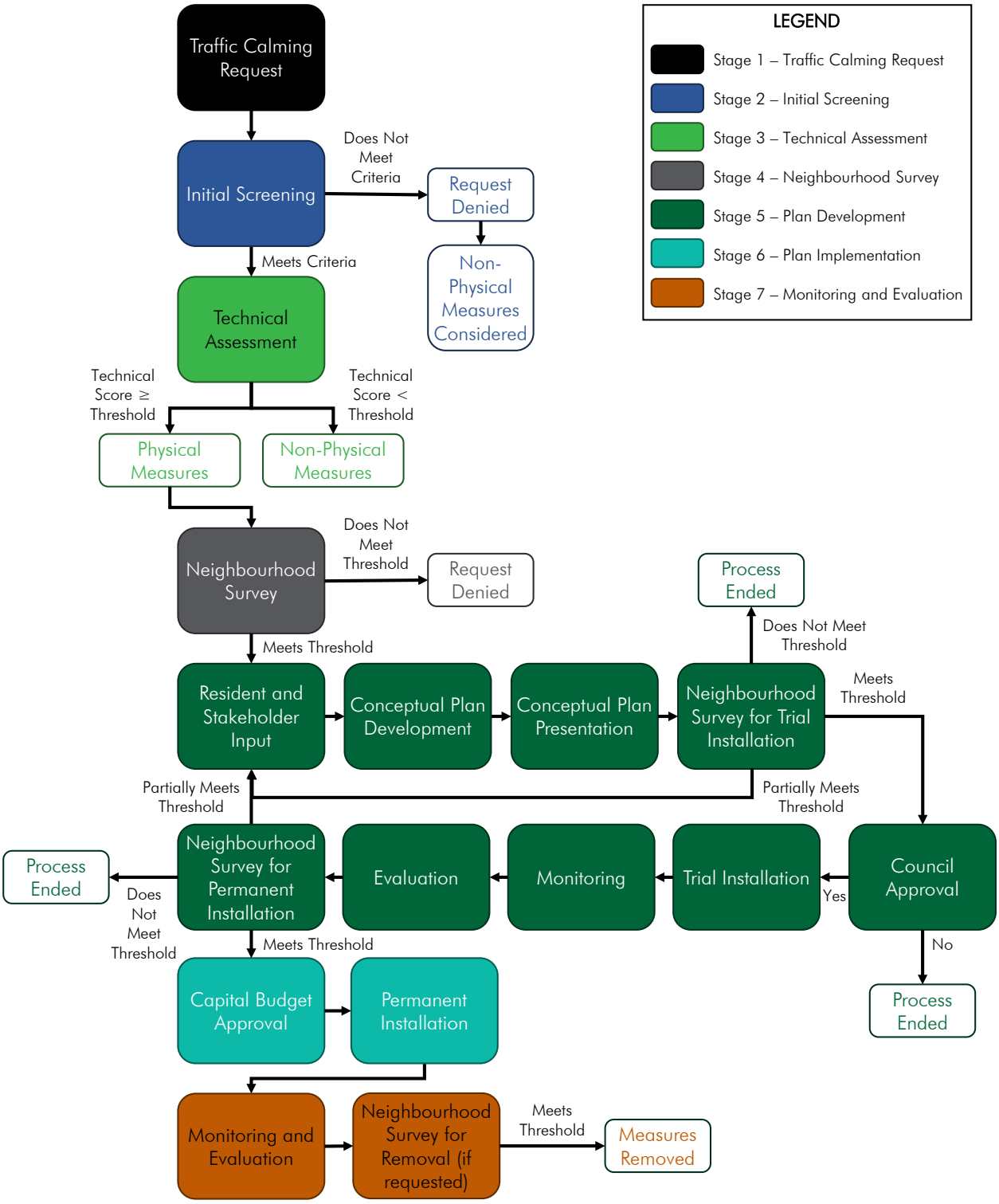

FIGURE 4.1: NEIGHBOURHOOD TRAFFIC CALMING STUDY PROCESS

TABLE 4.1: PRIORITY RANKING CRITERIA FOR LOCAL STREETS/LOW CAPACITY COLLECTORS

Criteria	Point Assignment	Maximum Points
Collision History	1 point for each qualifying collision[1] over the last three years	15
Pedestrian Generators	5 points for each designated pedestrian generator (i.e. school, recreation centre, park, senior's home or centre, daycare, etc.) within the study area	15
Operating Speed	1 point for each 1% of vehicles observed 5 km/h or more over the posted speed limit	10
Total Traffic Volume	Based on total daily traffic volumes[2], 1 point for each: • 50 vehicles over 1,000 vehicles per day OR 5 vehicles over 100 vehicles per hour in the peak hour for Local Streets • 50 vehicles over 2,000 vehicles per day for Low Capacity Collectors	10
Shortcutting Traffic	Based on estimated non-local traffic (see **Table 3.1**), 5 points for each 5% increment in share above 30%	10
Sidewalks	5 points if there are no sidewalks on the subject street	5
Cycling Facilities	5 points if there are designated cycling facilities on the subject street	5
Adjacent Land Use	0 points for 0% adjacent residential land use OR 5 points for 100% adjacent residential land use OR 2 points for between 0% and 100% adjacent residential land use	5
Total Maximum Points After Technical Assessment (Stage 3)		**75**
Resident Support	¼ point for each 1% of respondents on the subject street voting in favour of traffic calming[3]	25
Total Maximum Points After Neighbourhood Survey (Stage 4)[4]		**100**

Notes:

1. Includes all collisions along the subject street except for crashes occurring at intersections with arterial roads.
2. Traffic volumes used in the evaluation are two-way average daily volumes over a 24-hour period.
3. If the minimum response rate is not achieved, community support is deemed insufficient and 0 points are assigned. Physical traffic calming measures will not be considered in this case. Points awarded based on the percentage of "yes" votes compared to total eligible votes received through the neighbourhood survey in Task 4.
4. In case of a tie, priority will be determined using a risk-based approach, considering the relative safety benefit of installing traffic calming in competing locations. Priority will typically be given to streets that serve more vulnerable users such as seniors and children. If still tied, the lower cost project will receive priority since the investment in traffic calming would generate greater benefit per dollar spent.

TABLE 4.2: PRIORITY RANKING CRITERIA FOR HIGH CAPACITY COLLECTORS

Criteria	Point Assignment	Maximum Points
Collision History	1 point for each qualifying collision[1] over the last three years	15
Pedestrian Generators	5 points for each designated pedestrian generator (i.e. school, recreation centre, park, senior's home or centre, daycare, etc.) within the study area	15
Operating Speed	1 point for each 1% of vehicles observed 10 km/h or more over the posted speed limit	10
Total Traffic Volume	Based on total daily traffic volumes[2], 1 point for every 50 vehicles over 5,000 vehicles per day	10
Shortcutting Traffic	Based on estimated non-local traffic (see **Table 3.1**), 5 points for each 10% increment in share above 60%	10
Sidewalks	5 points if there are sidewalks on only one side of the subject street	5
Cycling Facilities	5 points if there are designated cycling facilities on the subject street	5
Adjacent Land Use	0 points for 0% adjacent residential land use OR 5 points for 100% adjacent residential land use OR 2 points for between 0% and 100% adjacent residential land use	5
	Total Maximum Points After Technical Assessment (Stage 3)	**75**
Resident Support	¼ point for each 1% of respondents on the subject street voting in favour of traffic calming[3]	25
	Total Maximum Points After Neighbourhood Survey (Stage 4)[4]	**100**

Notes:

1. Includes all collisions along the subject street except for crashes occurring at intersections with arterial roads.
2. Traffic volumes used in the evaluation are two-way average daily volumes over a 24-hour period.
3. If the minimum response rate is not achieved, community support is deemed insufficient and 0 points are assigned. Physical traffic calming measures will not be considered in this case. Points awarded based on the percentage of "yes" votes compared to total eligible votes received through the neighbourhood survey in Task 4.
4. In case of a tie, priority will be determined using a risk-based approach, considering the relative safety benefit of installing traffic calming in competing locations. Priority will typically be given to streets that serve more vulnerable users such as seniors and children. If still tied, the lower cost project will receive priority since the investment in traffic calming would generate greater benefit per dollar spent.

Assessing technical merit is the first step in determining priority. City staff will assign a point score to each criterion in **Table 4.1** or **Table 4.2** except "Resident Support" using data on existing traffic and road conditions to gauge the potential benefit of installing physical traffic calming measures on the subject street. Requests meeting the following minimum scores for the technical criteria (out of 75) will proceed to a neighbourhood survey (Stage 4):

- 25 points for Local Streets and Low Capacity Collectors; and
- 40 points for High Capacity Collectors.

Requests not attaining these minimum scores will only be considered for non-physical traffic calming measures such as education and enforcement.

4.1.4 Stage 4 – Neighbourhood Survey

City staff will survey households within the study area to gauge resident support for developing a Traffic Calming Plan for the subject street. Key considerations when defining the study area include:

- Subject street (segment(s) of concern);
- Traffic data;
- Location and context of sensitive land uses near, or adjacent to, streets of interest;
- Other City policies (e.g., Official Plan, Transportation Master Plan, Active Transportation Master Plan);
- Opportunities and limitations such as available resources and partnerships; and
- Environmental factors (e.g., geographic features, major streets, key intersections).

For Local Streets and Low Capacity Collectors, the study area will typically include households with direct frontage on the subject street. For High Capacity Collectors, the study area will include households with direct frontage plus Local Streets and Low Capacity Connectors linking to the subject street, recognizing High Capacity Collectors typically serve a broader neighbourhood. In all cases, the City may expand the study area to capture potentially impacted households on other streets, especially if shortcutting traffic is the primary concern and traffic diversion is a possible outcome.

Requests meeting the minimum response and support rates per **Section 3.3** will be added to the List of Potential Traffic Calming Plans and proceed to plan development (Stage 5). Requests not attaining these thresholds will be denied, and the process ended. The City will also not entertain a new request for a Traffic Calming Study on the subject street for a period

of at least three years. City staff will inform study area households of the survey results and next steps.

For requests satisfying the minimum response and support rates, the final prioritization score for the subject street will be calculated by adding the points for "Resident Support" (based on Table 4.1 or Table 4.2) to the technical assessment score determined in Stage 3. In case of a tie, priority will be determined using a risk-based approach, considering the relative safety benefit of installing traffic calming in competing locations. Priority will typically be given to streets that serve more vulnerable users such as seniors and children. If still tied, the lower cost project will receive priority since the investment in traffic calming would generate greater benefit per dollar spent.

4.1.5 Stage 5 – Plan Development

City staff will initiate a Traffic Calming Plan for the subject street in priority order according to the List of Potential Traffic Calming Plans and available staff resources. The toolkit of measures contained in Appendix A will be referenced in selecting and designing traffic calming treatments. Data collected during prior steps, in addition to site visits, historical information, future maintenance and construction plans, and participant feedback, will be taken into consideration in preparing the plan.

The City will engage residents and stakeholders in developing the Traffic Calming Plan through a nine-step consultation and design process, which is described as follows:

Step 1. Consult with residents and stakeholders to confirm neighbourhood traffic issues, note potential implementation challenges, and identify candidate traffic calming measures. Section 6.2 defines these groups in further detail.

Step 2. Prepare conceptual Traffic Calming Plan (options) taking into consideration resident and stakeholder input.

Step 3. Present conceptual Traffic Calming Plan (options) to residents, incorporate feedback received, and finalize the proposed plan (options).

Step 4. Survey residents to gauge support for implementing the proposed Traffic Calming Plan on a trial basis with temporary/seasonal measures and determine the preferred plan alternative if more than one option exists.

Proposed Traffic Calming Plans meeting the minimum response and support rates per Section 3.3 will remain on the List of Potential Traffic Calming Plans and proceed to Council approval (Step 5). Plans not meeting the minimum response rate will be denied, and the process ended. Plans satisfying the minimum response rate

but not attaining the minimum support rate may return to Step 1 for refinement once. Subsequent iterations not meeting both minimum thresholds will be denied, and the process ended. In any case where the process is stopped, the City will not entertain a new request for a Traffic Calming Study on the subject street for a period of at least three years.

City staff will inform study area households of the survey results and next steps.

Step 5. Present recommended Traffic Calming Plan to City Council for approval and seek authorization to implement the plan on a trial basis using temporary/seasonal measures, subject to available funding. If the plan is not approved, the City will not entertain a new request for a Traffic Calming Study on the subject street for a period of at least three years.

In certain circumstances, the City may prefer to move forward with permanent installation without a trial application for the reasons noted in **Section 3.4**.

Step 6. Install approved Traffic Calming Plan on a trial basis using temporary/seasonal materials (typically) for a period of 12 to 18 months. The temporary measures can be reused for other locations. City staff will inform study area households of the intention to install the traffic calming measures prior to implementation.

Step 7. Monitor effectiveness of trial installation and make minor refinements if needed during the evaluation period. The modifications should not alter the intent or key features of the approved Traffic Calming Plan unless a significant operational and/or safety concern arises following implementation.

Step 8. Evaluate the success of the trial installation and identify potential refinements if the approved Traffic Calming Plan is being considered for permanent installation.

Step 9. Survey residents to gauge support for making the Traffic Calming Plan permanent. Any significant refinements being considered will be noted in the survey.

Plans meeting the minimum response and support rates per **Section 3.3** will be added to the List of Approved Traffic Calming Plans and will proceed to permanent installation (subject to budget approval) (Stage 6). Plans not meeting the minimum response rate may be resurveyed once. Plans satisfying the minimum response rate but not attaining the minimum support rate may return to Step 1 for additional consultation and refinement once. This will initiate a new survey of residents to gauge support for any proposed changes to the approved Traffic Calming Plan. Subsequent iterations not meeting both minimum thresholds will be denied, the process ended, and the temporary/seasonal measures may be removed. In any case

where the process is stopped or measures are removed, the City will not entertain a new request for a Traffic Calming Study on the subject street for a period of at least five years.

City staff will inform study area households of the survey results and next steps.

4.1.6 Stage 6 – Plan Implementation

Each year as part of Capital Budget preparation, City staff will propose permanent traffic calming installation locations for the following year (if any) with preliminary high-level budget estimates. The locations will be selected from the List of Approved Traffic Calming Plans based on relative priority and included in the Capital Budget request presented to City Council.

Upon budget approval, City staff will prepare detailed design and construction tender documents if required and implement the approved Traffic Calming Plan with permanent materials, subject to available resources and other priorities. City staff will inform study area households of the intention to install the traffic calming measures prior to implementation.

4.1.7 Stage 7 – Monitoring and Evaluation

City staff will continue to monitor the subject street (and entire study area as required) after implementation of the permanent installation to ensure the approved Traffic Calming Plan is functioning as designed. The monitoring process will also identify any unintended impacts on the surrounding road network and the need for potential refinements.

The scope of the post-implementation evaluation(s) should be consistent with the investigations conducted prior to installation. Potential studies may include speed surveys (to assess change in vehicle speeds), traffic counts (to determine changes in volumes) and/or origin-destination surveys (to estimate the volume of traffic diverting to adjacent streets).

Implementation of the approved Traffic Calming Plan should not result in transference of traffic from the subject street to adjacent Local Streets, Low Capacity Collectors and/or High Capacity Collectors. If post-implementation evaluation studies indicate traffic volumes have increased 15% (with a minimum of 150 vehicles) on a parallel or adjacent street due to the traffic calming measures, the City will explore corrective action to remedy the situation and/or minimize the impact.

In certain instances, the City may wish to remove permanent traffic calming installations determined through post-implementation evaluation to be ineffective or causing a safety risk, or that have created unplanned consequences that cannot be rectified. City staff will notify study area households of the intended action by mail and advertise in local newspapers and

on its website. City staff may also consult with potentially impacted residents and stakeholders, and if needed, survey study area households to obtain their views on removing the permanent installation. If removal remains the preferred course of action, City staff will prepare a report to City Council recommending removal of the traffic calming measures and, if approved, take the necessary steps to return the subject street to its prior configuration. City staff will inform study area households of the intention to eliminate the traffic calming measures prior to removal.

Residents can also request the removal of permanent traffic calming installations from their streets. Support from a majority of residents directly fronting the subject street is required to initiate the process. Once received, City staff will evaluate the request and survey residents to gauge support for removing the permanent installation. Requests not meeting the minimum response rate or support rate per Section 3.3 will be denied. If the request is supported by affected residents, City staff will prepare a report to City Council recommending removal of the traffic calming measures and, if approved, take the necessary steps to return the subject street to its prior configuration. City staff will inform study area households of the intention to eliminate the traffic calming measures prior to removal. If not supported by residents or refused by City Council, the City will not entertain a new request for removal of the approved Traffic Calming Plan for a period of at least five years. City staff will inform study area households of the results and any further steps.

4.2 Other Implementation Options

Traffic calming measures can also be implemented in the City through land development and road reconstruction projects. In both cases, measures will still be selected from the Traffic Calming Toolbox provided in Appendix A. The resulting traffic calming measures will also be monitored and evaluated after implementation following the procedure described in Stage 7 of the Neighbourhood Traffic Calming Study Process set out in Section 4.1.

4.2.1 New Developments

The City may require the implementation of traffic calming measures on new streets in new developments through the development approval process, potentially as a condition of approval for Plan of Subdivision and Site Plan Control applications. Given new development can change travel demand, proponents may be requested to investigate the potential need for changes to the street network (including consideration of traffic calming measures) as part of the Transportation Impact Assessment completed in support of the proposed development. Specific requirements may include identifying traffic calming opportunities on existing roads (i.e., to mitigate anticipated negative impacts of introducing the new development) and identifying, planning, and constructing traffic calming measures on new roads (e.g., road network internal to new subdivisions or future planned roads).

4.2.2 Road Reconstruction Projects

The City may implement traffic calming measures, when suitable, as part of other road, water, and sewer reconstruction projects. Traffic calming recommendations will be based on the existing operational characteristics, constraints, and context of the subject street, and consultations with the Ward Councillor and community as required. The key advantages of this approach are the potential for cost savings and reduced impact of construction on communities through packaging of projects into fewer construction activities (e.g., minimizing throwaway, such as replacing construction before the end of its lifecycle). This approach also provides an opportunity to potentially achieve lower prices for traffic calming features through economies of scale.

5 Measures

5.1 Traffic Calming Toolbox

The TAC *Canadian Guide to Traffic Calming* identifies a broad range of traffic calming techniques. From this catalogue of options, the City has established a shortlist of potential traffic calming measures for use in Peterborough.

Appendix A provides the "toolbox" of traffic calming measures with a description and photo of each treatment. The list summarized in Table A.1 captures a range of different approaches to traffic calming and reflects input received from emergency service providers, Peterborough Transit, road maintenance staff, accessibility experts, and other key City stakeholders. The Traffic Calming Toolbox notes whether the measures are applicable on Local Streets/Low Capacity Collectors and/or High Capacity Collectors and summarizes potential traffic calming benefits and other implementation considerations. The toolbox also includes a process for selecting the most appropriate traffic calming treatments from the list of potential measures. Indicative costs and design guidance are provided as well.

Applying the toolbox consistently will assist the City in selecting appropriate measures to address specific neighbourhood traffic issues and help to avoid the undesirable consequences of traffic calming noted in Chapter 2. It is important to note that not all traffic calming measures are appropriate under all circumstances. Selection of suitable measures will depend on the specific issues being addressed and careful consideration of site-specific conditions.

5.2 Use of Regulatory Signs for Traffic Calming

The City will not consider the use of regulatory signs for the sole purpose of traffic calming. Traffic control devices in this category include:

5.2.1 All-Way Stop Control

The City is commonly requested to install an all-way stop to discourage excessive speeding and/or traffic infiltration on neighbourhood streets. While this may be appropriate in select instances, all-way stop control is generally not intended for this purpose, as noted in the TAC *Canadian Guide to Traffic Calming*.

Previous studies conducted by the City have demonstrated the limited effectiveness of all-way stop control as a traffic calming measure to reduce operating speeds. A speed study on Gilmour Street in 2018 found that the 85th percentile speed travelling west from the all-way stop sign at Leslie Avenue was approximately 50 km/h within 150 metres of the intersection. Similar results were found as part of a speed study completed on Weller Street in the vicinity

of Hawthorne Drive. Similar to research from other jurisdictions, the City found that drivers would quickly accelerate to reach normal operating speeds after being forced to stop at an unwarranted stop sign.

Using all-way stops indiscriminately can lead to increased driver delay and frustration, greater speeding between intersections, increased noise from vehicle acceleration, increased emissions from vehicles forced to stop and idle, and/or reduced compliance with all-way stop control at the subject location and in general. Even when justified, all-way stops can increase the risk of certain collision types, most notably rear-end crashes.

The City applies warrants to determine where all-way stop control is merited. These warrants, which consider vehicle and pedestrian volumes, traffic distribution (percent of vehicles on the major street versus the minor street), and collision history, follow provincially recommended guidelines set out in Ontario Traffic Manual (OTM) Book 5 – Regulatory Signs[9]. The book indicates the purpose of a stop sign is to assign right-of-way between vehicles approaching an intersection from different directions when traffic signals are not warranted or not yet installed. The document also explicitly states all-way stop control should not be used:

- Where the protection of pedestrians, particularly school children, is a prime concern. This concern can usually be addressed by other means;
- As a speed control device; and/or
- As a means of deterring the movement of through traffic in a residential area.

5.2.2 Speed Reduction and Movement Restriction Signs

Regulatory signs intended to reduce vehicle speeds (i.e., speed limits, Community Safety Zones) or restrict movement (i.e., turn prohibitions, one-way) often require enforcement to ensure driver compliance and effectiveness. For this reason, the TAC *Canadian Guide to Traffic Calming* recommends using these signs only to supplement and reinforce desired driver behaviour and not as traffic calming measures on their own.

[9] Ministry of Transportation, Ontario. *Ontario Traffic Manual Book 5: Regulatory Signs*. March 2000.

6 Engagement

6.1 Why Does the City Engage?

Resident and stakeholder involvement plays a vital role in the Neighbourhood Traffic Calming Study Process set out in Section 4.1. Active and robust participation helps foster support (and avert opposition) for potential traffic calming measures and ultimately aids in ensuring a positive outcome. City Council is also more apt to approve a Traffic Calming Plan that has demonstrated resident and stakeholder involvement and support than one met with negative opinion.

The only means of gaining resident and stakeholder commitment is to involve interested parties early and often in the study process. Encouraging participation at all stages will ensure proper identification of traffic concerns, vetting of proposed solutions, and support of implementation plans.

The City will engage with residents and stakeholders impacted by potential traffic calming measures in a consistent and meaningful manner throughout the Neighbourhood Traffic Calming Study Process as described in Section 6.3. Parties potentially impacted will:

- Have the opportunity to participate in developing and providing input on proposed solutions;
- Be provided with convenient and accessible methods to participate and offer feedback;
- Be provided with relevant technical information to provide informed input;
- Feel that the process is open, understandable, transparent, and inclusive;
- Understand what is (and is not) considered within the project scope; and
- Understand how their feedback has influenced the decision-making process, including why specific suggestions were (or were not) included.

The City's Promise to the Public: We will keep you informed, listen to and acknowledge your concerns and aspirations, and provide feedback on how your input influenced the Traffic Calming Plan.

There may be instances when traffic calming measures are warranted, but affected residents have conflicting opinions on the preferred approach to addressing the identified concerns. In these circumstances, the City may need to conduct additional engagement and further outreach with the potentially impacted residents than detailed in Section 6.3 to help resolve the situation. Similarly, stakeholders, including emergency responders and City departments, may have concerns specific to their mandates requiring further dialogue and resolution.

6.2 Who Will the City Engage?

The City will engage two primary groups in the traffic calming process:

- Residents – Includes all households in the study area (as defined by City staff in Stage 4 of the Neighbourhood Traffic Calming Study Process). In select instances, may be limited to households directly fronting the subject street (and not the entire study area) as noted in Section 4.1.
- Stakeholders – Includes emergency responders (City of Peterborough Fire Services, Peterborough Police Service, and Peterborough County/City Paramedics), Peterborough Transit, City Accessibility Office, and City Engineering, Construction, and Public Works. Also includes school councils, resident associations, and other community groups with a mandate specific to the neighbourhood (not city-wide).

6.3 How and When Will the City Engage?

Table 6.1 summarizes the typical engagement strategy for a Traffic Calming Study in the City of Peterborough. The table notes:

- Process Stage when engagement should occur in the Traffic Calming Study;
- Approach for engaging residents and stakeholders;
- Intended Audience, Purpose, and Key Questions for the engagement activity; and
- Complimentary Communications supporting the engagement activity.

The following sections provide further information about the engagement process.

6.3.1 Points of Engagement

It is expected that most requests for traffic calming will originate from the community, signalling their involvement from the beginning of the Traffic Calming Study. Decision-makers may also engage residents and stakeholders in the process of removing permanent traffic calming installations.

Section 4.1 identifies the following points in the Neighbourhood Traffic Calming Study Process where the City will engage with residents and stakeholders:

- Stage 4 – Neighbourhood Survey
  - Survey to gauge resident support for developing a Traffic Calming Plan for the subject street.

- Stage 5 – Plan Development
  - Step 1: Consultation with residents and stakeholders to confirm neighbourhood traffic issues, note potential implementation challenges, and identify candidate traffic calming measures.
  - Step 3: Consultation with residents to present conceptual Traffic Calming Plan (options) and receive feedback and comments to be considered in preparing the proposed plan (options).
  - Step 4: Survey to gauge resident support for the proposed Traffic Calming Plan (options).
  - Step 9: Survey to gauge resident support for implementing the approved Traffic Calming Plan with a permanent installation.
- Stage 7 – Monitoring and Evaluation (if necessary and appropriate)
  - Consultation with potentially impacted residents and stakeholders prior to removing an approved Traffic Calming Plan.
  - Survey to gauge resident support for removing an approved Traffic Calming Plan.

6.3.2 Communications

The City will undertake communications activities to support a Traffic Calming Study. Communication will occur throughout the study process, specifically:

- After initial screening (Stage 2) to notify the original requester if the location satisfies the minimum thresholds for a Traffic Calming Study;
- After each neighbourhood survey to inform residents of the results and next steps;
- Two-weeks in advance of any engagement opportunity (i.e., survey, workshop, etc.);
- When traffic calming measures are to be installed, whether trial or permanent installation; and
- If traffic calming measures are to be removed, whether trial or permanent installation.

The above communications should be distributed to affected residents and stakeholders (via mail and/or email) and posted on the City's website. The City will use the **Connect Peterborough** engagement site [https://www.connectptbo.ca/trafficcalming] as a "one-stop portal" and landing page for all project-related information and online traffic calming engagement efforts. The City may also include these communications on their social media feeds and in local newspapers, as deemed appropriate. Distribution methods will depend on the size and nature of the study area.

Appendix C provides the "toolbox" of communication materials used by the City for traffic calming public engagement.

6.3.3 Community Ambassadors

The City may use Community Ambassadors – resident(s) from the study area – to support local communications and engagement efforts. Community Ambassadors can engage in conversations within their neighbourhoods to raise awareness of the project, bringing a local lens to the analysis. The City would hire, train, and oversee the Community Ambassadors to ensure neutrality and messaging consistency.

TABLE 6.1: TYPICAL ENGAGEMENT STRATEGY FOR A TRAFFIC CALMING STUDY

Process Stage	Approach	Intended Audience	Purpose	Key Questions	Complimentary Communications

Stage 4 – Neighbourhood Survey	• A **survey** (delivered by mail and returned online or by mail) will be sent to each household, regardless of the number of residents, to gauge support for developing a Traffic Calming Plan. **Section 4.1** outlines the minimum requirements to proceed to plan development (Stage 5).
	  • The survey package should include educational information about the **Neighbourhood Traffic Calming Study Process** and appropriate traffic calming measures for the location.
		Each household in the study area.	To determine if resident support exists to develop a Traffic Calming Plan.	• Are you supportive of developing a Traffic Calming Plan for [STUDY AREA]?
				  • Yes
				  • No
					• **Notice** of Request for Traffic Calming Study
					  • Mailed directly to the intended audience (could be done with door hangers)
					  • Posted on web, via social media, and in newspaper
					• **Handouts** with information about the traffic calming process and potential measures
					  • Hard copies
					  • Web

Stage 5 – Plan Development
 	
Step1: Initial Consultation with Residents and Stakeholders
	• A **workshop** (virtual or in-person) will be held with residents to discuss the survey results and solicit input for the conceptual Traffic Calming Plan.
	  • The workshop should include an educational component and provide opportunities for feedback. It could also include a design charette activity.
	  • An optional survey may be conducted prior to the workshop to obtain feedback on the key questions to help prepare for the event.
	• **Community Ambassador(s)** may be hired to support local communication and engagement efforts with residents.
	  • Ambassadors are usually study area residents hired, trained, and overseen by the City to ensure neutrality and messaging consistency.
	• **Information** (documents, plans) will be sent to stakeholders to solicit input for the conceptual Traffic Calming Plan.
		Residents of the study area and stakeholders.	To confirm neighbourhood traffic issues, note potential implementation challenges, and identify candidate traffic calming measures.	• How concerned are you about traffic in your neighbourhood?
				  • Very concerned
				  • Concerned
				  • Somewhat concerned
				  • Not at all concerned
				  • Unsure
				• Which of the following traffic issues in your immediate neighbourhood cause you concern?
				  • Aggressive driving
				  • Shortcutting traffic
				  • Distracted driving
				  • Failure to obey road signs
				  • Frequent collisions
				  • Near misses (narrowly prevented collisions)
				  • Pedestrian, cyclist, and vehicle conflicts
				  • Speeding
				  • Tailgating
				  • Traffic congestion
				• What is your desired level of traffic calming for this neighbourhood?
					• **Notice** of Upcoming Engagement
					  • Mailed directly to the intended audience (could be done with door hangers)
					  • Posted on web, via social media, and in newspaper
					  • Posters in the neighbourhood
					• Promotion via personal interaction with **Community Ambassador(s)**
					  • Door knocking
					  • “Kitchen table” conversations
					  • Email correspondence
					  • Phone calls
					• **Handouts** with information about the traffic calming process and potential measures
					  • Web
					  • Hard copies upon request

TABLE 6.1: TYPICAL ENGAGEMENT STRATEGY FOR A TRAFFIC CALMING STUDY

Process Stage	Approach	Intended Audience	Purpose	Key Questions	Complimentary Communications
				• Education and enforcement • Pavement markings • Surface treatments • Access restrictions • Roadway narrowing • Horizontal deflection • Vertical deflection • Within the identified constraints, where would you like to see traffic calming measures in the study area?	

Stage 5 – Plan Development
 	
Step 3: Presentation of Conceptual Traffic Calming Plan
	• A **workshop** (virtual or in-person) will be held with residents to present and solicit input on the conceptual Traffic Calming Plan (options).
	  • The workshop should include an educational component and provide opportunities for feedback.
	• **Other tools**, including **Connect Peterborough**, will be used to capture the input of individuals who do not attend the workshop.
	  • The proposed Traffic Calming Plan (options) will be posted on **Connect Peterborough** following the event.
	• **Community Ambassador(s)** (if hired) may be used to engage in conversations with their neighbours to collect additional "offline" feedback.
		Residents of the study area	To receive feedback on the conceptual Traffic Calming Plan (options). To determine the Traffic Calming Plan(s) to present as the proposed option(s) for the neighbourhood survey in Step 4.	• What do you like about the conceptual Traffic Calming Plan (options)?
				• Do you have a preference between the alternatives presented?
				• Do you have any questions or concerns about what is recommended?
				• Do you feel comfortable with the proposed solution?
				• Is there anything that needs to change before this plan moves forward?
					• **Notice** of Upcoming Engagement
					  • Mailed directly to the intended audience (could be done with door hangers)
					  • Posted on web, via social media, and in newspaper
					  • Posters in the neighbourhood
					• Promotion via personal interaction with **Community Ambassador(s)**
					  • Ambassadors can also collect feedback on the conceptual Traffic Calming Plan (options) before/after the workshop

Stage 5 – Plan Development
 	
Step 4: Neighbourhood Survey for Trial Installation
	• A **survey** (delivered by mail and returned online or by mail) will be sent to each household, regardless of the number of residents, to gauge support for implementing the proposed Traffic Calming Plan on a trial basis with temporary/seasonal measures and determine the preferred plan alternative if more than one option exists. **Section 4.1** outlines the minimum requirements to proceed to Council approval of the trial installation (Stage 5, Step 4).	Each household in the study area	To determine if resident support exists to implement the proposed Traffic Calming Plan on a trial basis with temporary/ seasonal measures. To determine the	• Do you support the trial installation of the proposed Traffic Calming Plan in [STUDY AREA]?
				  • Yes
				  • No
				  • Unsure/neutral
				• [IF MORE THAN ONE OPTION] In [STUDY AREA], do you support the trial installation of proposed Traffic Calming Plan:
				  • Option #1
				  • Option #2
					• **Handouts** with information about the proposed Traffic Calming Plan (options)
					  • Hardcopies
					  • Web
					• Promotion via personal interaction with **Community Ambassador(s)**
					  • Door knocking
					  • "Kitchen table" conversations
					  • Email correspondence

TABLE 6.1: TYPICAL ENGAGEMENT STRATEGY FOR A TRAFFIC CALMING STUDY

Process Stage	Approach	Intended Audience	Purpose	Key Questions	Complimentary Communications
	• The survey package should include the proposed plan (options), information about the trial installation, and data demonstrating the impact on traffic. • **Community Ambassador(s)** (if hired) may be used to engage in conversations with their neighbours to collect additional "offline" feedback.		preferred Traffic Calming Plan to implement if more than one option exists.	• …Option #n (typically no more than 2) • None of the options • Unsure/neutral	• Phone calls

Stage 5 – Plan Development
 	
Step 9: Neighbourhood Survey for Permanent Installation
	• A **survey** (delivered by mail and returned online or by mail) will be sent to each household, regardless of the number of residents, to gauge support for making the approved Traffic Calming Plan permanent. **Section 4.1** outlines the minimum requirements to consider permanent installation (subject to budget approval) (Stage 6).
	  • The survey package should include information about the permanent installation and data demonstrating the impact on traffic.
	• **Community Ambassador(s)** (if hired) may be used to engage in conversations with their neighbours to collect additional "offline" feedback.
		Each household in the study area	To determine, after the trial installation, if resident support remains to implement permanent traffic calming measures.	• Did previous (temporary) traffic calming measures address your concerns? Why or why not?
				• Do you support making the traffic calming installation permanent in [STUDY AREA]?
				  • Yes
				  • No
				  • Unsure/neutral
					• **Handouts** with information about the approved Traffic Calming Plan
					  • Hardcopies
					  • Web
					• Promotion via personal interaction with **Community Ambassador(s)**
					  • Door knocking
					  • "Kitchen" table conversations
					  • Email correspondence
					  • Phone calls

Stage 7 – Monitoring and Evaluation	• A **workshop** (virtual or in-person) may be held with residents to solicit input on removing the approved Traffic Calming Plan.
	  • The workshop should include an educational component and provide opportunities for feedback.
	• A **survey** (delivered by mail and returned online or by mail) may be sent to each household, regardless of the number of residents, to gauge support for removing the permanent installation. **Section 4.1** outlines the minimum requirements to remove the traffic calming measures (Stage 7).
	  • The survey package should include information about the implications of removing the permanent installation and data demonstrating the impact on traffic.
		Each household in the study area	To determine, after permanent installation, if resident support exists to remove the traffic calming measures.	• Did the permanent traffic calming measures address your concerns? Why or why not?
				• Do you support removing the traffic calming measures in [STUDY AREA] and returning the street to its prior configuration?
				  • Yes
				  • No
				  • Unsure/neutral
					• **Handouts** with information about removing the approved Traffic Calming Plan
					  • Hardcopies
					  • Web

Appendix A

Traffic Calming Toolbox

A Traffic Calming Toolbox

This appendix provides the "toolbox" of traffic calming measures with a description and photo of each treatment. Indicative costs and design guidance for implementation are also included.

The Traffic Calming Toolbox notes whether the measures are intended for use on Local Roads/Low-Capacity Collectors and/or High-Capacity Collectors, sets out typical criteria for their applicability, and highlights potential traffic calming benefits and other implementation considerations. Table A.1 summarizes the traffic calming measures applicable for use on roads in Peterborough. Detailed descriptions of the measures follow the introductory section.

Applying the toolbox consistently will assist the City in selecting appropriate measures to address specific neighbourhood traffic issues and help to avoid the undesirable consequences of traffic calming. It is important to note that not all traffic calming measures are appropriate under all circumstances. The selection of suitable measures will depend on the specific issues being addressed and careful consideration of site-specific conditions.

A.1 Selecting Measures from the Toolbox

The following outlines the typical decision process for selecting the most appropriate measures from the Traffic Calming Toolbox. Note that other, site-specific factors can also influence the measures selected:

- Step 1 – Determine if the subject street is a candidate for physical traffic calming measures. Per Chapter 3 of the Neighbourhood Traffic Calming Policy, locations meeting the initial screening criteria in Table 3.1 would be candidates for physical treatments. Streets not satisfying these criteria may be considered for non-physical traffic calming measures such as education and enforcement to address resident concerns as an alternative or a first step.

- Step 2 – Identify the list of potential traffic calming measures based on roadway classification. For Local Streets and Low Capacity Collectors, use Column 2 in Table A.1 (Applicability – Local Street and Low Capacity Collector). For High Capacity Collectors, use Column 3 of the table (Applicability – High Capacity Colllector).

- Step 3 – Confirm and rank (based on severity) the primary issue(s) to be addressed through the Traffic Calming Plan. Potential issues include:

    - Speeding
    - Shortcutting traffic

  - Pedestrian crossings
  - Vehicle and pedestrian/cyclist conflicts
  - Heavy vehicles

- Step 4 – Shortlist the measures that address the issue(s) to address and severity/priority from the initial list assembled in Step 2.

- Step 5 – Focus on/eliminate measures that would/would not be appropriate under the following conditions, with consideration for midblock versus intersection application:

  - School Zones and Community Safety Zones
  - Active transportation (cycling) routes
  - Adjacent park
  - High pedestrian generators, particularly more vulnerable users
  - Adjacent land uses (residential versus non-residential)
  - Planned reconstruction
  - Available budget
  - Applicability for temporary installation

- Step 6 – Confirm measures can be used under current roadway characteristics. Factors to consider include:

  - Existing intersections and control
  - Midblock pedestrian/cyclist crossings and control
  - Cross-section width
  - Need for on-street parking
  - Roadway alignment (i.e., horizontal and vertical curvature)
  - Grade
  - Block length
  - Driveway density
  - Pavement condition and materials
  - Drainage
  - Utilities and street furniture (e.g., poles, boxes, benches)
  - Streetlighting

A.2 Indicative Costs

Table A.1 provides indicative costs for trial (temporary) and permanent installations of the potential traffic calming measures identified, where available. The range of costs for permanent measures cited in Column 4 (Indicative Cost – Low) and Column 5 (Indicative Cost – High) were sourced primarily from the Institute of Transportation Engineers (ITE) *Traffic*

Calming Fact Sheets[10] and adjusted to reflect Canadian dollars and inflation (from 2017 to 2021 dollars). Other municipal traffic calming policies[11] were also referenced in deriving the permanent indicative costs. Costs are not provided for uncommon (i.e., speed kidney), site-specific (i.e., shared space), and primarily operational (i.e., targeted speed enforcement and targeted education campaign) measures, as denoted by "n/a".

For trial installations, the indicative costs included in Column 6 of **Table A.1** (Indicative Cost – Trial) were estimated based on quotes obtained from suppliers for the materials. The prices were factored up to account for installation and removal following the trial. Costs are not provided in cases where trial installations are unlikely (e.g., raised intersection) or inappropriate (e.g., any measure primarily signing or pavement marking), as denoted by "n/a".

The indicative costs cited in **Table A.1** provide useful estimates for planning purposes, but should be applied with caution given the many factors affecting actual implementation costs, such as:

- Width of roadway(s);
- Corner radii;
- Existing infrastructure and utilities (e.g., catch basins, maintenance holes, utility poles, streetlights);
- Dimensions of proposed feature(s) (e.g., island size, length of extensions, width/height of raised feature);
- Quantity (e.g., number of signs, length of pavement markings, number of signals);
- Property acquisition (if required);
- Landscaping;
- Labour and materials; and
- Design and contingency.

Closer to implementation, the City will typically estimate permanent and trial installation costs based on more detailed design plans and current unit/benchmark prices derived from recent contracts.

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[10] Institute of Transportation Engineers. *Traffic Calming Fact Sheets*. https://www.ite.org/technical-resources/traffic-calming/traffic-calming-measures. Accessed April 26, 2021.

[11] City of Toronto. *Traffic Calming Guide for Toronto*. 2016. https://www.toronto.ca/wp-content/uploads/2017/11/97d0-2016-Traffic-Calming-Guide_March2017.pdf. Accessed April 26, 2021.

A.3 Design Guidelines

The City will generally follow the recommended design guidance provided in Chapter 4 of the TAC *Canadian Guide to Traffic Calming* when implementing the traffic calming measures identified in Table A.1. Column 7 of the table (Design Details) denotes the relevant section in the guidebook to consult. The TAC *Geometric Design Guide for Canadian Roads* should also be referenced in the design process.

In a few instances, the table refers to the Ontario Traffic Manual (OTM) for guidance pertaining solely to signing or pavement marking measures. References are not provided for measures without available guidance (e.g., lateral shift) or for non-physical measures (e.g., targeted speed enforcement), as denoted by "n/a".

TABLE A.1: POTENTIAL TRAFFIC CALMING MEASURES

Measure	Applicability		Indicative Cost[1]			Design Details[2]
	Local Street and Low Capacity Collector	High Capacity Collector	Low	High	Trial	
1. Vertical Deflection						
1.1 Raised Crosswalk	●	●	$5,000	$20,000	$10,000	4.2.1
1.2 Raised Intersection	●	●	$30,000	$150,000	n/a	4.2.2
1.3 Speed Cushion	●		$6,000	$10,000	$8,500	4.2.3
1.4 Speed Hump/	●		$4,000	$10,000	$6,000	4.2.4
Speed Table	●		$5,000	$20,000	$10,000	4.2.4
2. Horizontal Deflection						
2.1 Chicane (One-Lane, Two-Lane)[3]	●		$16,000	$62,500	$25,000	4.3.1
2.2 Curb Radius Reduction[4]	●	●	$60,000	$125,000	$10,000	4.3.2
2.3 Lateral Shift	●	●	$16,000	$62,500	$25,000	n/a
2.4 Speed Kidney	●		n/a	n/a	n/a	4.3.3
2.5 Traffic Button/	●		$3,000	$50,000	$10,000	4.3.4
Traffic Circle/Mini-Roundabout	●		$20,000	$125,000	$15,000	4.3.4
3. Roadway Narrowing						
3.1 Curb Extension	●	●	$3,000	$50,000	$10,000	4.4.1
3.2 Lane Narrowing	●	●	$12,000	$20,000	n/a	OTM 11
3.3 On-Street Parking	●	●	$12,000	$20,000	n/a	4.4.2
3.4 Raised Median Island	●	●	$3,000	$125,000	$8,000	4.4.3
3.5 Vertical Centreline Treatment (per km)	●		$2,500	$4,000	n/a	OTM 6
4. Surface Treatment						
4.1 Sidewalk Extension/ Textured Crosswalk	●	●	$12,000	$30,000	n/a	4.5.1
4.2 Textured Pavement (per m^2)	●		$75	$190	n/a	n/a

TABLE A.1: POTENTIAL TRAFFIC CALMING MEASURES

Measure	Applicability		Indicative Cost[1]			Design Details[2]
	Local Street and Low Capacity Collector	High Capacity Collector	Low	High	Trial	
5. Pavement Markings						
5.1 On-Road 'Sign' Pavement Markings (per symbol)	●	●	$150	$200	n/a	OTM 11
6. Access Restriction						
6.1 Directional Closure[3]	●		$6,000	$100,000	$5,000	4.7.1
6.2 Diverter[1]	●		$12,000	$125,000	$5,000	4.7.2
6.3 Full Closure	●		$20,000	$250,000	$5,000	4.7.3
6.4 Intersection Channelization	●		$3,000	$50,000	$5,000	4.7.4
6.5 Raised Median Through Intersection	●		$3,000	$50,000	$5,000	4.7.5
6.6 Right-in/Right-out Island	●	●	$3,000	$50,000	$5,000	4.7.6
7. Gateways						
7.1 Gateways[5]	●	●	$10,000	$50,000	$5,000	n/a
8. Shared Space						
8.1 Shared Space[3, 6]	●		n/a	n/a	n/a	n/a
9. Enforcement and Education						
9.1 Speed Display Devices	●	●	$4,000	$7,500	n/a	n/a
9.2 Targeted Speed Enforcement	●	●	n/a	n/a	n/a	n/a
9.3 Targeted Education Campaign	●	●	n/a	n/a	n/a	n/a

Notes:

1. See **Section A.2** for explanation of indicative costs and sources.
2. See **Section A.3** for explanation of design details and sources.
3. Measure typically not implemented on Low Capacity Collector roads
4. Assumes all corners of the intersection.
5. To be used in conjunction with other traffic calming measures. Typically consider for new development.
6. Measure is site-specific. Implemented as part of road reconstruction or new development.

1. VERTICAL DEFLECTION

1.1 Raised Crosswalk

Description and Purpose

A raised crosswalk is a marked pedestrian crosswalk at an intersection or midblock location constructed at a higher elevation than the adjacent roadway.

The purpose of a raised crosswalk is to reduce vehicle speeds, improve pedestrian visibility, and reduce pedestrian–vehicle conflicts.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban, sidewalk on at least one side of road
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **Grade** – ≥ 1%, but ≤ 8%
- **City** – Implement to facilitate pedestrian connections

Cost – $ to $$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	◘
Natural Environment	◘

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	◘
Cycling Use	◘
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	◘

□ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

1. VERTICAL DEFLECTION

1.2 Raised Intersection

Description and Purpose

A raised intersection is an intersection, that may include crosswalks, constructed at a higher elevation than the adjacent approach roadways.

The purpose of a raised intersection is to reduce vehicle speeds, better define crosswalk areas, and reduce pedestrian–vehicle conflicts.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **Grade** – ≥ 1%, but ≤ 8%
- **City** – Site specific, considered as part of road reconstruction projects or new developments

Cost – $$ to $$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	▣
Natural Environment	▣

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	▣
Cycling Use	▣
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	▣

□ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

1. VERTICAL DEFLECTION

1.3 Speed Cushion

Description and Purpose

A raised area on a road, similar to a speed hump, but does not cover the entire width of the road. The width is designed to allow a large vehicle, such as a fire truck or bus, to "straddle" the cushion, while light vehicles will have at least one side of the vehicle deflected upward.

Speed cushions are intended to produce sufficient discomfort to limit passenger vehicle travel speeds yet allow the driver to maintain vehicle control, while allowing larger vehicles to pass without difficulty.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **Grade** – < 8%
- **City** – Primary measure

Cost – $

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	▣
Conflict Reduction	■
Natural Environment	▣

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	▣
Cycling Use	▣
Traffic Enforcement	□
Vehicle Parking	▣
Street Maintenance	▣

□ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

1. VERTICAL DEFLECTION
1.4 Speed Hump/Table

Description and Purpose

A speed hump is a raised area of a roadway, which causes the vertical upward movement of a traversing vehicle. The purpose of a speed hump is to cause discomfort for drivers travelling at higher speeds and to reduce vehicle speeds.

A speed table is an elongated raised speed hump with a flat-topped section that is long enough to raise the entire wheelbase of a vehicle. They may be constructed with brick or other textured materials on the flat section.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **Grade** – < 8%
- **City** – Implement where a speed cushion is not effective

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	▣
Conflict Reduction	■
Natural Environment	▣

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	■
Cycling Use	▣
Traffic Enforcement	□
Vehicle Parking	▣
Street Maintenance	▣

□ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

2. HORIZONTAL DEFLECTION

2.1 Chicane

Description and Purpose

A chicane is 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. Multiple series of curb extensions can be used.

The purpose of this measure is to discourage shortcutting or through traffic and reduce overall speeds by forcing the lateral shifting of vehicles travelling through the chicane.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – ≥ 750 vpd
- **Grade** – < 8%
- **City** – Implement under special circumstances

Cost – $$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	■
Conflict Reduction	■
Natural Environment	▣

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	▣
Cycling Use	▣
Traffic Enforcement	□
Vehicle Parking	■
Street Maintenance	▣

□ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

2. HORIZONTAL DEFLECTION

2.2 Curb Radius Reduction

Description and Purpose

A curb radius reduction is the reconstruction or modification of an intersection corner with a smaller radius, usually between the 3.0 m to 5.0 m range.

The purpose is to slow down right-turning vehicles, reduce crossing distances for pedestrians, and to improve visibility of pedestrians. This measure will not be considered where there is frequent bus/truck turning.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – All volumes
- **City** – Primary measure

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	■
Cycling Use	■
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

2. HORIZONTAL DEFLECTION
2.3 Lateral Shift

Description and Purpose

A lateral shift in a roadway occurs where an otherwise straight section is redesigned using pavement markings or curb extensions to create a curvilinear alignment (a 'jog') in the roadway like a chicane. This effect can also be achieved with the use of a central island.

A lateral shift causes drivers to have to negotiate the alignment and increases awareness aimed at reducing vehicle speeds.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **Grade** – < 8%
- **City** – Primary measure

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	□

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	□
Traffic Enforcement	□
Vehicle Parking	■
Street Maintenance	□

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

2. HORIZONTAL DEFLECTION
2.4 Speed Kidney

Description and Purpose

A speed kidney is an arrangement of three speed humps elongated with a curvilinear shape in the direction of traffic. Vehicle drivers choosing to drive in a straight path will experience discomfort as two or four wheels traverse the different parts of the speed kidney. Vehicles are required to take a curvilinear path to avoid the vertical deflection.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Location** – Midblock, Intersection
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **Grade** – < 5%
- **City** – Implement under special circumstances

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	■
Traffic Enforcement	□
Vehicle Parking	■
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

2. HORIZONTAL DEFLECTION

2.5 Traffic Button/Traffic Circle/Mini-Roundabout

Description and Purpose

A traffic button/traffic circle/mini-roundabout is an island located at the centre of an intersection, which requires vehicles to travel in a counter-clockwise direction around the island.

Mini-roundabouts are designed in accordance with full-size roundabout design principles incorporating splitter islands and deflection of vehicles on all approaches, except that they have a smaller diameter and traversable islands. A traffic circle is typically smaller than a mini-roundabout and does not have splitter islands on the approaches. A traffic button is like a traffic circle. However, the former is typically made of coloured asphalt while the latter is landscaped.

The turning radius for left-turning trucks, buses, or emergency vehicles may require a diameter which would be larger than the intersection space available. Consequently, vehicles may turn left in front of the traffic circle or mount the centre raised island rather than travelling around the measure.

Yield traffic control is recommended.

Cost – $-$$

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban and rural
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – < 1500 vpd
- **City** – Implement to address intersection conflicts, where space permits

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	■
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	◘
Cycling Use	◘
Traffic Enforcement	□
Vehicle Parking	◘
Street Maintenance	◘

□ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

3. ROADWAY NARROWING

3.1 Curb Extension

Description and Purpose

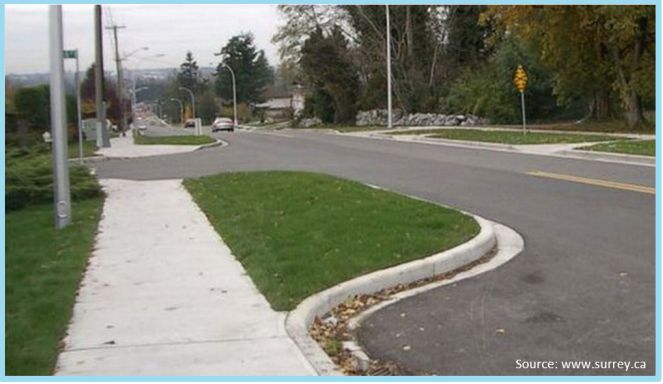
A curb extension (also known as neckdown, choker, curb bulb, or bulb-out) is a horizontal intrusion of the curb into the roadway resulting in a narrow section of roadway. The curb is extended on one or both sides of the roadway to reduce its width to as a little as 6.0 m for two-lane, two-way traffic. In urban environments, it is possible to implement curb extensions by removing existing parking spaces.

The purpose of a curb extension is to reduce vehicle speeds, reduce crossing distance for pedestrians, increase visibility of pedestrians, and prevent parking close to an intersection.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 60 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Primary measure

Cost – $$-$$$



Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	■
Traffic Enforcement	□
Vehicle Parking	■
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

3. ROADWAY NARROWING

3.2 Lane Narrowing

Description and Purpose

Lane narrowing is the process of reducing lane widths using pavement markings or other features (for example, bicycle lanes, street beautification programs, pavement texture).

The intention is for drivers to perceive the roadway to be less comfortable at higher speeds due to the narrowing of the lanes and ultimately reduce operating speeds.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 60 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Primary measure

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	■
Natural Environment	□

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	■
Cycling Use	■
Traffic Enforcement	□
Vehicle Parking	■
Street Maintenance	□

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

3. ROADWAY NARROWING
3.3 On-Street Parking

Description and Purpose

On-street parking is the reduction of the roadway width available for vehicle movement by allowing motor vehicles to park adjacent and parallel to the curb. Angled parking is not appropriate as a traffic calming measure, due to the increased potential for conflicts.

The effect of using on-street parking to narrow the effective roadway space is to reduce vehicle speeds and to reduce possible short-cutting or through traffic.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Implement in accordance with City By-laws

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	■
Cycling Use	■
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

3. ROADWAY NARROWING
3.4 Raised Median Island

Description and Purpose

A raised median island is an elevated median constructed on the centerline of a two-way roadway to reduce the overall width of the adjacent travel lanes.

The purpose of a raised median island is to reduce vehicle speeds and to reduce pedestrian–vehicle conflicts.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 60 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Implement where width permits and/or road reconstruction projects

Cost – $$-$$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	■
Natural Environment	□

Implementation Considerations

Local Vehicle Access	■
Emergency Vehicle Response	□
Cycling Use	□
Traffic Enforcement	□
Vehicle Parking	■
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

3. ROADWAY NARROWING
3.5 Vertical Centreline Treatment

Description and Purpose

The use of vertical treatments such as flexible post-mounted delineators or raised pavement markers to create a centre median. This could be used to give drivers a perception of lane narrowing and create a sense of constriction.

Flexible post-mounted delineators are similar in appearance to bollards. They are commonly used in work zones, high-occupancy vehicle (HOV) lanes, and on-ramp exits to direct vehicles or prevent certain movements.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban and rural, two-lane
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Primary measure

Cost – $

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	□

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	□
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

4. SURFACE TREATMENT

4.1 Sidewalk Extension/ Textured Crosswalk

Description and Purpose

A sidewalk extension is a sidewalk continued across a local street intersection at the level of the roadway. Textured/patterned elements that contrast the roadway can be incorporated into the sidewalk extension.

The purpose of a sidewalk extension is to visually enhance a pedestrian crossing location so drivers become more aware of its presence. It is not intended to indicate whether drivers or pedestrians are required to yield (traffic must comply with local or provincial regulations governing the type of pedestrian crossing system being enhanced by the sidewalk extension / textured crosswalk).

With a sidewalk extension/textured crosswalk the continuation of the surface and enhanced visual/tactile identification of the crosswalk area emphasizes pedestrian priority.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban, sidewalks on both sides
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Implement to facilitate pedestrian crossings, streetscape projects

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	■
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	■
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

4. SURFACE TREATMENT
4.2 Textured Pavement

Description and Purpose

Textured pavement is roadway pavement that incorporates a textured and/or patterned surface which contrasts other adjacent roadways in the surrounding area. The difference in texture alerts drivers of the potential need to reduce speed.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Streetscape projects

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	◘
Volume Reduction	☐
Conflict Reduction	☐
Natural Environment	◘

Implementation Considerations

Local Vehicle Access	☐
Emergency Vehicle Response	☐
Cycling Use	◘
Traffic Enforcement	☐
Vehicle Parking	☐
Street Maintenance	■

☐ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

5. PAVEMENT MARKINGS

5.1 On-Road Sign Pavement Markings

Description and Purpose

On-road 'sign' pavement markings provide information that would typically be shown to drivers through signage but are painted on the roadway to provide a larger image, and one that is directly in the driver's line of sight. Some examples could be speed limit, 'SLOW', 'Stop ahead, etc.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban and rural
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – All volumes
- **City** – Compliments other measures

Cost – $

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	□

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	□
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

6. ACCESS RESTRICTIONS

6.1 Directional Closure

Description and Purpose

A directional closure is a curb extension or vertical barrier extending to approximately the centerline of a roadway, effectively obstructing (prohibiting) one direction of traffic.

When combined with other measures elsewhere in a neighborhood, directional closures obstruct short-cutting or through traffic routes.

Bicycles are typically permitted to travel through a directional closure in both directions, including the direction in which motor vehicle traffic is obstructed. In some cases, gaps or a contra-flow bicycle lane are used to provide bicycle access.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Location** – Midblock, Intersection
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – <1500 vpd Local, 1500 to 5000 vpd Low Capacity Collector
- **City** – Consider for volume reduction in the context of the network design

Cost – $-$$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	■
Conflict Reduction	▣
Natural Environment	▣

Implementation Considerations

Local Vehicle Access	■
Emergency Vehicle Response	▣
Cycling Use	▣
Traffic Enforcement	▣
Vehicle Parking	□
Street Maintenance	▣

□ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

6. ACCESS RESTRICTIONS

6.2 Diverter

Description and Purpose

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

The purpose of a diverter is to obstruct and redirect short-cutting or through traffic.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban and rural
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – < 1500 vpd, use with caution for volumes up to 5000 vpd
- **City** – Consider for volume reduction in the context of the network design

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	☐
Volume Reduction	■
Conflict Reduction	◘
Natural Environment	◘

Implementation Considerations

Local Vehicle Access	■
Emergency Vehicle Response	◘
Cycling Use	◘
Traffic Enforcement	☐
Vehicle Parking	☐
Street Maintenance	◘

☐ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

6. ACCESS RESTRICTIONS
6.3 Full Closure

Description and Purpose

A full closure is a barrier extending the entire width of a roadway, which obstructs all motor vehicle traffic movements from continuing along the roadway. A closure can change a four-way intersection to a three-way intersection, or a three-way intersection to a non-intersection. Gaps can be provided for cyclists or to allow for emergency vehicles.

The purpose of a full closure is to eliminate short-cutting or through traffic.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less
- **Average Daily Traffic** – All volumes
- **City** – Consider for volume reduction in the context of the network design

Cost – $$-$$$

Potential Traffic Calming Benefits

Speed Reduction	☐
Volume Reduction	■
Conflict Reduction	■
Natural Environment	▣

Implementation Considerations

Local Vehicle Access	■
Emergency Vehicle Response	■
Cycling Use	▣
Traffic Enforcement	☐
Vehicle Parking	☐
Street Maintenance	▣

☐ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

6. ACCESS RESTRICTIONS
6.4 Intersection Channelization

Description and Purpose

Intersection channelization is the use of raised islands or bollards located in an intersection to obstruct specific traffic movements and physically direct traffic through an intersection.

Intersection channelization can improve pedestrian crossing safety by reducing crossing distances and providing refuge areas.

Bicycles are typically permitted to make all movements, including those which motor vehicles are prevented from making. Gaps in channelization islands may be used to accommodate bicycles.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – All volumes
- **City** – Consider for volume reduction in the context of the network design

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	☐
Volume Reduction	◘
Conflict Reduction	◘
Natural Environment	◘

Implementation Considerations

Local Vehicle Access	■
Emergency Vehicle Response	◘
Cycling Use	☐
Traffic Enforcement	☐
Vehicle Parking	☐
Street Maintenance	◘

☐ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

6. ACCESS RESTRICTIONS

6.5 Raised Median through Intersection

Description and Purpose

A raised median through an intersection is a concrete or asphalt island located on the centerline of a two-way roadway through an intersection, which prevents left turns and through movements to and from the intersecting roadways. It can create a refuge for pedestrians and cyclists, enabling them to cross one direction of travel at a time, thereby reducing waiting time for gaps when crossing the roadway.

The purpose of a raised median through an intersection is to obstruct short-cutting or through traffic and reduce crossing distance for pedestrians.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – All volumes
- **City** – Consider for volume reduction in the context of the network design

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	☐
Volume Reduction	■
Conflict Reduction	◘
Natural Environment	◘

Implementation Considerations

Local Vehicle Access	■
Emergency Vehicle Response	◘
Cycling Use	◘
Traffic Enforcement	☐
Vehicle Parking	◘
Street Maintenance	◘

☐ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

6. ACCESS RESTRICTIONS
6.6 Right-In/Right-Out Island

Description and Purpose

A right-in / right-out island is a raised triangular island at an intersection approach which obstructs left turns and through movements to and from the intersecting street or driveway.

Bicycles are typically permitted to make left turns and through movements from the side street, either through gaps or depressions in the island, or by travelling around the island.

The purpose of a right-in / right-out island is to obstruct short-cutting or through traffic.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – All volumes
- **City** – Consider for volume reduction in the context of the network design

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	☐
Volume Reduction	■
Conflict Reduction	◘
Natural Environment	◘

Implementation Considerations

Local Access	◘
Emergency Vehicle Response	◘
Cycling Use	◘
Traffic Enforcement	◘
Vehicle Parking	☐
Street Maintenance	◘

☐ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

7. GATEWAYS

Description and Purpose

Gateways are the combination of traffic calming devices, that help to provide an entry or "gateway" which identifies transitional zones such as between commercial/rural areas and urban/rural residential zones, villages, or hamlets.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, and High Capacity Collector
- **Roadway Cross-Section** – Urban and rural
- **Speed Limit** – All speed limits
- **Average Daily Traffic** – All volumes
- **City** – Site specific, compliments other measures

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	□
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

8. SHARED SPACE

Description and Purpose

Shared space is a design concept commonly used in Europe where the priority for users is shifted from vehicles towards cyclists and pedestrians as they are free to cross anywhere. Often, there are no pavement markings, traffic signals, signs or barriers which requires drivers to be more attentive. There may also be trees or street furniture in the roadway to act as deflections. This shared use reduces vehicles speeds and encourages better public spaces for the community.

Applicability

- **Road Class** – Local Street and Low Capacity Collector
- **Roadway Cross-Section** – Urban
- **Speed Limit** – 50 km/h or less, lower to 20-30 km/h
- **Average Daily Traffic** – <15,000 vpd
- **City** – Site specific, implemented as part of road reconstruction or new development

Cost – $-$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	■

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	▣
Cycling Use	□
Traffic Enforcement	□
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
▣ Minor Benefit/Impact
■ Substantial Benefit/Impact

9. ENFORCEMENT AND EDUCATION

9.1 Speed Display Devices

Description and Purpose

A speed display device is an interactive sign that displays vehicle speeds as oncoming motorists approach. Vehicle speed is captured using radar and can trigger the display board to show when vehicles approach at predetermined undesirable speeds. Can be used upstream of targeted speed enforcement.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, High Capacity Collector, and Arterial Roads (all types)
- **City** – Prior to implementing physical traffic calming and/or compliments other measures

Cost – $

Potential Traffic Calming Benefits

Speed Reduction	◪
Volume Reduction	☐
Conflict Reduction	☐
Natural Environment	☐

Implementation Considerations

Local Vehicle Access	☐
Emergency Vehicle Response	☐
Cycling Use	☐
Traffic Enforcement	◪
Vehicle Parking	☐
Street Maintenance	■

☐ No Benefit/Impact
◪ Minor Benefit/Impact
■ Substantial Benefit/Impact

9. ENFORCEMENT AND EDUCATION

9.2 Targeted Speed Enforcement

Description and Purpose

Targeted speed enforcement involves employing additional police enforcement in locations when speed, collision, citation, resident comments, or other sources of information suggest that the site is unusually hazardous due to illegal driving practices.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, High Capacity Collector, and Arterial Roads (all types)
- **City** – Prior to implementing physical traffic calming and/or compliments other measures

Cost – $$$

Potential Traffic Calming Benefits

Speed Reduction	■
Volume Reduction	□
Conflict Reduction	□
Natural Environment	□

Implementation Considerations

Local Vehicle Access	□
Emergency Vehicle Response	□
Cycling Use	□
Traffic Enforcement	■
Vehicle Parking	□
Street Maintenance	■

□ No Benefit/Impact
■ Minor Benefit/Impact
■ Substantial Benefit/Impact

9. ENFORCEMENT AND EDUCATION

9.3 Targeted Education Campaign

Description and Purpose

Targeted education campaigns are initiatives to raise awareness of road safety issues. Education campaigns can address multiple types of driver awareness. In some cases, these will be an integral component of an overall strategic road safety program.

Applicability

- **Road Class** – Local Street, Low Capacity Collector, High Capacity Collector, and Arterial Roads (all types)
- **City** – Prior to implementing physical traffic calming and/or compliments other measures

Cost – $-$$$

Potential Traffic Calming Benefits

Speed Reduction	☐
Volume Reduction	☐
Conflict Reduction	☐
Natural Environment	☐

Other Implementation Considerations

Local Vehicle Access	☐
Emergency Vehicle Response	☐
Cycling Use	☐
Traffic Enforcement	☐
Vehicle Parking	☐
Street Maintenance	☐

☐ No Benefit/Impact
◘ Minor Benefit/Impact
■ Substantial Benefit/Impact

Appendix B

Traffic Calming Request Form

Traffic Calming Request Form

Name: _____

Mailing Address: _____

Phone: _____

Email: _____

Please indicate the location (street or area) of the traffic concern:

_____

What is the area/zone of your traffic speeding concern?

- ☐ School Zone/Community Safety Zone
- ☐ Park
- ☐ Residential Area
- ☐ Road with Limited Visibility
- ☐ Other

Please select any of the following traffic concerns:

- ☐ Speeding
- ☐ Collision concerns
- ☐ Vehicle Volumes
- ☐ Shortcutting traffic
- ☐ Pedestrian Safety

When does the problem typically occur?

- ☐ Morning Rush Hour
- ☐ Weekdays
- ☐ Mid-day
- ☐ Weekends
- ☐ Afternoon Rush Hour
- ☐ Other

Which seasons does the problem occur?

- ☐ Winter
- ☐ Summer
- ☐ Spring
- ☐ Fall

Please provide any further comments:

_____

_____

Appendix C

Public Engagement Toolbox

CALM STREETS PTBO
DRAFT IDENTIFIER

The Calm Streets PTBO project identity consists of a Main Project Identifier and Area Specific Identifiers for each of the study areas. The overall colour branding and font styles are consistent across all identifiers. Both the Main Identifier and Area Specific Identifiers show abstract colour overlays of street networks.

Five colours have been chosen for the project identity. Each colour represents one of the five main study areas. These colours are used throughout each identifier to show street lines. The colours chosen have been selected from the "cool" realm of colours (greens, blues and purples). These colours are generally associated with calming feelings, thus reflecting the project name Calm Streets PTBO.

The fonts chosen for all Identifiers is within the font family Futura which is the City of Peterborough's corporate branding.

MAIN PROJECT IDENTIFIER

CALM
STREETS
PTBO

The Main Identifier is an abstract street network showing intersecting and overlaping lines. Where the lines overlap, the colours are overlayed to show an intersection shape. Unlike the Area Specific Identifiers, the road network here is not identifiable, thus implying that this project is City-wide.

This is the Main Identifier for the Calm Streets PTBO project and will be used on all City-wide materials and on any materials that are not specific to one of the study areas. Examples of where use of the Main Identifier is appropriate include: project webpages, online questionnaires, activity booklets and sidewalk stickers.

AREA SPECIFIC IDENTIFIERS

Area Specific Identifiers have been designed for each of the project's study areas. Each Identifier depicts the street structure within the project area boundary. The street(s) of focus within the study area is (are) highlighted using the darkest colour of the chosen colour palette to make it stand out. This colour is also the primatry blue colour from the City of Peterborough branding. The name of the street(s) of focus have also been included in the Areas Specific Identifier, replacing "PTBO". This name appears in the colour that matches the corresponding street in the Identifier graphic. This is consistent with all Area Specific Identifiers.

Area Specific Identifiers will be used to promote the neighbourhood studies only and will be used as a subset to the Main Identifier.

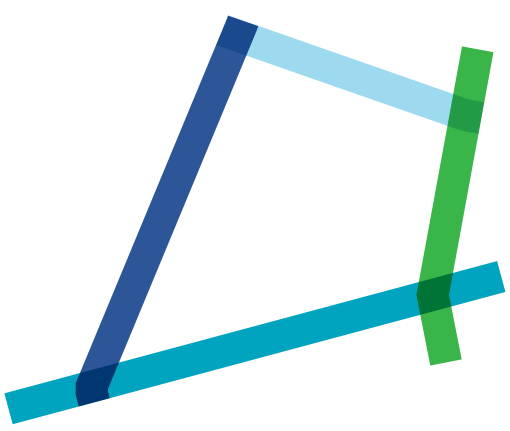
Examples where use of the Area Specific Identifiers is appropriate include website subpages for each neighbourhood, virtual neighbour-to-neighbour workshop promotion and neighbourhood-specific workshop materials.

CALM
STREETS
WESTRIDGE/
CHERRYHILL

Westridge Boulevard/
Cherryhill Road
Study Area

CALM
STREETS
FRANKLIN

Franklin Drive Study Area



CALM
STREETS
AUBURN

Auburn Street Study Area

COLOUR PALETTE AND FONTS

Primary Colours

C - 92
M - 73
Y - 11
K - 1

C - 75
M - 68
Y - 67
K - 90

AODA compliant as text on white background

C - 92
M - 52
Y - 31
K - 8

C - 74
M - 0
Y - 43
K - 0

C - 35
M - 0
Y - 3
K - 0

C - 75
M - 0
Y - 100
K - 0

These are the primary colours used in the project Identifier for this project. They will be the main colour palette for the branding of all project pieces (postcards, presentations etc.) The first row of colours are all AODA compliant for use as text on a white background. The second row of colours can be used for emphasis, graphics or as text on a dark background. Where appropriate for graphics, additional shades of these primary colours can be used. These shades should not be used in abundance nor detract from the use of the main colour palette.

WCAG 2.0 level AA requires a contrast ratio of at least 4.5:1 for normal text and 3:1 for large text. Large text is defined as 14 point (typically 18.66px) and bold or larger, or 18 point (typically 24px) or larger.

Fonts

The fonts for these Identifiers are within the Futura font family. Fonts used in the Identifiers as well for titles and high level Headings are Futura Book and Futura Demi. Futura Light or Futura Book can be used for body text.

CALM
STREETS
PTBO

Futura Book

Futura Demi

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod

Futura Light

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod

Futura Book

Help make your street a calm street!

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Visit www.connectptbo.ca/TrafficCalming

#CALM STREETS PTBO

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Important changes are proposed for **WESTRIDGE BLVD** and **CHERRYHILL RD**!

Join us for our **last** virtual traffic calming workshop on **December 9, 2020 between 6:30 pm and 8:30 pm.**

RSVP at
www.connectptbo.ca/TrafficCalming

CALM STREETS **PTBO**

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Help make
WESTRIDGE BLVD
and **CHERRYHILL RD**
calm streets!

Visit
www.connectptbo.ca/TrafficCalming
to learn more!

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CALM STREETS **PTBO**

Important changes are coming to the streets in your neighbourhood!

Your neighbourhood has been identified for traffic calming through the Calm Streets PTBO project.

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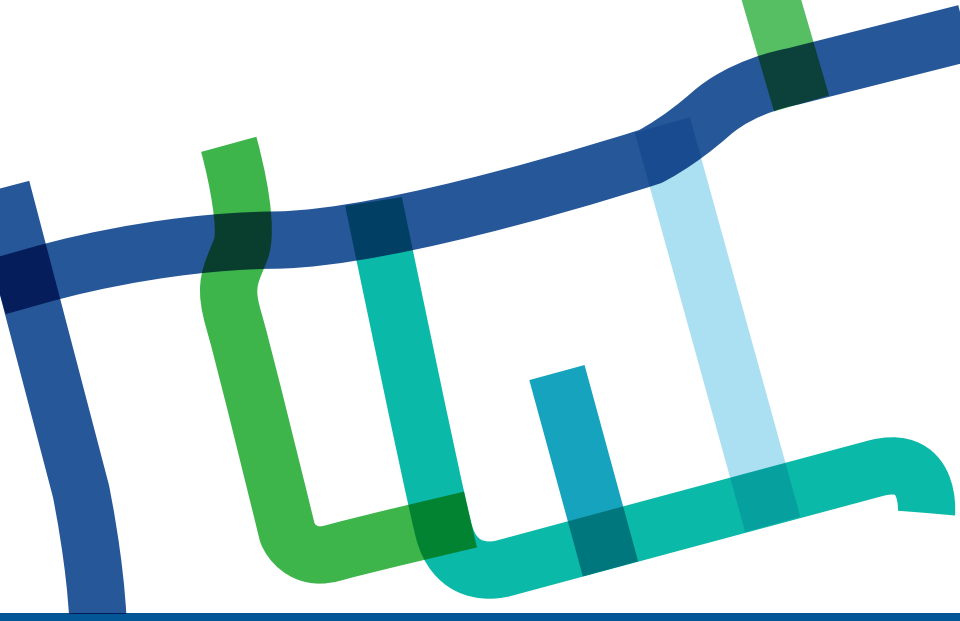

Traffic calming concepts for **Westridge Blvd.** and **Cherryhill Rd.** were created inline with best practices and with input from the community.

If you would like to share your thoughts as we move to finalize the plan, please join us for our **last** virtual workshop on **December 9, 2020 between 6:30 pm and 8:30 pm.**

Visit **www.connectptbo.ca/trafficcalming** to RSVP for the workshop and subscribe for updates.

CalmStreetsPTBO@peterborough.ca

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SLOW DOWN!

Drive Like This is Your Neighbourhood!

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SLOW DOWN!

Drive Like Your Children Live Here!

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SLOW DOWN!

This is a Neighbourhood!

#CALM STREETS PTBO

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SLOW DOWN!

People Live Here!

CALM
STREETS
PTBO

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Have a Traffic Calming Concern?

This diagram shows Peterborough's Neighbourhood Traffic Calming Study process for considering traffic calming requests from residents.

1. Submit Traffic Calming Request
2. Initial Screening*
3. Technical Assessment*
4. Neighbourhood Survey*
5. Plan Development
6. Plan Implementation
7. Monitoring and Evaluation

*Locations may be deemed ineligible for traffic calming measures at these stages. For more information on eligibility at these different stages, please refer to the City of Peterborough's Traffic Calming Policy

What is Traffic Calming?

Traffic calming is the process and measures applied to address concerns about driver behaviour on roads.

Traffic calming measures are usually applied in areas experiencing excessive vehicle speed and/or high volumes of shortcutting traffic.

When applied properly, traffic calming can help reduce the negative effects of motor vehicle use, change driver behaviour, and improve conditions for non-motorized street users.

Want to learn more about traffic calming in Peterborough?

Visit:
connectptbo.ca/trafficcalming

To see the complete toolkit of measures.

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How Would Traffic Calming Look in My Neighbourhood?

Primary Measures for Peterborough

Speed Cushion

Speed cushions are raised road areas, similar to a speed hump but do not cover the road's entire width.

Speed cushions limit passenger vehicle speeds while allowing buses and emergency vehicles to pass with minimal impact.

Curb Radius Reduction (Tighter Corners)

Curb radius reductions reconstruct an intersection corner to have a smaller radius.

They aim to slow down right-turning vehicles, reduce pedestrians' crossing distances, and improve pedestrians' visibility.

Lateral Shift (Side-to-Side Shift)

Lateral shifts redesign straight sections of road to be curved using pavement markings or curb bump-outs.

A lateral shift forces drivers to negotiate the curved road and increases awareness to reduce vehicle speeds.

Curb Extension (Bump Out)

Curb extensions move the curb into the road and narrow travel lanes.

They aim to reduce vehicle speeds and crossing distance for pedestrians, increase pedestrians' visibility, and prevent parking close to an intersection.

Lane Narrowing

Lane narrowing reduces lane widths using pavement markings or other features.

Narrowing reduces driving speeds as drivers perceive the roadway to be less comfortable at higher speeds.

Vertical Centreline Treatment (Median)

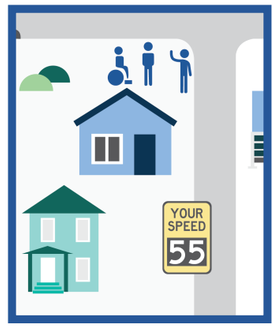
The use of vertical treatments creates a centre median along a road.

Centreline treatment aims to give drivers the perception of a narrower road to reduce vehicle speeds.

Gateway

Gateways combine multiple traffic calming measures and provide an entry to an area.

Gateways identify transitional zones such as between commercial or rural areas and residential zones, villages, or subdivisions.



Speed Display Devices

Speed displays are interactive signs that show vehicle speeds as oncoming drivers approach.

They encourage reducing speeds by increasing awareness.

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Have a Traffic Calming Concern?

This diagram shows Peterborough's Neighbourhood Traffic Calming Study process for considering traffic calming requests from residents. Learn more about the stages, how traffic calming measures are approved and when you and your neighbours can become involved in the process!

	Residents	City Staff	City Staff	City Staff and Residents	City Staff and Residents	City Staff	City Staff
Stage	1 Submit Traffic Calming Request	2 Initial Screening*	3 Technical Assessment*	4 Neighbourhood Survey*	5 Plan Development	6 Plan Implementation	7 Monitoring and Evaluation
Additional Details	Residents will submit their written request for traffic calming to the City's Transportation Services Department.	City staff will conduct an initial screening of the request to determine if the subject street meets the eligible criteria for traffic calming measures and inform the original requester of the results.	Requests that pass the initial screening will be assessed to determine priority for a Traffic Calming Study. This involves assigning a point score to a number of criteria.	If the subject street passes the technical assessment, City staff will confirm the study area boundaries and seek broader input from affected households within the area through a survey.	If neighbourhood support is confirmed, the City will engage residents and stakeholders in developing the Traffic Calming Plan through a nine-step consultation and design process.	As part of Capital Budget preparation, City staff will propose traffic calming implementation locations for the following year. Once approved, the City will design and implement the Traffic Calming Plan.	City staff will continue to monitor and evaluate the Traffic Calming Plan after implementation.

*Locations may be deemed ineligible for traffic calming measures at these stages. For more information on eligibility at these different stages, please refer to the City of Peterborough's Neighbourhood Traffic Calming Policy.

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