Policy No.: OPS.03

Section: Your Infrastructure and Services

Policy Title: Traffic Calming Implementation Policy

Adopted Date:

By-law No.:

Revision Date:

1. **Purpose**
   The purpose of this policy is to establish a consistent and standardized process to evaluate requests for the installation of traffic calming measures for municipal roads in the Municipality of Kincardine. The policy is intended to provide a procedure for the approval or denial of these requests.

2. **Definitions**
   "Municipality" or **"MoK"** shall mean The Corporation of the Municipality of Kincardine.

   "Staff" shall mean the Staff of The Corporation of the Municipality of Kincardine.

   "**Local Roads**" shall mean a road that provides accesses to sites and lots and is designated for low volume and slow-moving traffic. Local roads will have less than 2,500 vehicles per day.

   "**Collector Roads**" shall mean a low-to-moderate-capacity road which serves to move traffic from local roads to arterial roads. A collector road will have between 2,500 to 8,000 vehicles per day.

   "**Rural Roads**" shall mean a low-to-moderate capacity road less than 50km/h located outside the urban boundary which serves to move traffic to local streets and arterial roads as well as provide access to rural property.

3. **Traffic Calming**

   3.1 What is Traffic Calming?

   Traffic calming is the combination of mainly physical measures that alter driver behaviour to reduce the potential of negative effects of motor vehicles use and improve conditions for alternate modes of transportation. Traffic calming with educational and enforcement tools, can significantly improve the safety of neighbourhoods and related roads.

   3.2 Objectives of Traffic Calming

   To address undesirable traffic conditions such as poor sight lines, speeding and excessive volume on Municipal roads, the specific objectives of traffic calming and this guide are to:

   a) Increase the Safety of the Neighbourhoods
   b) Improve the livability of the Neighbourhoods

c) Restore streets to their intended function
d) Maintain access routes for emergency services and maintenance services
e) Promote public participation and community support

3.3 Advantages and Disadvantages

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

Advantages could

a) Reduce motor vehicle speeds
b) Reduce traffic volume
c) Discourage through traffic
d) Improve overall road safety
e) Improve neighbourhood livability
f) Reduce conflicts between road users
g) Increase active transportation

Disadvantages may

a) Increase emergency vehicle response time
b) Reduce ease of access in and out of neighbourhoods
c) Result in expensive solutions (time and resources)
d) Divert traffic onto neighbouring roads
e) Increase maintenance time and cost (e.g. snow clearing, garbage pick-up)
f) Additional time and resources for seasonal setup and removals

3.4 Considered Traffic Calming Measures

In consideration of the Municipality's objectives in implementing a Traffic Calming Policy, traffic calming measures have been considered as viable options to implement and are listed in Appendix A.

4. Scope

Traffic calming will only be considered on Municipal Roads in the Municipality of Kincardine; roads that are under the jurisdiction of the Ministry of Transportation, The County of Bruce or private will be excluded.

The Municipality will not consider all-way stop controls, speed limit signs and rumble strips as a traffic calming measures within this policy.

To ensure measures are properly considered and negative impacts are minimized, Traffic Calming should be considered:

a) When there is a demonstrated safety, excessive speed, or shortcutting traffic concern and acceptable alternative measures have been exhausted;
b) After exploring methods to improve operation of the road network, such as signal timing optimization; and

c) Only after education and traffic engineering efforts have failed to produce the desired results.

5. Responsibility

Staff are responsible for adhering to the parameters of this policy and for ensuring the processes outlined within are followed.

The Manager of Operations (or designate) shall be responsible for overseeing implementation of this policy.

6. Procedure/Policy

1. Initiation - Requests may be made by residents, business operators or any other user of the public roadway. The proponent must submit a written request, accompanied by a petition before the initial screening begins. The petition must contain the support of 51% of the households with direct frontage onto the segment of roadway that has been identified as the location for the potential implementation of traffic calming measures. Each household is represented by one signature. Failure to meet the threshold level of support will result in termination of the investigation. A request can also be considered as a staff led initiative based on observed traffic patterns. Initiation may be generated from staff input and may not require all 7 steps within the Procedure to permit implementation.
2. Initial Screening - Municipal staff will undertake a review of the street which could involve traffic counting and a review of collision history.
3. Detailed Evaluation - Municipal staff will determine the applicability of traffic safety techniques and determine if Traffic Calming is appropriate.
4. Consultation – Emergency Services and resident input will be reviewed to be incorporated into the decision making.
5. Treatment Selection - Once the data has been analyzed, staff will notify affected residents on potential solution(s).
6. Implementation - The Manager of Operations will make the final decision for the Traffic Calming implementation is deemed necessary and the Traffic By-law will be updated.
7. Monitoring - After the By-law being approved, the measures will be included in upcoming budgets or if funding is available, installed in that year.
8. Communication - The Manager of Operations (or designate) shall notify the local Ontario Provincial Police (OPP) of the newly implemented Traffic Calming measures for enforcement. The new Traffic Calming measures will be communicated to the public by way of the Municipalities website and social media platforms via the Communications Coordinator.

Traffic Calming Review Process

The Traffic Calming Review shall:

a) Include consideration as to whether an area-wide or street-specific plan is more suitable. An area-wide solution should be considered if a street-specific

scheme would likely result in the displacement of traffic onto adjacent streets; and

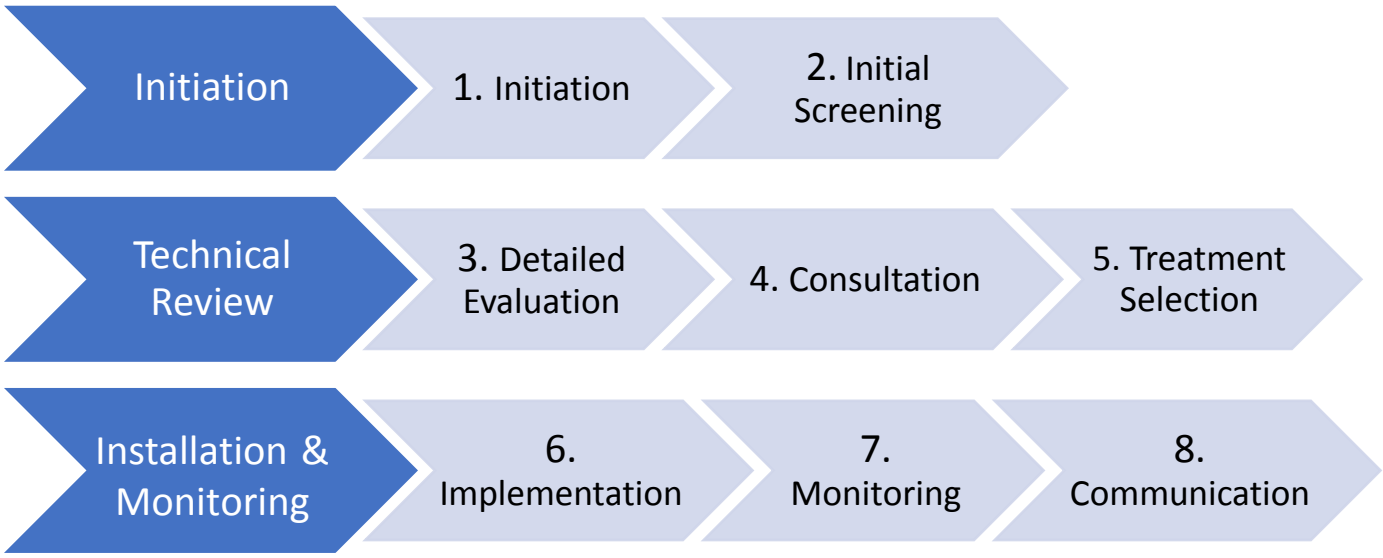
b) Not impede non-motorized modes of transportation and be designed to ensure pedestrian and cyclist movement is unaffected and enhanced through traffic calming measures; and
c) Maintain reasonable automobile access to Municipal roads; and
d) Consider area specific details, past experience in the Municipality and a site investigation.

The following details the process for considering traffic calming requests in the Municipality of Kincardine. The process involves both community engagement and technical evaluation tasks.

Initial Screening:

Municipal staff will conduct an initial screening of the request to determine if the subject street satisfies the basic thresholds for a Traffic Calming candidate. Eligible locations will meet the following criteria:

a) **Previously Requested or Removed:** The Municipality has not received a request for traffic calming or removed measures on the subject street within the previous three years. If so, the request will be denied, and no further assessment will be undertaken; and
b) **Roadway Classification:** The subject street must be designated as a Municipal Road in the Municipality of Kincardine; and
c) **Posted Speed Limit:** The posted speed limit on the subject street must be 50 km/h or less; and
d) **Segment Length:** The distance between stop-controlled intersections along the subject street must be at least 200 metres; and
e) **Grade:** The roadway grade along the subject street must not exceed 8% at any location.



Operating Speed: The 85th percentile operating speed measured on the subject street is above the posted speed limit by more than 10 km/h.

Requests that do not satisfy the minimum criteria will be denied.

Detailed Evaluation

If the street meets the minimum criteria, Municipal staff will complete a detailed evaluation.

Step 1 Prioritization Scoring

Requests that satisfy the initial screening will undergo a more detailed evaluation to confirm the subject street qualifies for Traffic Calming and determine its priority among other eligible locations. The screening is based on the following seven criteria:

a) Collision history
b) Operating speeds
c) Traffic volumes
d) Presence of pedestrian generators
e) Presence of sidewalks
f) Presence of cycling facilities
g) Percentage of adjacent residential land use.

Scores are assigned to each evaluation criterion in Table 1 to a maximum of 80 points (for criteria other than pedestrian generators). The subject street must achieve a **minimum score of 40points** to be considered for Traffic Calming. Locations not attaining the minimum score may be considered for more passive traffic calming measures such as enforcement or radar display speed signs.

Criteria	**Scoring**	**Maximum Points**
Collision History	5 points for each qualifying collision	20
Operating Speeds	1 point for each 1 km/h that the 85th percentile speed is greater than 10km/h over the posted speed limit	25
Traffic Volumes[1]	1 point for each 50 vehicles above threshold of: • 1000vehicles per day	20
Pedestrian Generators	5 points for each school, park, senior or recreation facility or library within the study area or with direct frontage onto the subject street	n/a
Pedestrian Facilities	5 points if there are no sidewalks on the subject street	5
Bicycle Facilities	5 points if designated bicycle facilities are not present on the subject street	5
Adjacent Land Uses	1 point for each 20% of the subject street zoned residential	5
Maximum Score (excluding Pedestrian Generators)		**80**

1. Two-way average daily traffic volumes recorded over a 24-hour period

Table 1: Evaluation Criteria for Traffic Calming

Step 2 Household Survey

If the subject street is deemed eligible for a Traffic Calming Plan, Municipal staff will confirm support from affected households through a survey. Each household within the study area will be provided one ballot regardless of the number of residents. The study area will comprise:

a) All households with direct frontage onto the subject street; and
b) Households on surrounding roads that may be directly impacted by potential traffic diversion from the subject street may also be included.

A minimum response rate of 25% of eligible households within the study area is needed with a minimum of 51% of respondents in favour of implementing a Traffic Calming Plan. If resident support is not attained, the request may be denied. However, at the discretion of the Manager of Operation and based on the prioritization score and benefit to overall community safety the measures may proceed to be implemented. After completing the household survey, Municipal staff will inform the study area households of the findings and decision for Traffic Calming implementation or not. The Manager of Operations will decide if the identified area requires input from a Traffic Engineer or if further traffic studies are required.

Design, Approval and Implementation

With budget and approval, or as part of a Capital Roads project, the preferred traffic calming measures can be implemented within the project area. To do so MOK staff will prepare preliminarily design alternatives based on the list of applicable measures contained in Table 1**.** The MOK will engage residents on the design alternatives through a two-stage consultation process:

- **Stage One:** Present the preliminary design alternative(s) to the public and stakeholders and invite comments; and
- **Stage Two:** After incorporating feedback received, present the final design alternative(s) to the public and stakeholders.

Evaluation and Monitoring

Operation staff will monitor the subject street(s) to determine the effectiveness of the Traffic Calming Plan and its impact on the surrounding road network. The scope of the studies carried out as part of post-installation evaluation(s) should be consistent with the investigations completed prior to installation. Such investigations may include speed surveys, determination of traffic diverting to adjacent streets, or overall changes in traffic volumes.

Every attempt should be made to avoid transferring traffic from the subject street onto adjacent roadways. If post-installation evaluation studies indicate traffic volumes have increased by 15% or more (with a minimum of 150 vehicles) on a

parallel or adjacent street due to the traffic calming measures, the Municipality will explore corrective action to remedy the situation and/or lessen the impact.

Traffic calming measures may be removed at the request of the neighbourhood if majority support exists amongst those residents directly fronting the subject street. If a request is received for removal, the Manager of Operations or their designate will complete an evaluation to ensure the removal is warranted. The Traffic Calming Plan must remain installed for at least one year before the removal process can be initiated. If the measures are removed, the MOK will wait at least three years before considering a new request for traffic calming.

The MOK reserves the right to remove traffic calming measures if it determines their installation is ineffective or unsafe, or if they have created unintended consequences that cannot be corrected. The MOK will notify affected residents by mail and advertise on its website about the decision to remove traffic calming measures.

7. Related Policies

Records for this policy shall be prepared and retained in accordance with Records Retention By-Law 2019-031, as amended.

8. Related Documents/Legislation

Transportation Association of Canada/ Canadian Institute of Transportation Engineers. (1998). Canadian Guide to Neighbourhood Traffic Calming (Second Edition (2018))

9. Additional Information/Subjects can be added as needed.

N/A

Appendix A

The following are examples traffic calming devices that could be associated with the implementation process. Staff may from time to time consider new techniques in a trial basis prior to formally adding to the policy.

Enforcement

Speeding is an infraction under the Highway Traffic act enforceable by the OPP. It is often used with other traffic calming devised to regulate behaviour and is proven quite effective in reducing travel speeds.

Advantages:

a) effective in getting drivers attention
b) no impact to emergency vehicles and snowplows
c) can be implemented immediately, when resources permit
d) does not affect vehicle operation

Disadvantages:

a) may be costly as ticket revenue may not pay for officer time
b) does not provide for a continuous and consistent solution
c) Competing priorities

Estimated Cost:

a) Varies

Radar Speed Display Signs

Radar speed display signs are portable or permanent signs that display approaching speed for travelling vehicles. Signs can be programmed to flash when the speed limit of motorists is exceeded. Provide an instant notification to driver.

Advantages:

a) Educational tool, good public relations, effective as temporary speed reduction measure
b) Collect data related to speed, traffic volume etc.

Disadvantages:

a) Relies on voluntary compliance, duration of effectiveness is limited
b) Staff time consuming to be moved to alternate locations

Estimated Cost

a) $4,500 per sign

Lane Narrowing Through Pavement Markings

This measure narrows the travel lanes to a minimum 3.0 meters through the use of pavement markings and gives the feeling of constraint and cause drivers to reduce their travel speed.

Advantages:

a) Provides a larger shoulder space which may be occupied by other road users
b) Low cost
c) No impact to emergency vehicles or snowplows

Disadvantages:

a) Narrowing reduces separation between oncoming vehicles
b) Require maintenance to upkeep and are not seen during the winter

Estimated Cost

a) $1,000 to $2,000 per km of pavement

Curb Extensions

Curb extensions are horizontal extensions of curb into a road, resulting in a narrower road section. These may be used to provide high visibility of pedestrians, shorter walking distances to cross the road and to slow motorists down.

Advantages:

a) Interrupts straight line curb and slows traffic
b) Reduced turning radii to slow turning speed
c) Improves pedestrian safety
d) No impact to emergency services

Disadvantages:

a) Possible maintenance and drainage issues
b) Reduces on-street parking
c) Large vehicles may be forced to cross centerline to negotiate turns
d) May interrupt bike lanes

Estimated Cost:

a) $5,000 to $20,000 Each

Speed Bumps/Humps

Speed bumps/humps are defined as a raised area of the road that deflects the vehicle as it is traversing. They may be paved and permanent or temporary and removeable rubber mounds for seasonal use.

Advantages:

a) Relatively cost-efficient
b) Easy to construct
c) Deters cut- through traffic
d) Reduces vehicle speed

Disadvantages:

a) Can cause emergency vehicle delay
b) May divert traffic to alternate route that could negatively affect other roads
c) Noise from vehicle braking and acceleration
d) May cause discomfort to drivers with disabilities
e) Impacts to snow plow and trucks
f) Extra resources needed to install/remove seasonally

Estimated Cost:

a) $2,000 to $3,000 each and $7,000 for a modular speed hump

Speed Tables

Speed tables are flat-topped asphalt or rubber mounds that cover the full width of the roadway. The ramps are more gently sloped than speed humps and are therefore less jarring vehicles.

Advantages:

a) Relatively cost-efficient
b) East to construct
c) Deters cut-through traffic
d) Reduces vehicle speeds
e) Lesser impact to larger vehicles than speed humps

Disadvantages:

a) May delay emergency vehicle response time
b) May divert traffic to alternate routes that could negatively impact that road
c) Possible noise creation by braking and accelerating
d) May cause discomfort to drivers with disabilities
e) Potential impacts to snowplows and trucks

Estimated Cost:

a) $3,000 to $5,000 each

Center Median

A centre median is a raised island installed in the centre of a road to reduce the overall width of the travelled lanes. They help slow traffic without affecting the capacity of the road.

Advantages:

a) Provides refuge for pedestrians
b) Increase motorist awareness
c) Can be designed to prohibit left-turns thereby reducing cut-through traffic

Disadvantages:

a) May reduce on-street parking
b) Restrict driveway access
c) Speeds could increase due to lack of left turns
d) Additional landscape maintenance
e) Potential conflict with snow clearing operations

Estimated Cost:

a) $4,000 for 2.0m x 5.0m median with no landscaping

Temporary Centre Median

Like the centre median, the temporary median is installed in the centre of the road using flexible delineator posts to create reduced travelled lane widths.

Advantages:

a) Increases motorist awareness
b) Can be designed to prohibit left-turns
c) Removable for snow clearing operations

Disadvantages:

a) May reduce on-street parking
b) Restricts driveway access
c) Speeds may increase due to lack of left turns
d) Required to be set up each year

Estimated Cost:

a) $1,000 for signage and flexible posts

Traffic Circles

A ‘traffic circle’ is not the same as a ‘roundabout”. They are much smaller and serve a different purpose for the intersection, which is simply to reduce speed rather than to control high traffic volumes through an intersection.

Advantages:

a) Reduces speeds through intersections
b) Provides visual breaks
c) Reduces collisions
d) Provides landscaping opportunities

Disadvantages:

a) Increase maintenance cost if landscaped
b) Potential conflict with snow clearing operations
c) Learning curve for traffic when first installed

Estimated Cost:

a) $8,000 to $25,000

Pavement Markings and Treatments

Pavement markings can be used in a variety of ways using colours, textures and patterns to attract drivers' attention. Traffic road surface markings increase awareness to help reduce the speed and minimize the risk of accidents on the road. Treatments such as traffic calming delineators placed in the center, as well as line the edge of the road, can also act as a visual effect to drivers to slow down and can appear to narrow the travel portion of the road.

Advantages:

a) Relatively cost-efficient
b) Easy to construct
c) Increase motorist awareness
d) No impact to emergency services

Disadvantage

a) Difficult to implement around driveway entrances
b) Conflict with snow clearing operation and used seasonally as a result
c) Extra resources needed to install/remove seasonally

Cost

a) $1,500 to $3,000 per section