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Section: Traffic Engineering

# Traffic Calming Policy

# 1.0 Policy Statement

As per the Transportation Association of Canada (TAC), Traffic Calming is a broad term used to describe the process and measures applied by road authorities to address concerns about the behaviour of motor vehicle drivers travelling on roadways. Often described as "speeding", "infiltration", and/or "shortcutting", inappropriate actions by motorists can have a negative impact on the quality of life and livability of a community.

Like many other municipalities throughout Canada and Newfoundland and Labrador, the City of Mount Pearl has developed this Traffic Calming Policy to better address neighbourhood traffic concerns in a consistent manner. Some key benefits of our Traffic Calming policy include:

**Data Driven Insights** – empirical data helps staff identify problem areas and evaluate the effectiveness of various traffic calming measures.

**Structured Process** – provides a clear, consistent, and transparent framework for evaluating traffic issues and implementing solutions.

**Community Engagement –** provides residents an opportunity to report concerns and participate in a feedback process prior to implementation.

**Prioritization** – includes criteria for ranking requests based on risk factors such as severity and likelihood of occurrence.

**Legislative Support** – alignment with local and regional regulations, best practices, and recognized industry standards.

# 2.0 Definitions and Acronyms

**85<sup>th</sup> Percentile Speed** – measure of speed which separates the fastest 15% of vehicles from the remaining 85% of slower vehicles. This speed is typically used by traffic professionals for a variety of reasons which includes gauging the magnitude of a speeding problem.



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**Arterial Roads** – focus on the movement of vehicles, usually at higher speeds, over longer distances, with less interruption to traffic flow. Their secondary function is to provide limited (or strategic) access to land adjacent to the roadway. <u>Arterial roads are not candidates for traffic calming measures as described within this policy.</u>

Collector Roads – are the link between local roads and arterials, functioning to balance the need between effectively moving traffic and land accessibility. Collectors are characterized by having shorter lengths and slower speeds than arterials. Collector roads can be further classified as either "Minor Collector Roads", "Major Collector Roads", or "Industrial/Commercial Collector Roads."

Collision History – police-reported accidents including a motor vehicle measured over a period of three (3) years. This information is collected using the Government of Canada National Collision Database and the Newfoundland and Labrador Department of Finance – Statistics Division's Collision Database Management System (CDMS).

**Commercial/Industrial Local Roads** - primary use is for access to commercial businesses and industrial facilities.

**Horizontal Traffic Calming** – measures that alter the horizontal alignment of a road to help slow vehicle speeds and enhance safety for motorists, pedestrians, and cyclists.

**Industrial/Commercial Collector Roads** – serve the same purpose as other Collector Roads but are in commercial and industrial areas where there is a greater percentage of large vehicles that warrant distinct requirements for items such as traffic calming and safe active transportation.

Local Roads – primary use is for land access and are characterized by short lengths, slow speeds, and minimal traffic control. These roads are utilized frequently by pedestrians and cyclists (Vulnerable Road Users) which are either near or within the roadway. Local roads can be further classified as either "Residential Local Roads" or "Commercial/Industrial Local Roads."

Major Collector Roads – function as roadway thoroughfares.

**Minor Collector Roads** – generally shorter in length compared to Major Collector Roads and serve more of a local function as opposed to being a thoroughfare.

Pedestrian Facilities - typically include sidewalks and off-road trail systems.



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**Pedestrian Generators** – facilities that attract pedestrians such as parks, schools, and community centres.

Residential Local Roads - primary use is for access to homes and residential properties.

**Road Classification** – roads within a municipality are often classified to describe their role and function. There are three primary road classifications as outlined in the City of Mount Pearl's Integrated Transportation Plan (ITP) which include: Local Roads, Collector Roads, and Arterial Roads.

Through Traffic – traffic that neither originates from, nor is destined to a specific neighbourhood.

**Vertical Traffic Calming** – measures that create vertical deflections in the road surface to slow vehicle speeds and enhance safety for motorists, pedestrians, and cyclists.

**Vulnerable Road Users** – any non-motorist that uses the roadway such as pedestrians and cyclists.

**AADT** – Average Annual Daily Traffic is the average traffic on a roadway over a 24-hour period based on data collected in one year.

**ADT** – Average Daily Traffic is the number of motor vehicles recorded on a roadway over a 24-hour period, typically gathered using traffic counters.

ITE - Institute of Transportation Engineers

TAC - Transportation Association of Canada

VPD - Vehicles Per Day



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### 3.0 Procedure

The following nine (9) step process will be used to manage traffic calming issues throughout the City of Mount Pearl.



### Step 1 - Stakeholder Request

To initiate the traffic calming process each concern must be submitted in writing by completing the City's "**Traffic Calming Request Form**" attached to this policy. This form is available digitally on the City's website and as a paper copy at City Hall.

#### Step 2 - Initial Screening

The initial screening process will be completed by City engineering staff and will include a review of roadway classification, grade, collision history, ADT, and the 85<sup>th</sup> percentile speed. Each of these criteria will be assessed in accordance with **Table 1 – Screening Thresholds** below.

Table 1 - Screening Thresholds

| ROAD CLASSIFICATION             | GRADE        | COLLISION<br>HISTORY | ADT  | 85 <sup>TH</sup> PERCENTILE SPEED |
|---------------------------------|--------------|----------------------|------|-----------------------------------|
| LOCAL RESIDENTIAL               |              | 3                    | 1000 | Posted speed<br>limit             |
| LOCAL<br>COMMERCIAL/INDUSTRIAL  | Less than 8% | 3                    | 1000 | Posted speed<br>limit             |
| MINOR COLLECTOR                 |              | 3                    | 2000 | Posted speed<br>limit + 5 km/hr   |
| MAJOR COLLECTOR                 |              | 6                    | 3000 | Posted speed<br>limit + 10 km/hr  |
| INDUSTRIAL/COMMERCIAL COLLECTOR |              | 3                    | 3000 | Posted speed<br>limit + 10km/hr   |
| ARTERIAL                        |              | N/A                  | N/A  | N/A                               |



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Traffic calming requests for local roads and collectors must meet or exceed both the volume and speed criteria for further consideration, except when serious incidents on the roadway involving vulnerable street users have occurred within the last three years. Requests that meet or exceed the collision threshold will be considered as having satisfied the screening criteria and will proceed to the next stage.

### Step 3 - Ranking Requests

Traffic Calming is one of many programs that is evaluated when allocating funds within a municipality. For this reason, it is important to rank all requests that pass the initial screening process using a systematic risk-based approach.

The weighting assigned to the above-noted criteria varies somewhat between local roads and collector roads due to their differences in function. Points are assigned to criteria that are more critical to each classification of roadway as identified below in **Table 2 – Scoring Criteria and Point Allocation**.

Table 2 - Scoring Criteria and Point Allocation

| CRITERIA        | POINT ALLOCATION  | MAXIMUM<br>POINTS |
|-----------------|---|-------------------|
| COLLISION       | 10 points for a fatal collision                                       |                   |
| HISTORY         | 5 points for each injury  | 10                |
|                 | 2 points for each collision involving a vulnerable roadway user       | 10                |
|                 | 1 point for each instance of property damage only collision           |                   |
| TRAFFIC VOLUME  | Local Roads   |                   |
| (ADT)           | 1 point for every 50 vehicles above 1000 VPD                          |                   |
|                 | Minor Collectors  | 0.5               |
|                 | 1 point for every 100 vehicles above 2000 VPD                         | 25                |
|                 | Major and Industrial/Commercial Collectors                            |                   |
|                 | 1 point for every 100 vehicles above 3000 VPD                         |                   |
| 85TH PERCENTILE | Local Roads   |                   |
| SPEED           | 2 points for every km/hr the 85th percentile speed exceeds the posted |                   |
|                 | speed limit   |                   |
|                 | Minor Collectors  |                   |
|                 | 2 points for every km/hr the 85th percentile speed exceeds the posted | 30                |
|                 | speed limit +5 km/hr  |                   |
|                 | Major and Industrial/Commercial Collectors                            |                   |
|                 | 2 points for every km/hr the 85th percentile speed exceeds the posted |                   |
|                 | speed limit +10km/hr  |                   |
| PRESENCE OF     | 5 points for each (e.g. school, park, playground, childcare centre,   |                   |
| PEDESTRIAN      | library, store, community centre, bus stop, etc.)                     | 15                |
| GENERATORS      | abiary, store, community contro, but stop, story                      |                   |



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| CRITERIA POINT ALLOCATION   |   | MAXIMUM POINTS |  |  |  |
|---|---|----------------|--|--|--|
| ACTIVE<br>TRANSPORTATION<br>FACILITIES  | O points – sidewalk on both sides  5 points – sidewalk one side only  10 points – no sidewalks  5 points – existing bike route or pedestrian trailway   |                |  |  |  |
| ADJACENT LAND<br>USE  | 5 points - 100% residential 4 points - 80% or more residential 3 points - 60% or more residential 2 points - 40% or more residential 1 point - 20% or more residential 0 points - less than 20% residential | 5              |  |  |  |
| PRIMARY EMERGENCY ROUTE  -5 points if the roadway under consideration is a primary response route (i.e. collectors) |   | 0              |  |  |  |

#### Step 4 - Master Priority List

Records of the screening process and point allocation for the ranking will be recorded in a staff managed database. All requests passing the initial screening phase will be included in an overall master priority list for traffic calming. This list will provide Council, and staff, with an up-to-date risk-based listing of projects that require attention.

#### Step 5 - Resident Survey

For any traffic calming project to be successful it must have support from the community. Data shows that when a community supports a traffic calming initiative, its data-driven need is validated, and it becomes an effective permanent solution.

When a traffic calming request receives commitment from Step 4, City staff will notify all residents and businesses along the roadway. This notification will request survey feedback pertaining to the request for traffic calming. Those provided with a survey will have 7 days to submit a response via online form or paper copy.

Requests must receive a minimum of 60% survey support to be eligible for traffic calming. Any subsequent requests for the same location will not be considered again for a minimum of two (2) years unless the road experiences a significant change in traffic patterns, as determined solely by City staff. Non-responses will be processed as being in support of traffic calming.



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#### Step 6 - Design Development

The development of the traffic calming plan will be an effort led by the city's Traffic and Transportation Committee. The city, at their sole discretion, may request respondents from the resident survey to join in-part to the preliminary planning process.

Many devices commonly mistaken for effective traffic calming tools often fail to achieve the desired results and can create additional hazards. Unwarranted all-way stops can lead to higher speeds between signs, poor compliance, and increased rear-end collisions. Reduced speed zones are ineffective as drivers tend to travel at speeds they feel comfortable with, regardless of posted limits, and require constant enforcement. "Children at Play" signs can be disregarded by motorists and give parents a false sense of security. Speed limit signs, when not aligned with road characteristics, can frustrate drivers and foster aggressive driving. Rumble strips, designed to alert inattentive motorists, lose effectiveness over time and increase noise levels. Speed bumps, often found in private areas, require vehicles to travel much slower than the posted speed limit, and can create safety hazards and potential rear-end collisions. Therefore, these measures are not to be considered alone as effective traffic calming solutions.

**Table 3 – Traffic Calming Devices and Signage** below contains an overview of some controls with approximate costs and configurations. This table is not an exhaustive list of options, but rather an aid to supplement the engineering design process.



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Table 3 - Traffic Calming Devices and Signage

| MEASURE           | DESCRIPTION  | COST           | LOCATION<br>AND<br>SPACING   | CONTROL                       | IMPACT ON<br>EMERGENCY<br>VEHICLE AND<br>TRANSIT ROUTES |
|-------------------|--|----------------|--|-------------------------------|---|
|                   |  | VERTICAL TRAFF | IC CALMING   |                               |   |
| RAISED CROSSWALKS | Like speed humps, speed cushions, and speed tables but with a more visible crossing for pedestrians. Constructed to the same height as adjacent sidewalk(s) to provide accessible access from each side.       | Low - Medium   | Marked<br>crosswalks<br>and<br>midblock<br>crossings   | Speed<br>Volume<br>Visibility | Minor   |
| SPEED HUMPS       | A continuous raised section of pavement which requires motorists to drive over at a reduced speed. Not typically used on roads that have a high volume of busses or is a primary route for emergency vehicles. | Low - Medium   | 30 km/hr -<br>every 60m<br>40 km/hr -<br>every 80m<br>45 km/hr -<br>every 100m<br>50 km/hr -<br>every 125m | Speed<br>Volume               | Minor   |



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| MEASURE                                       | DESCRIPTION  | COST         | LOCATION<br>AND<br>SPACING   | CONTROL         | IMPACT ON<br>EMERGENCY<br>VEHICLE AND<br>TRANSIT ROUTES |
|---|--|--------------|--|-----------------|---|
| SPEED CUSHIONS                                | Multiple raised pavement sections a line across a road which requires motorists to drive over at a reduced speed. Spaces allow for busses and emergency vehicles to pass over without reducing speed or going over the raised section of pavement. | Low          | 30 km/hr -<br>every 60m<br>40 km/hr -<br>every 80m<br>50 km/hr -<br>every 125m | Speed<br>Volume | No Impact   |
| SPEED TABLES                                  | A continuous raised pavement section which requires motorists to drive over at reduced speeds. Like raised cross walks but with space on each side to enable stormwater drainage.  | Low - Medium | 30 km/hr -<br>every 60m<br>40 km/hr -<br>every 80m<br>50 km/hr -<br>every 125m | Speed<br>Volume | Minor   |
| VERTICAL<br>CENTRELINE/SIDERO<br>AD TREATMENT | Flexible post-<br>mounted<br>delineators to<br>create a centre<br>median and<br>shoulder lanes to<br>give drivers a<br>perception of<br>lane narrowing.  | Low          | Local residential, minor collector, major collector                            | Speed<br>Volume | Minor   |



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| MEASURE            | DESCRIPTION   | COST          | LOCATION<br>AND<br>SPACING  | CONTROL                       | IMPACT ON<br>EMERGENCY<br>VEHICLE AND<br>TRANSIT ROUTES |
|--------------------|---|---------------|---|-------------------------------|---|
| TEXTURED CROSSWALK | Used to identify the location of a pedestrian crosswalk to encourage motorists to reduce speeds. These rely on both physical and visual means to identify their location. Adding colour can increase effectiveness. | Low           | At any<br>crosswalk   | Speed<br>Volume<br>Visibility | No Impact   |
|                    | I   | HORIZONTAL TR | AFFIC CALMING   |                               |   |
| CHICANES           | A series of curb extension on alternating sides of the roadway which narrow the cross section. Chicanes require the motorist to reduce speeds and navigate from one side of the roadway/lane to the other.          | Medium        | Mid-block<br>locations<br>and at least<br>20m from an<br>intersection | Speed<br>Volume               | Minor   |



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| MEASURE                | DESCRIPTION  | COST         | LOCATION<br>AND<br>SPACING                      | CONTROL                       | IMPACT ON EMERGENCY VEHICLE AND TRANSIT ROUTES |
|------------------------|--|--------------|---|-------------------------------|--|
| CURB EXTENSIONS        | An extension of the curb line into the roadway to narrow the cross section. Allows for a shorter crossing distance at crosswalks and improves motorists' visibility of pedestrians.  | Medium       | Intersections<br>and mid-<br>block<br>crossings | Speed<br>Volume<br>Visibility | Minor  |
| ON-STREET PARKING      | Reduces the number of driving lanes resulting in a reduction in traffic volume.  | Low          | Ineffective<br>on rural<br>cross<br>sections    | Speed<br>Volume               | Minor  |
| TRAFFIC CALMING CIRCLE | A raised island in the centre of an intersection which requires motorists to travel counterclockwise around the island. Allow traffic to flow freely through an indirect path at an intersection which causes motorists to slow down and yield prior to entering the intersection. | Low - Medium | Consecutive<br>intersections                    | Speed                         | Minor  |



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| MEASURE                                  | DESCRIPTION   | COST               | LOCATION<br>AND<br>SPACING   | CONTROL         | IMPACT ON<br>EMERGENCY<br>VEHICLE AND<br>TRANSIT ROUTES |
|--|---|--------------------|--|-----------------|---|
|  |   | OBSTRUCT           | IONS   |                 |   |
| DIRECTIONAL OR<br>FULL CLOSURE           | A physical device located in the roadway which prohibits travel. Closures eliminate shortcutting or through traffic on a roadway.     | Medium - High      | Local roads  | Speed<br>Volume | Major   |
| RIGHT IN/ RIGHT OUT ISLAND               | Raised triangular shaped island on an intersection approach that prevents left-turning movements. Reduces through traffic and volume. | Medium             | Local<br>residential,<br>minor<br>collector,<br>major<br>collector | Volume          | Minor   |
|  | SIGNAGE (SU   | JPPLEMENTARY TO TR | AFFIC CALMIN   | G MEASURES      | )   |
| MAXIMUM<br>SPEED SIGN                    | Indicates to motorists the maximum legal motor vehicle speed permitted on the roadway.  | Low                | Any road   | Speed           | None  |
| RADAR SPEED/<br>FEEDBACK<br>SIGN         | Inform motorists of their speed and encourage them to reduce speeds to within the posted limit.                                       | Low                | Any road   | Speed           | None  |
| THROUGH<br>TRAFFIC<br>PROHIBITED<br>SIGN | Intended to discourage shortcutting through residential neighbourhoods.   | Low                | Any road   | Speed           | None  |



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| MEASURE                                 | DESCRIPTION  | COST | LOCATION<br>AND<br>SPACING | CONTROL | IMPACT ON<br>EMERGENCY<br>VEHICLE AND<br>TRANSIT ROUTES |
|---|--|------|----------------------------|---------|---|
| SPEED BUMPS AHEAD SIGN                  | Provides notification to motorists that they are approaching a speed hump, cushion, or table on the roadway. This alert helps encourage reducing speeds sooner and may deter shortcutting. | Low  | Any road                   | Speed   | None  |
| TRAFFIC CALMED<br>NEIGHBOURHOOD<br>SIGN | Intended to increase motorists' awareness, encourage slower speeds, and deter shortcutting.  | Low  | Any road                   | Speed   | None  |

Cost – Low range less than \$5,000, Medium range \$5,000 to \$30,000, High range greater than \$30,000

#### Step 7 - Council Approval

At the conclusion of the design development stage staff will have concept conceptual drawings and cost estimates prepared for presentation to Council for approval to proceed. Upon approval of the recommended traffic calming measure, the design, tendering, and construction phase will commence.

#### Step 8 - Detailed Design, Tendering, and Construction

Staff and/or consultants will proceed with detailed design, call for tender, award, and construction of the traffic calming measure. Like other capital projects the city will communicate planned construction activities with the public through various means including the Hey Mount Pearl website.



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### Step 9 - Implementation and Monitoring

After six (6) months the city will review the initial traffic calming request and verify that the new traffic calming plan is adequately addressing the concerns brought forward. If the concerns are not being mitigated, staff may adjust or initiate another traffic calming measure to supplement.

Staff will document any changes to previous traffic calming plans as part of the database to improve future traffic calming initiatives within the city.

# 4.0 Approvals

Cassie Rideout, Chief Administrative Officer

5.

Date

# **Traffic Calming Request Form**

Please complete the following form and return to the City of Mount Pearl – Department of Planning, Engineering and Development.



This form was created as part of our new Traffic Calming Policy, designed to help keep Mount Pearl's streets safe for both pedestrians and motorists. If you have concerns about traffic-related issues in your area, please complete the form below. A member of our team will review your submission and follow up with you directly. Applicant Name: Applicant Address: Date Submitted: Traffic Related Concern(s) Collisions **Excessive Speed** Aggressive Driving Behavior Volume of Traffic Specific location of concern (intersection, road name, civic number, etc.) Additional details: Signing below indicates your understanding that the City of Mount Pearl staff and Council will review and assess the concerns noted above in accordance with the City of Mount Pearl Traffic Calming Policy. Applicant Signature: Contact Number: E-mail Address: