



Traffic Calming Policy

2019 Update *(Detailed Process Document)*

Prepared by: Urban Systems

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1. Introduction

This *Traffic Calming Policy Update* (the “Policy”) will provide guidance for the City of Maple Ridge (the “City”) in the development of traffic calming plans. This detailed policy process document builds off the Traffic Calming Policy developed in 2012 (Policy 9.07) and has been updated to reflect the 2018 update to the *Canadian Guide to Traffic Calming* prepared by the Transportation Association of Canada (TAC). Traffic calming is a term that describes both a planning process and physical measures used to address concerns with the travel speed and traffic volumes. Traffic calming measures are designed and implemented to reduce neighbourhood travel speeds and shortcutting traffic volumes so that they align with the context of the roads intended use.

Although traffic calming plans are one of the tools that can be used to address traffic speeds and volume issues that have been identified by residents, not all traffic issues are suitable to be addressed by traffic calming plans. In many cases, safety concerns associated with neighbourhood traffic may be addressed through local treatments for pedestrians and cyclists such as improved street lighting or crosswalks (that may or may not include traffic calming measures). In some instances, traffic calming measures may be used to address an isolated traffic concern without considering a broader street or area-wide plan. For example, steps may be taken to address pedestrian safety near schools that can be site specific. In all cases, however, the measures should not be overly restrictive on the movement of people or affect the intended street function and classification.

This updated Policy provides the City with a simplified process to follow in the development of traffic calming plans to address identified neighbourhood transportation issues. The Policy outlines a four-step process to determine if a traffic calming plan is needed and, how to go about developing and implementing that plan. The four steps outlined within the Policy are: **Initiation; Assessment; Prioritization; and Plan Development.**

This policy includes the following chapters:

- **Chapter 1: Introduction** introduces the policy and the rationale for updating the *Traffic Calming Policy*.
- **Chapter 2: Traffic Calming Guidelines** outlines the recommended guidelines for developing traffic calming plans in Maple Ridge, including a description of the overarching goals and objectives; and identification of key guiding principles for traffic calming plans.
- **Chapter 3: Traffic Calming Plan Process** presents the four-step process for the development of a traffic calming plan, which consists of: an initiation step to determine if the community supports traffic calming; an assessment step to determine if the traffic issue warrants a plan; a prioritization step to determine how high of a priority the plan is in development and implementation; and finally the plan development step that outlines how to develop a traffic calming plan.
- **Chapter 4: Treatments** highlights the preferred traffic calming treatments and what applications they are best suited to.
- **Chapter 5: Implementation and Monitoring** outlines an effective implementation program that allows for trial and/or phased implementation (where necessary); provides for permanent measures to be installed in a timely manner; and includes ongoing monitoring to confirm that the measures are working as intended and addressing local transportation concerns.

2. Traffic Calming Guidelines

This section outlines the recommended guidelines for developing traffic calming plans in Maple Ridge including a description of the goals and objectives of traffic calming plans and a summary of the recommended process for developing traffic calming plans.

2.1 Goals and Objectives

The two primary goals of traffic calming plans are to:

1. **Improve safety.** Traffic calming can make minor collector and local streets safer for everyone, including all road users – pedestrians, cyclists, motorists, and others – by reducing the potential and lessening the consequences of conflicts between road users.
2. **Preserve neighbourhood liveability.** Traffic calming can help to preserve and enhance the liveability of a neighbourhood by minimizing the negative impacts of shortcutting or speeding traffic. Attractively designed and landscaped measures can also enhance the streetscape, and as a result, enhancing liveability.

Traffic calming plans normally achieve these goals by accomplishing one or both of the following objectives:

1. **Reducing speed.** When most traffic on a road is travelling faster than the designated speed limit, it can negatively impact both liveability and safety.
2. **Reducing volume.** Local roads are intended to serve the residents and businesses along that roadway. Minor collector roads are intended to provide access to local roads. Both types of road are designed to operate best when traffic volumes are under a certain threshold. When traffic that is not destined locally utilizes local or minor collector roads, the traffic volume may be higher than what is generally intended for that roadway type. This can result in congestion, noise, and other neighbourhood transportation issues.



2.2 Guiding Principles

In addition to the goals and objectives described above, the City's *Traffic Calming Policy* is governed by a number of guiding principles. It is also important to understand that public resources are limited. Responsible use of the municipality's financial resources requires a methodical and consistent approach to assessment and prioritization. The guiding principles acknowledge this need.

Key guiding principles for developing traffic calming plans in Maple Ridge are:

- ***Traffic calming plans are suitable for neighbourhood streets that include minor collector and local roads.*** Traffic calming plans are smaller scale studies with a toolbox of measures for implementation. Arterial roads and major collectors have more complex travel dynamics and are intended to serve a different purpose. Individual traffic calming measures may be suitable for arterial and major collectors as part of a larger strategy, but a traffic calming plan is not an appropriate approach to address challenges on these roadway types.
- ***Traffic calming measures are not a universal solution to all neighbourhood transportation problems.*** The *Traffic Calming Policy* and associated plans are only one tool for addressing a specific range of neighbourhood transportation issues. There are other policies and plan types to address more complex issues.
- ***Identify the real problem.*** Often there is a vast difference between the *perceived* problem and the *actual* neighbourhood traffic issues. It is important to have real data to objectively quantify the problem and to develop the right solutions.
- ***Involve the community and help build public support.*** Residents, business owners, and others who live and work in a community should be involved in identifying the need for traffic calming. Their input can be key in identifying problems and selecting appropriate solutions.
- ***Address issues on neighbouring arterial and major collector roadways first.*** Often, traffic problems within neighbourhoods, such as shortcutting, can be related to operational issues on the major roads. The City should attempt to address neighbourhood traffic issues by first improving traffic operations on arterial and major collector roads to encourage appropriate use of the road network.
- ***Consider spillover effects.*** In many instances, measures that address a problem in one location can lead to problems on other streets. It is important that these potential spillover effects are recognized and that potential mitigation measures are considered.
- ***Preserve reasonable access and egress.*** Traffic calming measures that restrict access or egress are not typically supported by residents and emergency services and should be avoided wherever possible. This will also preserve the function of the street as intended through the planning and design of the community.

- **Use self-enforcing measures.** Generally, measures that force drivers to slow down or alter their behaviour are preferred to those measures that need enforcement to be effective, such as signage.
- **Maintain unimpeded access for non-motorized traffic.** Traffic calming measures should be designed to permit cyclists and pedestrians to travel unaffected, while requiring motorized vehicles to slow down.
- **Monitor and follow-up.** Traffic data collected during the problem definition phase should be compared to data collected after implementation of traffic calming to confirm the effectiveness of the program and as input to future initiatives.



3. Process

The City follows a four-phase process to determine if a traffic calming plan is needed and, if so, when and how to develop and implement the plan.

Phase 1 – Initiation: The first phase is designed to determine community interest in exploring the need for traffic calming once residents’ concerns have been submitted to the City.

Phase 2 – Assessment: Assuming there is community interest in examining the need for traffic calming, data will be collected to validate the concerns and to confirm that a traffic calming plan is in fact an appropriate step to address resident concerns.

Phase 3 – Prioritization: Areas that have progressed through the first two phases will be assessed to determine areas with the highest need and interest for traffic calming plans, ensuring that the City effectively uses the resources allocated to traffic calming plan development and implementation.

Phase 4 – Traffic Calming Plan Development & Approval: The final phase is when the traffic calming plan is developed and presented to the impacted community members.

Figure 1 highlights the four phases outlined in the traffic calming plan process as well as each of the subsequent steps required to progress from a traffic concern received from a resident to an implemented traffic calming plan.

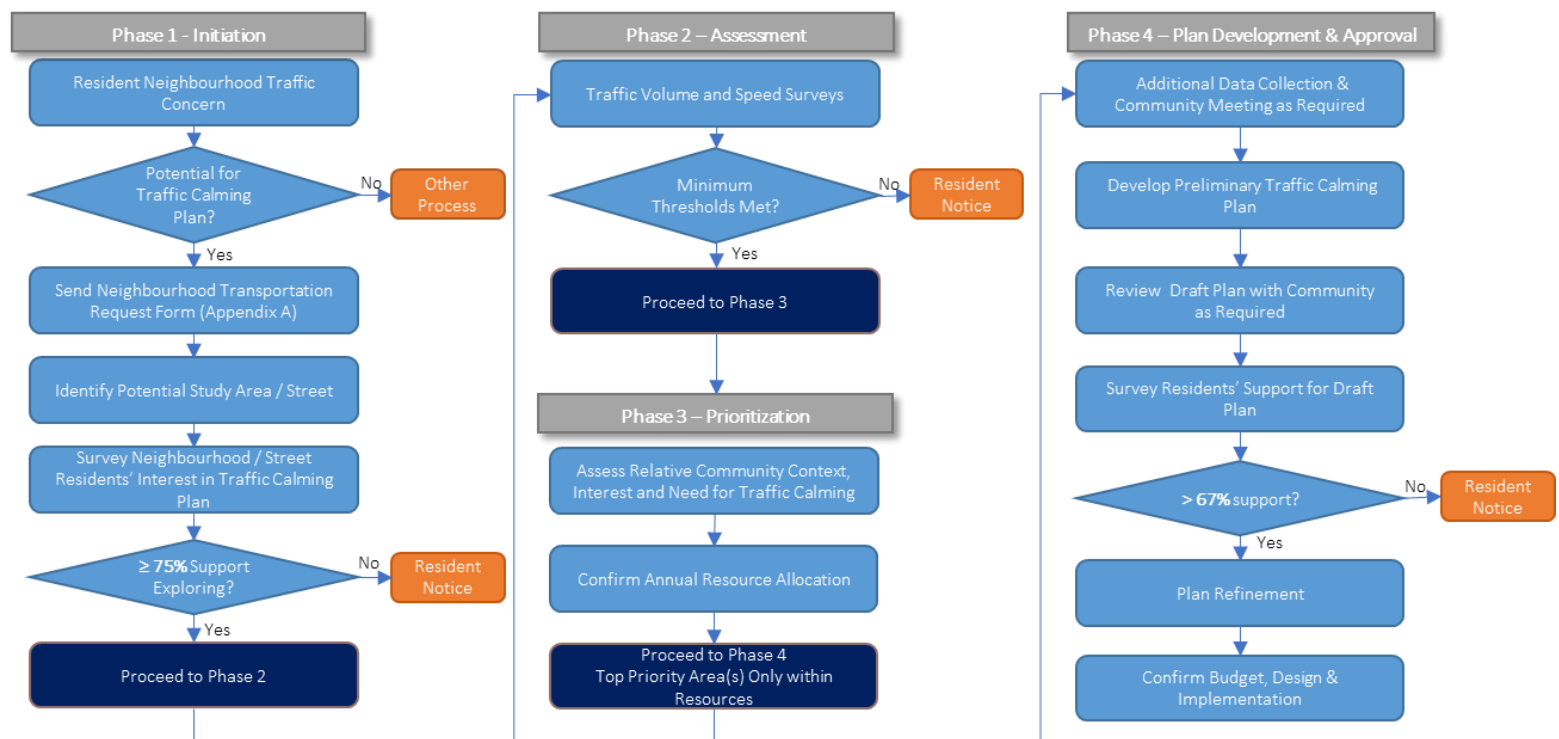


Figure 1: Traffic Calming Policy Process

3.1 Phase 1: Initiation

The first phase in the traffic calming plan development process for the City is the initiation phase. Figure 2 outlines Phase 1: Initiation.

Step 1 – Resident Neighbourhood Traffic Concern

The traffic calming plan process is initiated by a resident submitting a transportation concern on a local road, minor collector road, or laneway that is suitable for traffic calming. The resident concern form is included in **Appendix A**. If the transportation concern requesting traffic calming is for a location that is not suitable for a traffic calming plan the City will inform the resident and explore if other transportation safety or planning studies, such as spot improvements or a corridor study, would be suitable.

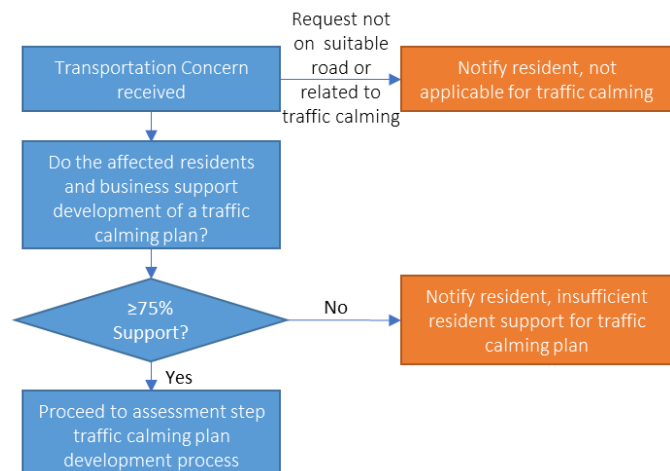


Figure 2: Traffic Calming Initiation Phase

Step 2 - Confirm Potential for Traffic Calming Plan

After a transportation concern that is suitable for a traffic calming plan has been received, the City will identify a potential study area or street based off the location and extent of the concern received.

Step 3 – Identify Potential Study Area / Street

Once a study area has been established a mail out survey will be sent to all directly affected home and business owners to gauge their interest in traffic calming on their street or within their neighbourhood.

Step 4 – Mail Out Survey to Affected Home and Business Owners

To proceed to the next phase of the process a minimum 75% of the home and business owners fronting the location of concern or who have sole access through the location of concern, are required to support proceeding with the next steps of the traffic calming process. The 75% support is a threshold that is used to ensure that only projects with adequate local support are pursued.

Step 5 – Proceed to Phase 2

When 75% of residents respond in support of proceeding with the traffic calming process the City is to continue onto Phase 2 – Assessment.

3.2 Phase 2: Assessment

If it has been confirmed that the transportation concerns are at a suitable location for a traffic calming plan and the home and business owners at the location of concern support proceeding with the traffic calming process, the City will move to the next phase in the *Policy*. The assessment phase is essential to ensure that public funds are spent in the most effective way. In this phase, the issue is assessed to determine if a traffic calming plan is warranted.



Step 1 – Collect Speed and Volume Data

The City will collect speed and traffic volume data at key locations around the area of concern. A traffic calming plan is warranted when the following speed threshold is met.

Speeding: 85th percentile speed is greater than the posted speed limit by 10 km/h or more.

Other considerations when determining if a traffic calming plan is warranted should include:

Traffic Volume

- **Minor Collector roads:** Average weekday or weekend traffic volume exceeds 3,000 vehicles per day.
- **Local roads:** Average weekday or weekend traffic volume exceeds 1,000 vehicles per day.
- **Lanes:** Average weekday or weekend traffic volume exceeds 300 vehicles per day.

Shortcutting Traffic

- A traffic calming plan may still be suitable if shortcutting traffic is perceived as a problem and the traffic speed threshold is not met. If this occurs an additional vehicle origin / destination survey is required to confirm that significant shortcutting is occurring and that a traffic calming plan should be pursued.

Step 2 – Confirm Speed and/or Volume Threshold Met

When motor vehicle speed in the area of concern exceeds the threshold above the process should continue to the prioritization phase. City engineering staff should use their engineering judgement to determine if a location proceeds to the prioritization phase when the speed threshold is not met but significant shortcutting traffic is observed. At locations where the speed threshold is not met, but the 85th percentile speed is still higher than the posted limit, City engineering staff may install temporary speed reader boards, provide educational signage, request the speed watch group, or RCMP to enforce the subject road.

Locations that do not meet any of the criteria should be removed from the list of locations considered for traffic calming plans and it is recommended that the area not be reassessed for at least four years; unless significant changes occur in the area, such as major development, which changes the traffic conditions.



3.3 Phase 3: Prioritization

In some cases, the City may have multiple locations that pass the assessment and qualify for a traffic calming plan. Recognizing that budgets to develop and implement traffic calming plans are limited, the City must prioritize studies and investments in order to make the best use of public funds. The development of traffic calming plans will be prioritized based on traffic data, road and land use characteristics, and the level of public support.

Step 1 – Assess Relative Community Context, Interest, and Need for Traffic Calming

When determining which projects to prioritize specific considerations in each of the three categories include:

1. **Traffic Data** – Consider the magnitude of which the speed and volume thresholds were exceeded, additionally locations with a history of collisions should be prioritized above locations without any collisions.
2. **Road and Land Use Characteristics** – Consider the adjacent land use with a preference given to locations that are likely to generate a high number of vulnerable road users such as people walking, biking, children, and elderly people. Additionally, locations along roadways that are designated as bike routes, transit routes, or pedestrian areas in the *Strategic Transportation Plan* should be prioritized above locations that are not designated.
3. **Public Support** – The level of public support and number of transportation concerns received for a specific location provide insight into the likelihood of the residents and business owners supporting the traffic calming treatments proposed in a traffic calming plan. This is essential in ensuring that the traffic calming plans that are developed have adequate community support to allow the City to implement what is developed in the plan.

Step 2 – Confirm Resource Allocation and Proceed with Priority Locations

Based off the available resources and prioritization of areas City staff should only proceed with the top priority areas to the plan development phase, ensuring existing and planned resources will allow traffic calming plans to be developed and implemented in a timely manner. Locations that have proceeded to the prioritization phase of the traffic calming plan process should remain on a list of future projects to be completed as resources become available.

3.4 Phase 4: Traffic Calming Plan Development & Approval

The development of the traffic calming plan is the final step in the process. When a location of concern has progressed through each of the three prior steps the City should develop a traffic calming plan for the location. Typically, the City will work with a consultant to develop a traffic calming plan, but the following plan development process should be followed.

The simplified process to progress a traffic issue from the assessment step through to the adoption of a traffic calming plan is outlined in Figure 3.

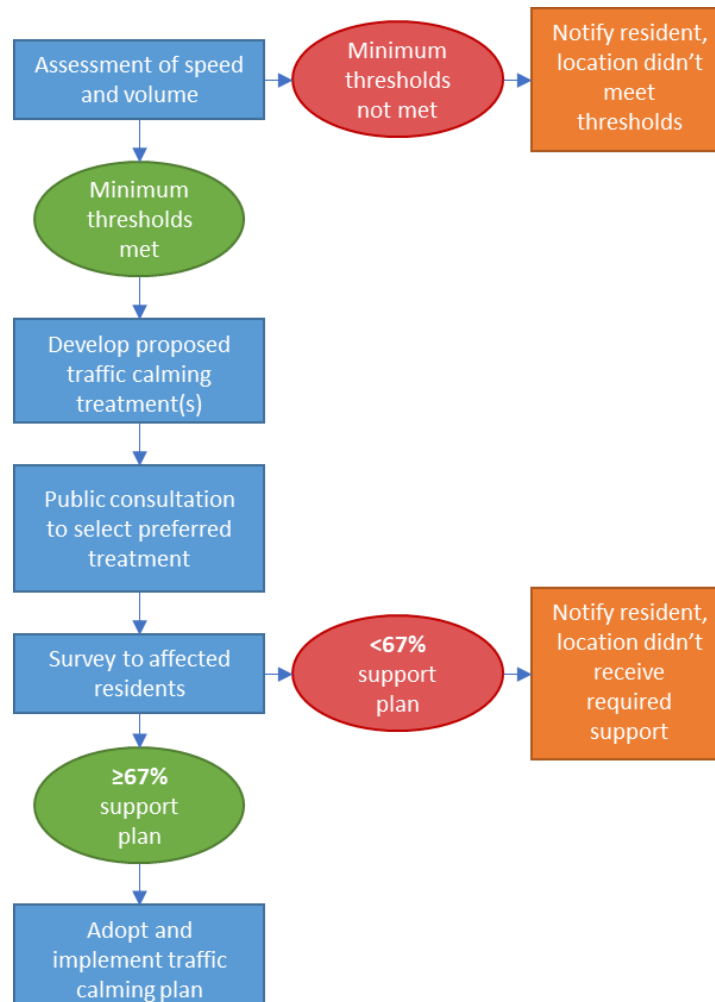


Figure 3: Traffic Calming Plan Development

Step 1 – Community Meeting and Additional Data Collection

City Staff will review the number and type of complaints, the complexity of the issues, and the potential impacts on surrounding streets to confirm the boundaries of the study area. The size of the study and the types of roads included will determine the scale of the traffic calming plan required as well as the type of public engagement best suited to the project.

After developing an understanding of issues through discussions with stakeholders and community representatives (as required) and through observations of the neighbourhood, additional data needs may be identified. The City may collect additional transportation data to confirm the type and extent of issues to aid in the development of solutions. For example, this could include additional traffic volume and speed counts and/or origin / destination surveys to gain a better understanding of the shortcutting traffic volume.

Step 2 – Develop Draft Traffic Calming Plan

The study area will be examined to determine the best combination and location of measures to be included in the draft traffic calming plan. The benefits and potential impacts associated with each measure will be identified. Depending on the complexity of the traffic issues and size of the study area draft traffic calming plans will be developed either with multiple possible traffic calming treatment options or a single recommended traffic calming plan. **Section 4.0** outlines the preferred traffic calming treatments to be consider in Maple Ridge traffic calming plans from the extensive list of possible treatments in the *TAC Canadian Guide to Traffic Calming* (2018).

Step 3 – Review Draft Plan with Community

The type of consultation can vary from an open house format to a mail out questionnaire. For draft traffic calming plans that are more complex and have multiple options developed for public consultation an additional step is required to seek feedback from residents and business owners in the study area of their preferred treatment option. The type of public consultation that is best suited to each plan should consider the impact of the proposed changes as well as the complexity of the designs, ensuring that all residents that are engaged are able to make an informed decision.

Step 4 – Mail Out Survey to Confirm Residents’ Support for Draft Plan

Once the draft traffic calming plan has been finalized a mail out survey needs to be delivered to each impacted home and business owner asking for their input on whether they support the proposed traffic calming plan. The City should look to receive support for the proposed traffic calming plan from 67% of impacted residents who received the mail out survey. If this threshold is not met the City should consider waiting to implement the traffic calming plan and notify residents that it may be reconsidered in the future.

Step 5 – Plan Refinement

Once a draft traffic calming plan has received the required community support any final refinements should be completed.

Step 6 – Confirm Budget, Design and Implementation

After the final traffic calming plan has been finalized all design and budget details are to be confirmed and the design is ready to be implemented.



4. Treatments

The following traffic calming measures have been selected from the second edition of the *Canadian Guide to Traffic Calming* (2018) prepared by TAC, which provides a comprehensive list of over 40 measures successfully used across Canada. Each measure has impacts and benefits and different measures are appropriate for different conditions. Based on the local context, not all measures can or should be applied in the City. The following table identifies which measures are most appropriate for the different road types suitable for traffic calming plans in Maple Ridge. A traffic calming plan for a given neighbourhood may use a combination of measures. Not all measures identified for a road type in the table below will be suitable for every traffic calming plan in the City, each traffic calming plan will be designed to respond to the local issues and conditions.

More information about the use of these measures as well as additional measures that may be considered can be found in the *TAC Canadian Guide to Traffic Calming*. See [Appendix B](#) for a brief summary of some of the potential benefits and potential disbenefits for each of the selected treatments.

Table 1. Traffic Calming Measures

Traffic Calming Measure		Minor Collector	Local	Lanes
Vertical	Raised Crosswalk	✓	✓	
	Raised Intersection	✓	✓	
	Sidewalk Extension	✓	✓	
	Speed Hump		✓	✓
	Textured Crosswalk	✓	✓	
	Speed Cushion		✓	✓
Horizontal	Chicane (one lane)		✓	
	Curb Radius Reduction	✓	✓	
	On-Street Parking	✓	✓	
	Raised Median Island	✓	✓	
	Traffic Circle	✓	✓	
	Gateway Median	✓	✓	
	Curb Extension	✓	✓	*
	Road Narrowing / Road Diets	✓	✓	
	Raised Median Island	✓	✓	
	Vertical Centreline Treatment	✓		
Access Restriction	Directional Closure		✓	
	Diverter		✓	
	Full Closure		✓	
	Intersection Channelization		✓	
	Raised Median Through Intersection	✓	✓	
	Right-in / Right-out Island		✓	

*Curb extensions may be suitable at the entry to a lane where a large curb radius exists.

5. Implementation and Monitoring

Effective implementation is the key to an ongoing, successful traffic calming program. The process and plan development stages do not resolve neighbourhood transportation concerns if the measures are not implemented with the intended effects. Effective implementation means that traffic calming measures are well designed and work as intended. An effective implementation program allows for trial and/or phased implementation where necessary, provides for permanent measures to be installed in a timely manner, and includes ongoing monitoring to confirm that the measures are working as intended and addressing local transportation concerns.

5.1 Funding

The design step will result in engineering designs and cost estimates for implementation. If a trial implementation is desirable, the cost estimates will include both the cost of the trial and the cost of the final implementation. Based on these cost estimates, the City will identify a source of funds. Funds may come from a combination of two municipal sources:

1. **Existing Budget:** The City currently has an existing budget allotment for traffic calming or neighbourhood street improvements that can cover the cost of the implementation.
2. **Council Approval:** For larger cost measures and instances where there is no available budget to implement the plan, City Staff may go to Council to request additional funds.

5.2 Optional Phasing

Ideally, the entire plan should be installed at the same time; however, sometimes budget, timing, or other constraints make this impossible. In these cases, implementation may be phased. If implementation is phased, priority should be assigned to individual measures as follows:

1. **Safety improvements** should be given priority. These might include measures to reduce vehicle speeds and conflicts at intersections, as well as measures that improve safety for cyclists and pedestrians.
2. **Low cost measures** are the next priority. Generally, it is preferable to implement several low-cost measures rather than one higher cost measure. Low-cost measures might include signage, pavement markings, speed humps, and crosswalks.

Note that, if possible, measures should be implemented in groups to avoid unintended effects that might result from the implementation of a single measure. One example of this is a group of measures planned for two parallel local roads. If the measures are only implemented on one road, traffic may divert to the other local road, where there are no existing traffic calming measures.

5.3 Monitoring

The City will continue to monitor the traffic calmed area for a few years following implementation of the traffic calming plan by collecting speed and volume data. Assessing this data will allow the City to understand the lasting effects of traffic calming in order to inform future planning in other neighbourhoods. For traffic calming plans that suggest a phased approach with different levels of treatments implemented as required, this monitoring will allow the City to confirm when the volumes and speeds have returned to an acceptable level.



Appendix A:

Neighbourhood Transportation Request Form

Neighbourhood Transportation Concern Form

Thank you for providing information about transportation concerns in your neighbourhood. This form will allow us to officially enter your concern in our records as part of the Traffic Calming Policy.

We ask that all residents and business members reporting transportation concerns read the City of Maple Ridge Traffic Calming Policy. It will help you understand the process the City follows when addressing concerns and whether a Traffic Calming Plan may lead to an appropriate solution to your concerns.

The Traffic Calming Policy can be downloaded here: <http://www.mapleridge.ca>. A hard copy can be obtained at the Municipal Office.

1. Are your concerns related to the travel behaviour of your neighbours (i.e. speeding, unsafe driving, etc.)?

YES

NO

Note: The Neighbourhood Transportation Concern Form is collected by the engineering department. The form will be logged and may lead to further study; however, the focus of these studies are engineering and planning activities. If you are concerned with your neighbour's driving behaviour, you may wish to consider having a neighbourhood meeting or informal discussions with your neighbours about traffic safety.

The City will liaise with the Ridge Meadows RCMP about these types of traffic concerns.

2. Where is your concern? Please be as specific as possible – identify street names with start and end points, specific locations, and other details. If possible, attach a map with locations marked.

3. Does the problem occur during specific times of day? If yes, what times?

YES

NO

4. Does the problem occur during specific days of the week? If yes, what days?

YES

NO

5. Does your concern relate to one of the following issues?

Issue		Yes	No
1.	Traffic speed		
2.	Traffic volumes		
3.	Shortcutting		
4.	Transit service		
5.	Access to a local school or other community building		
6.	Ability to walk safely in your neighbourhood		
7.	Ability to cycle safely in your neighbourhood		
8.	Traffic congestion		
9.	Signal operation		
10.	Road and / or roadside maintenance		
11.	Maintenance of signs		
12.	Other:		

If you answered yes to one or more of questions 4 through 12, a Traffic Calming Plan may not be the best approach for your issue. The City will review your concern but may decide that another approach would be better.

6. Please include a short paragraph describing your neighbourhood transportation concern:

7. What types of solutions do you think might address your concerns?

Thank you for completing the request form. If you would like to receive communication in the future from the City about transportation issues in your neighbourhood, please provide the following information

Name:	
Address:	
Email address:	Phone number:

Appendix B:

Guide to Applying Traffic Calming Measures

The following measures were selected from the second edition of the *TAC Canadian Guide to Neighbourhood Traffic Calming* (2018) (the “Canadian Guide”). The *Canadian Guide* has additional measures that may be considered as well as more complete information about each measure. Each measure has positive and negative impacts and can be appropriate for different applications. A brief summary is provided here for reference.

The table below is from the *Canadian Guide* and shows which issues each traffic calming measure can be expected to help address.

Traffic Calming Measure		Potential Benefits			Potential Disbenefits		
		Speed Reduction	Volume Reduction	Conflict Reduction	Local Access	Emergency Response	Active Transportation
Vertical	Raised Crosswalk	●	○	◐	○	◐	◐
	Raised Intersection	◐	○	◐	○	◐	◐
	Sidewalk Extension	◐	○	◐	○	○	◐
	Speed Hump	●	◐	●	○	●	◐
	Textured Crosswalk	◐	○	◐	○	○	◐
	Speed Cushion	●	◐	●	○	◐	◐
Horizontal	Chicane (one lane)	●	●	●	○	◐	◐
	Curb Radius Reduction	◐	○	○	○	○	○
	On-Street Parking	◐	○	○	○	◐	◐
	Raised Median Island	◐	○	◐	○	○	○
	Traffic Circle	●	◐	●	○	◐	●
	Gateway Median	◐	○	○	○	○	○
Roadway Narrowing	Curb Extension	◐	○	○	○	○	◐
	Road Narrowing / Road Diets	●	◐	○	○	◐	◐
	Raised Median Island	◐	○	◐	◐	○	○
	Vertical Centreline Treatment	◐	○	○	○	○	○
Access Restriction	Directional Closure	●	●	◐	◐	◐	◐
	Diverter	○	●	◐	●	◐	◐
	Full Closure	○	●	●	●	●	◐
	Intersection Channelization	○	◐	◐	●	◐	○
	Raised Median Through Intersection	○	●	◐	●	◐	◐
	Right-in / Right-out Island	○	●	◐	◐	◐	◐
		● = Substantial Benefits ◐ = Minor Benefits ○ = No Benefit			● = Substantial Disbenefits ◐ = Minor Disbenefits ○ = No Disbenefit		