SARNIA
ONTARIO

City of Sarnia -

Traffic Calming Guideline

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TABLE OF CONTENTS

PART 1 – INTROUDCTION

The City of Sarnia regularly receives concerns from residents regarding speeding, high traffic volumes, and road safety in residential neighbourhoods. In response to these concerns, these guidelines were developed to provide a consistent and transparent process for the initiation, investigation and implementation of traffic calming measures within the City of Sarnia.

These guidelines apply to local and collector roads with a posted speed of 50 km/h or lower. Unless otherwise specified, these guidelines do not apply to arterial roads or private roads.

1.1 Background

Traffic calming measures can be effective tools for reducing vehicle speeds and traffic volumes, and enhancing safety and livability on neighbourhood streets. Traffic calming typically includes physical measures or strategies that alter driver behaviour to reduce the negative effect of motorists. These measures combined with engineering, enforcement and education tools can significantly improve road safety.

Advantages and disadvantages of traffic calming include:

Advantage	Disadvantage
• Slower vehicle speeds • Lower traffic volumes • Fewer cut through trips • Enhanced safety for active transportation users • Reduced collisions • Reduced conflicts between road users	• Increase in emergency vehicle response time • Reduce ease of neighbourhood access • Project costs and maintenance • Potential to shift or divert traffic onto neighbouring roads • Potential for community disagreement

PART 2 – TRAFFIC CALMING MEASURES

There are a variety of traffic calming measures that have different advantages and disadvantages. The selection of the most appropriate traffic calming measure will be based on site-specific conditions and needs. Examples of common traffic calming measures includes:

- **Lane narrowing with pavement markings:** This measure includes painting edge lines, centre lines, bike lines or buffers to visually narrow the road. Visually reducing lane widths alters the sensory information available to drivers resulting in lower travel speeds.

- **On-street parking:** Similarly, on-street parking narrows the available space on the roadway for travelling vehicles and creates a physical buffer between motorists and active transportation facilities.

- **Curb extension:** Curb extensions, or bump-outs, reduce the roadway width by extending the curb into the road at intersections or mid-block locations. Narrowing the travel lane helps to slow vehicles and improve visibility at intersections.

- **Speed humps/bumps:** This measure introduces a vertical deflection by raising an area of the road along the vehicles travel path. The introduction of vertical traffic calming measures requires drivers to slow down to avoid discomfort.

- **Raised crosswalk:** Raised crosswalks also provide a vertical deflection for motorists and enhance the visibility of the pedestrian crossing.

- **Roundabouts:** Roundabouts are designed to slow down traffic at an intersection while maintaining the continuous flow of vehicles. Compared to traditional intersections, roundabouts have fewer conflict-points and result in less severe collision types.

- **Community Safety Zones**: These zones designate an area where the safety of children/citizens is paramount and are typically located on roads near schools, playgrounds, parks and senior's facilities. Community Safety Zones (CSZ) are a unique subset of traffic calming measures that require an additional screening process prior to implementation. Additional information on this process can be found in **Section 2.1**.

Resident requests that are not considered traffic calming measures, and may decrease road safety include:

- **All-way stops:** Unwarranted all-way stops may increase mid-block speeds, result in poor stop-sign compliance, and should only be installed if the provincial warrant is met.

- **Lower speed limits**: Drivers tend to travel at speeds that feel comfortable based on the road design and surrounding environment. Studies have shown that reducing the speed limit does not result in lower operating speeds.

- **Advisory Signage:** Advisory signs, like "Children at Play", are often ignored and offer a false sense of security for vulnerable road users. These signs have limited effectiveness and are should only be used in areas where unusual or unexpected conditions are present (i.e. adjacent to parks, senior's facilities).

2.1 Community Safety Zones Community Safety Zones (CSZ) are a traffic calming measure that improve road safety in areas with a large number of vulnerable road users such as children or seniors. CSZs are designated with specific signage to alert drivers they are entering a zone with increased fines.

Community Safety Zones are typically located near parks/playgrounds, day care centres, recreation areas, hospitals, senior centres/residences, and areas large volume of active transportation users. Under the Ontario Highway Traffic Act, municipal councils may designate a segment of a roadway as a CSZ by enacting a municipal bylaw. The rules of the road do not change in a CSZ; however, fines are increased for traffic related violations in these areas.

2.1.1 Community Safety Zone Warrant

Community Safety Zones are most effective when implemented at locations of special concern that are obvious to the road user. To avoid the overuse of Community Safety Zones, requested road sections are subjected to a Scoring Assessment to determine if a CSZ is warranted (see **Appendix B**).

In Sarnia, all CSZ requests will be considered through the approved warranting process unless specific direction is provided by Council. An overview of the selection and warrant process for Community Safety Zones is provided below.

Step 1: Preliminary Assessment

City Staff will complete a preliminary assessment to confirm if the requested road section meets the following criteria:

- Must be adjacent to a sensitive land use (school, senior's facility, hospitals, community centers, playgrounds etc.)
- Must have a posted speed limit of 60 km/h or less
- Must have a minimum length of 500 m and maximum length of 2.5 km

If these criteria are met, the City will continue to Step 2 of the process. If these criteria are not met, the CSZ review process will be terminated, and the requestor will be notified.

Step 2: Data Collection and Warrant Review

City Staff will complete a site visit and collect traffic data along the requested road segment for analysis. Requested road segments will be evaluated using the CSZ Scoring

Assessment matrix provided in **Appendix B**. This includes consideration of collision history, operating speeds, traffic volumes, pedestrian volumes and adjacent land uses. Requested road segments must receive a minimum score of 13 points to be considered for CSZ implementation. If the requested road segment does not meet the threshold for a CSZ, the process will be terminated, and the requestor will be notified.

Step 3: Final Approval at City Council

If the requested road segment meets the CSZ warrant threshold, a report with the findings will be brought forward to City Council. If the recommendation is approved by Council, the by-law will be amended to designate the road segment as a Community Safety Zone, and appropriate signage will be installed per Ontario Traffic Manual (OTM) Book 5, Section 18.

PART 3 – PROCESS

The following process will be used when proceeding with a public request for traffic calming. Following this formal process allows for consistency and equality when evaluating proposed locations for traffic calming measures.

City Engineering Staff may also implement traffic calming measures at locations not requested by the public through City-led programs or as part of Capital Works.

3.1 Traffic Calming Request and Preliminary Screening

Residents may request a traffic calming review by contacting the City's Engineering Department in writing. Once a request is received, Staff will complete a preliminary assessment to determine if the following initial screening criteria are met:

- Must be a local or collector road
- Must have a minimum volume (ADT) of 500 vehicles/day
- Desktop speed review (85th percentile)
- Collision history review for the most recent 3 years
- The posted speed limit shall not be greater than 50 km/hr
- The adjacent land uses should be primarily residential
- The requested segment must be a minimum of 150 m in length
- There must have been reasonable efforts to address the concerns using other means (i.e. education and enforcement)

Following this initial review, City Staff will inform the requestor whether their location meets the initial screening criteria. Roads that do not meet the above-noted criteria may still be eligible for other mitigating measures and/or police enforcement initiatives.

3.2 Neighbourhood Petition

If the requested location meets the initial screening criteria, a petition will be provided to the original proponent to determine if there is neighbourhood support to investigate the need for traffic calming. The City will specify the area that must be included as part of the petition, and the proponent will be responsible for collecting signatures.

The signatures must come from the households identified by City Staff and will generally include the most impacted properties along the section of requested road. Each household is represented by one signature, regardless of the number of people in the household. If there is not adequate support from neighbouring properties, the investigation will be terminated, and the road will not be considered for traffic calming again for a period one year.

3.3 Data Collection

If the requested location meets the initial screening criteria and the petition results indicate neighbourhood support, the City will begin to collect data required to qualify and quantify the traffic concerns in the neighbourhood. The data collection may include:

- Traffic volume
- Traffic speed – field review (85th percentile)
- Vehicle classification count
- Cut-through traffic
- Existing conditions (e.g. pavement condition, signage, marking)
- Active transportation volumes and facilities
- Presence of active transportation generators (schools, playgrounds, senior's facilities)
- History of traffic operations within last five years

A review of the data will be completed using recognized engineering standards. Once collected and summarized, the data will be reviewed using the Traffic Calming assessment system to determine the priority level.

3.4 Traffic Calming Assessment Score

The traffic calming assessment score is a screening process that quantifies a road's potential need for traffic calming (see **Appendix A**). The minimum number of points required to proceed with the investigation is dependant on the road classification.

If the requested location fails to meet these requirements, residents will be notified in writing and the investigation for traffic calming measures will discontinue. Locations that do not meet the required assessment score are not eligible for re-evaluation for a period of 2 years unless there is a substantial change in traffic patterns, as identified by City Staff.

3.5 Traffic Calming Preliminary Design

If the requested location meets the required assessment score, traffic calming measures will be proposed based on the data collected, site visits, historical information and construction/operating costs. The recommended measures for implementation will be selected based on industry best practice and engineering judgement.

3.6 Public Meeting

Depending on the nature of proposed calming measures, staff may host a public information meeting to present the purpose, objectives, and implementation process for the proposed traffic calming measures. The public meeting will provide residents with an opportunity to become involved in the process, learn more about the proposed traffic calming treatments and to provide their feedback. The results of this process would be presented to City council as part of the staff report.

3.7 Public Support of Recommended Plan

Traffic calming initiatives may originate from resident requests or as part of a City-led initiative.

If traffic calming is identified as part of a City initiative (i.e. Capital works, safety review or transportation improvement plans), the project may proceed at the discretion of City Staff without polling the level of community support.

In cases where traffic calming is initiated by resident request which fails to meet the policy criterial, and is not supported by City Staff, a poll may be completed to determine the level of support from those directly affected by potential traffic calming measures. This will typically include the properties owners that have direct frontage or flankage onto the requested road segment. Widespread support must be achieved for staff to present the project to Council for direction.

3.8 Design and Implementation

Staff will finalize the traffic calming design using technical data, community feedback, and the objectives of this guideline. If design constraints are identified during detail design, alternative designs or revisions may be required. Residents will be informed of any significant changes, and additional consultation may be required.

Once detail design is complete, a report will be prepared for Council's review and approval. Following Council's approval, the recommended measures will be implemented based on available funding. This may also include phased implementation of temporary measures to assess effectiveness before installing permanent measures.

If multiple locations for traffic calming are recommended within the same calendar year, the locations will be prioritized based on their Traffic Calming Assessment Score. Locations will be reprioritized annually based on Council approval and available budget.

3.9 Evaluation

Engineering staff will monitor the road to determine the efficacy of the implemented measures and their impact on the surrounding road network. This information will be used in recommending similar measures in the future.

3.10 Removal of Traffic Calming Measures

Traffic calming devices may be removed, at the request of residents after two years provided that at least the same level of support exists to remove as was measured for installation.

If a request to remove a single traffic calming device, within an overall traffic calming plan, is received, all traffic calming devices will be considered for removal. Depending on circumstances, it could be possible to remove a single device, however, in most cases all devices work together to be effective and to ensure that traffic is not diverted to neighbouring streets.

The City reserves the right to remove traffic calming measures if it determines that they are ineffective, unsafe, or if they have created a negative impact that cannot be corrected. The City will provide notice of its decision to remove traffic calming measures.

APPENDIX A – TRAFFIC CALMING SCORING ASSESSMENT

	Item	Range	Criteria	Score
1a	Speed	0-35	5 points for every 2km/hr that the 85th percentile speed is greater than 10km/hr over the speed limit	
1b	High Speed	0-5	5 points if minimum of 5% of daily traffic exceeds posted speed by 15-20km/hr	
2	Volume	0-20	Local Roadways: 5 points for every 1500 ADT Collector Roadways: 5 points for every 2000 ADT	
3	Short-Cutting	0-15	5 points if there is a presence of 25% of more short-cutting traffic, additional 5 points for every 10% increment above 25%	
4	Collisions	0-10	1 point for every 2 collisions/year over a 3-year period	
5	Sidewalks	0-10	10 points for no sidewalks with evidence pedestrian activity, 5 points for sidewalk on only one side	
6	Pedestrian/cyclist Generator	0-15	5 points for each nearby pedestrian/cyclist generator such as a school, playground, community centre, libraries, retail centres, etc.	
Total				
	Local Road = 35 point minimum			
	Collector Road = 52 point minimum			
			□ Yes	□ No

APPENDIX B – COMMUNITY SAFETY ZONE SCORING ASSESSMENT

Risk Factor	**Score**
Fatal and injury collisions per year along road segment (including intersections)	5 points per fatal or injury collision involving a pedestrian or cyclist per year
Operating speed (85th percentile) vs posted speed limit	3 points: >15km/h 2 points: 5-15km/h 1 point: <5km/h
Average daily traffic volume	3 points:> 15,000 ADT 2 points: 5,000 to 15,000 ADT 1 point: >5,000 ADT
Length of Sidewalks	3 points: <25% sidewalk coverage 2 points: 25-75% sidewalk coverage 1 point: >75% sidewalk coverage
Pedestrians crossing or walking parallel to road section in any 8 hour period (1)	5 points: >100 pedestrians 3 points: 50-100 pedestrians 2 point: <50 pedestrians
Land Use	5 points for school areas 3 points for senior residence areas 2 points for every other location with high anticipated pedestrian/cyclist traffic or vulnerable users