



Traffic Calming Policy

Effective Date: October 2, 2007
Reaffirmed Date: July 3, 2012
Date Amended: November 22, 2016

1.0 Purpose

The Traffic Calming Policy has been enacted for the purpose of establishing and maintaining a consistent procedure for traffic calming applications in the City of Pitt Meadows. Additionally, this document provides some basic information regarding traffic calming solutions and when they can be effectively implemented.

1.1 What is Traffic Calming?

Traffic calming is the implementation of engineering measures to influence driver behaviors on a road to address speeding, short-cutting, or safety issues. The goal of traffic calming is to improve safety and the quality of life of a neighborhood without compromising the accesses to residents' homes and businesses. These measures can come in various forms to suit each unique scenario and problem, including vertical deflection (raised crosswalks, speed humps, etc.), horizontal deflection (curb extensions, traffic circle, etc.), and obstructions (raised median, right-in/right-out island, etc.).

1.2 Objectives of Traffic Calming

The objectives of traffic calming provide general direction for the decision making process for any traffic calming request. These objectives are as follows:

- **Reduce vehicle speeds and through traffic volumes.** Local streets and laneways are intended to provide access to local residents. Traffic calming is implemented to discourage through traffic that does not have a trip end in that neighborhood and to ensure that vehicles using the road are travelling at safe speeds to increase safety, minimise noise, and other conflict issues.

- **Minimize conflicts between street users.** Roads should be safe for all street users including drivers, cyclists, and pedestrians. Traffic calming measures are implemented to reduce the number of conflicts or risk of conflict between users.

2.0 Application

This policy shall be used for traffic calming requests on urban local and collector streets within the boundaries of the City of Pitt Meadows. Traffic calming measures shall be consistent with the Canadian Guide to Neighborhood Traffic Calming (TAC Guide).

This policy outlines the procedure that is to be used by City staff when a traffic calming request is received to determine if traffic calming is warranted. It will also be used to prioritize traffic calming requests to be presented to City Council for review and approval.

3.0 Policy and Guiding Principles

The traffic calming policy will be dictated by the following guiding principles which will be applicable to all traffic calming measures. They will ensure that all cases are analyzed based on the same criteria.

3.1 Identify the Real Problem

It is essential to thoroughly analyze each situation independently and determine the root of the problem. Traffic networks are complex, therefore collecting and carefully reviewing reliable data is essential to have an informed decision making process. Addressing the immediate concern without this detailed review could exacerbate the original problem.

3.2 Road Classification

Traffic calming will generally be considered for local roads, while collector roads will be considered on a case-to-case basis. Although traffic calming will not be considered for arterial roads, safety improvements to the road network may be considered. See Appendix A for a road classification map. Traffic calming measures should also be carefully considered on certain roads, such as high demand truck routes, transit routes, emergency response routes (see Appendix B) and/or major roads leading to fire stations and police stations. The types of traffic calming measures that are recommended for the various classifications of roads can be seen in

Table I. As defined by the TAC Guide, details of traffic calming measures (descriptions, benefits and disbenefits) can be found in Appendix C.

3.3 Area-Wide Traffic Calming Consideration

Traffic calming measures shall not be considered for individual streets until the impact on adjacent streets are first examined. The entire neighborhood network that is affected by the proposed traffic calming measures should be clearly defined and considered for spillover effects; otherwise the issue may simply shift to other streets. Traffic calming will only be considered on individual locations when a neighborhood-wide traffic calming plan is deemed inappropriate.

3.4 Road Network Continuity

To maintain road network continuity, neighborhood accesses and egresses should not be restricted to ensure minimal impact to residents, emergency vehicles, and other community stakeholders.

3.5 Pedestrians and Cyclists Considerations

Any improved safety measures should not in any way impede or slow other non-motorized modes of transportation such as cycling and walking. Additionally, they should comply with the City of Pitt Meadows Pedestrian and Cycling Master Plan.

3.6 Main Road Network Improvements

Before traffic calming measures are considered for local and collector roads, the surrounding major collector and arterial routes will be analyzed for possible improvements that may alleviate the traffic calming concern.

Traffic Calming Method		Local Roads	Collector Roads	Emergency Routes	Transit Routes
Vertical Deflection	Raised Crosswalk	✓	✓		★
	Raised Intersection	✓	✓		★
	Speed Bump	★			
	Speed Table	✓	★		★
	Speed Cushion	✓	★		★
	Textured Crosswalk	✓	✓	✓	✓
Horizontal Deflection	Chicane - One Lane	✓			
	Chicane - Two Lane	✓	✓		
	Curb Extension	✓	✓	✓	✓
	Curb Radius Reduction	✓	✓	★	★
	On Street Parking	✓	★	✓	✓
	Raised Median Island	✓	✓	✓	✓
	Traffic Circle	✓	★	★	★
Obstruction	Intersection Channelization	✓	✓	✓	✓
	Intersection Raised Median	✓	✓	✓	✓
	Right-In/Right-Out Island	✓	✓	✓	✓

✓ Recommended by TAC Guide

★ Considered at Director's Discretion

Table I: Recommended Traffic Calming Measures Based on Road Classification

4.0 Finance

The City of Pitt Meadows budgets and approves traffic calming projects on an individual basis as there is not an annual budget for traffic calming projects. Once a project is chosen and a plan is created, it can be included in the Capital Works Plan for the following year at Council's discretion during budget reviews. Traffic calming may also be funded from resources available for active transportation projects.

In addition to Capital Work Projects, traffic calming measures can also be implemented as part of project development proposals. When a new development is planned, the developer may be required to provide certain neighborhood improvements at the discretion of the Director.

There are also opportunities for traffic calming measures to be resident funded through a local area service. These opportunities should be reviewed on a case-to-case basis and will require Council approval.

5.0 Procedure

The procedure for a traffic calming request can be split into the following four phases:

- Initiate the Study
- Identify the Issues
- Develop a Plan
- Implement the Plan

Several sub-steps and decision points will also be included in each phase.

The following sections will outline the phases and steps for determining whether traffic calming is warranted. A visualization of the process can be found as a flowchart in Appendix D.

5.1 Initiate the Study

Should a resident have traffic calming concern within their neighbourhood, the requester shall submit a traffic calming request to the City's Engineering Department by filling out the Traffic Calming Request Form (Appendix E) and submitting it by mail, email or in person. This helps increase response times by including all the information needed with the initial request and allows the requester to submit all relevant information to the City staff at their own leisure. City staff will review the request and identify whether it follows the guiding principles of the policy.

Once the request is determined to fall within the conditions of the guiding principles of the policy, an initial traffic calming study will be initiated to determine whether traffic calming is warranted. City staff will conduct a site visit at the requested location and identify the study area and potential issues.



To warrant further analysis for traffic calming, traffic volumes and vehicle speed data will be collected and the following conditions must be met based on the data collection done in the traffic study:

- Daily traffic volumes exceed:
 - **1,000** vehicles per day on Local Roads; OR;
 - **2,500** vehicles per day on Collector Roads; AND;
- The 85th percentile speed* exceeds the speed limit by **10** kilometers per hour or more

*85th Percentile Speed means that 85% of the vehicles captured travel at or below that speed, 15% travel above the speed.

If the request does not meet the warrant criteria above, the requester will be informed of the speeds, volumes, and accident data on the proposed street and be given the option to continue to the petition stage.

Once City staff has performed the warrant check, the requester will be contacted to discuss some of the details. The requester will then be provided a map outlining the impacted area of the proposed traffic calming measures to initiate a petition. The requester will be required to collect the signatures of the residents in the impacted area and submit the petition to the City staff for consideration. Petitions must be signed by more than half (**50% + 1**) of the affected residents, indicating that they would be in favor of traffic calming measures being developed and implemented. Requests that are not warranted, but petition successfully, will be taken to Council for review. Should Council approve, the request will continue to the next step.

This process is done to ensure that there is support of the traffic calming implementation. This reduces the influence of private interests of certain individuals that may not share the interests of the community as a whole and reduces the risk of spending resources on traffic calming that is not welcome by the majority of local residents.

5.2 Identify the Issues

Once a requested location has satisfied the above conditions, an engineering analysis will be performed on the location by City staff. In this step, information and data will be collected to input during the engineering analysis. This information may include:

- Vehicle, Cyclist and Pedestrian Volumes
- Traffic Speed
- Cut-Through vs. Neighborhood Traffic Percentage
- Available ICBC Data
- General Characteristics and Facilities, (cyclist and pedestrian facilities, Schools or parks, road geometry)
- Traffic and Ambient Noise

Part of this process will be used to determine the extent of traffic calming measures that will be implemented for the project. For example, in some cases providing traffic calming measures on one street may exacerbate the issue on another adjacent street. In this case, the traffic calming solution may require a more comprehensive neighborhood traffic calming plan or improvements to the major road network.

Once the engineering analysis has been completed, the request will be ranked against other approved traffic calming projects. The priority ranking of traffic calming projects is determined by the following quantitative factors:

- Traffic speeds above an acceptable range (85th percentile speed and maximum speeds)
- Traffic volumes above the expected value given the road classification

A traffic calming project is also given higher priority if it is in the vicinity of the following;

- Sensitive Frontage (school zone)
- Pedestrian Generator (senior housing or park)
- Lack of Pedestrian Facility (sidewalk or crosswalk)
- Emergency Vehicles Impact Considerations

5.3 Develop a Plan

Conceptual designs and initial cost estimates for traffic calming measures will be created by Staff for the highest ranked projects. Different alternatives will be considered for each project. The designs will be forwarded to City Council biannually for consideration and funding allocations as part of the budget and business planning process. In the case that the proposal is not approved by Council for funding allocation, traffic calming at that location will not be considered again for two years.

Once the funds have been allocated by Council, a preliminary design can be completed internally or externally, taking into consideration the data collected, the analysis performed, and the recommended traffic calming measures for the road classification.

A letter with the analysis results and the preliminary design will be sent out to affected residents, informing them of the proposed traffic calming measures in their neighborhood. The letter should also contain some general information on the proposed traffic calming measure, a map of where they will be implemented, the design speed, and basic dimensions.

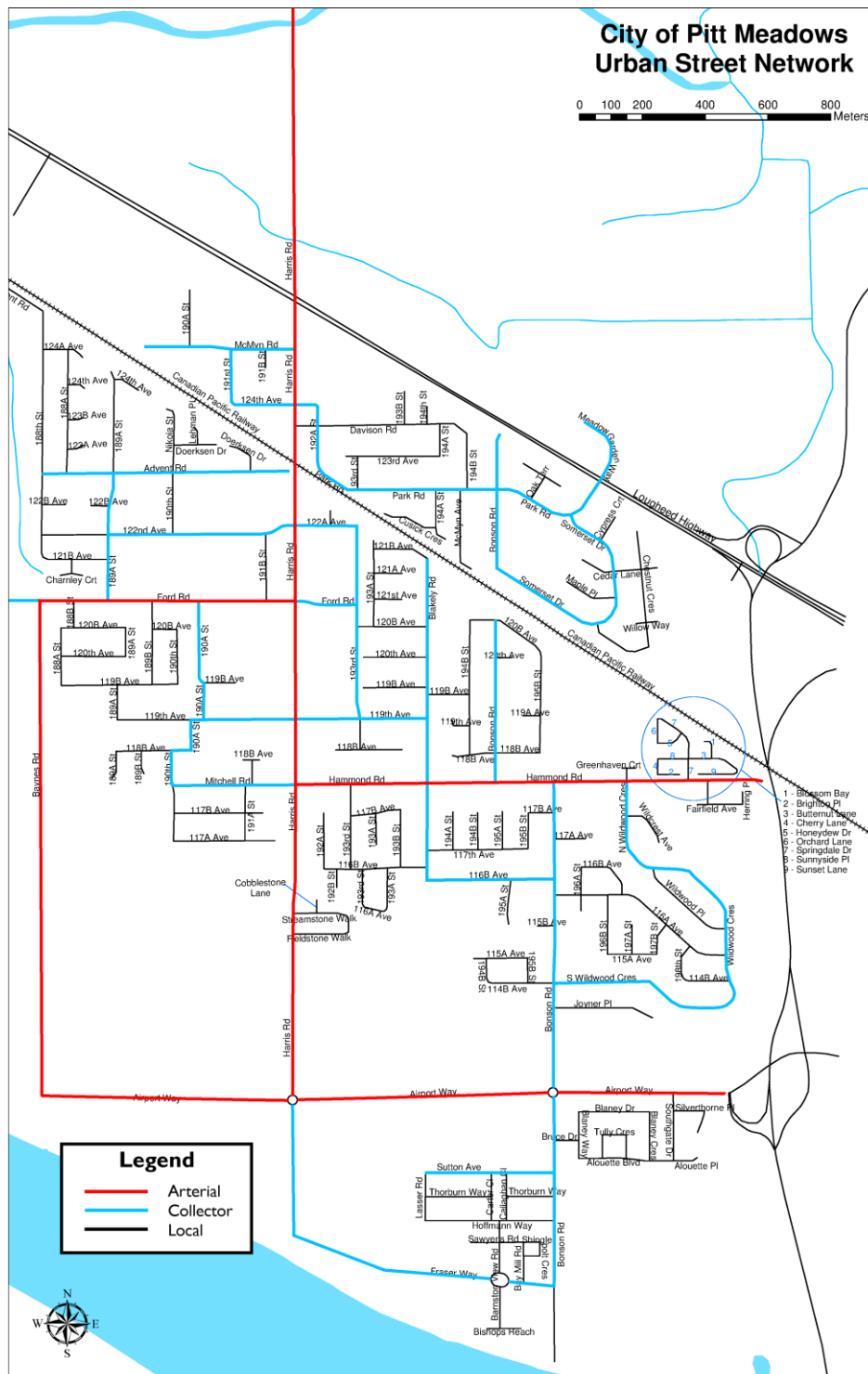
The letter will encourage residents to provide feedback on the preliminary design and encourage a response if they are not in favor of the proposal. A public consultation meeting will then be scheduled to discuss the preliminary design. If agreement of the preliminary design at the public consultation cannot be reached, then the traffic calming measure will not be implemented and further public consultation with alternative designs will be initiated to determine a favorable solution.

5.4 Implement the Plan

When the public consultation has shown that the majority of residents are in favor of the design, the final design can be completed and submitted for implementation with the allocated funding. Once implemented, City staff will visit the site and verify the impacts to road users. After six-month period, City staff will collect information to evaluate the success of the traffic calming measures or identify any modification is needed. Future requests for the removal of traffic calming measures, once deemed successfully implemented, would require the Policy and Guiding Principles to be adhered to.

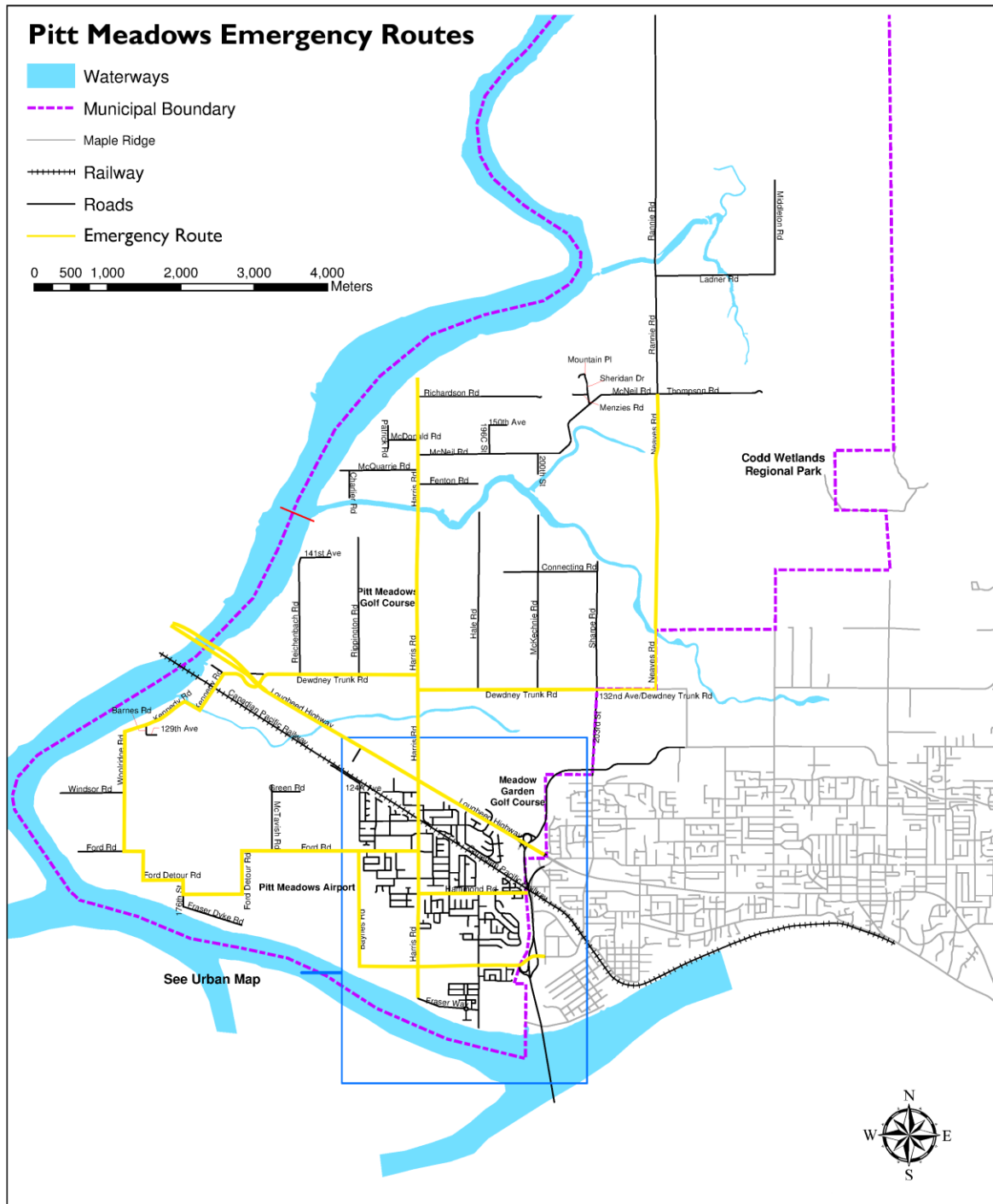


Appendix A: Road Classification Map





Appendix B: Emergency Response Routes



Appendix C: Traffic Calming Measures

A - Raised Crosswalk

A raised crosswalk can be found at an intersection or midblock. It provides reduction in traffic speeds while also providing improved visibility of pedestrians, in turn reducing the risk of pedestrian-vehicle conflict.

Benefits: Vehicle speed reduction; traffic volume reduction; well defined pedestrian crossing

Disbenefits: May divert traffic to other local streets; potential for false pedestrian security; emergency vehicle delays; potential maintenance costs

B - Raised Intersection

A raised intersection includes the entire intersection, including the crosswalks, which are raised above the elevation of the road. This method slows traffic while providing better visibility to the pedestrians crossing the intersection.

Benefits: Vehicle speed reduction; improved pedestrian area definition

Disbenefits: High construction and maintenance cost; diverts traffic to other local roads; slows emergency vehicles

C - Speed Bump

Speed bumps are raised areas of the roadway. Speed bumps may be designed for local roads (design speeds ranging from 15-30 km/h), however residents must be in agreement to the installation of speed bumps directly adjacent to their homes in order for speed bumps to be implemented.

Benefits: Reduced traffic volumes and speeds, collision reduction

Disbenefits: Diverted traffic; emergency vehicle delays; generating noise in residential area

D - Speed Table

Speed tables are similar to speed bumps, however they are typically longer and have a flat top. Speed tables do not slow vehicles as much and are often used to maintain road speeds (design speeds ranging from 30-50 km/h). Residents must be in agreement to the installation of speed tables directly adjacent to their homes in order for speed tables to be implemented.

Benefits: Reduced traffic volumes and speeds, collision reduction

Disbenefits: Diverted traffic; emergency vehicle delays; generating noise in residential area



E - Speed Cushion

Speed cushions are similar to speed tables (design speeds ranging from 30-50 km/h), however they have wheel cut-outs on either end. This allows larger vehicles such as buses or emergency vehicles to straddle the speed cushion and pass through unaffected, while still reducing passenger vehicle speeds. Residents must be in agreement to the installation of speed cushions directly adjacent to their homes in order for speed cushions to be implemented.

Benefits: Reduced traffic volumes and speeds, collision reduction

Disbenefits: Diverted traffic; generating noise in residential area

F - Textured Crosswalk

Textured crosswalk is a crosswalk with a pattern or texture help make it stand out more than conventional crosswalk pavement markings. The intention is to provide greater crosswalk visibility to define crossing locations to reduce the risk of conflicts between vehicles and pedestrians.

Benefits: Reduced pedestrian-vehicle conflicts; low cost

Disbenefits: No physical obstruction for drivers; increased maintenance cost

G - Chicane – Two and One Lane

Chicanes are curves in the roadway made with a series of curb extensions in the roadway. Intended to force drivers to slow and steer from one side of the road to the other. When used on collectors, only two lane chicanes should be used.

Benefits: Reduced traffic volumes and speeds; potential collision reduction

Disbenefits: Removal of on-street parking; may divert traffic to other routes

H - Curb Extension

The extension of the curb into the roadway to reduce the perceived width of the travel lane.

Benefits: Slight reduction in speed; reduced pedestrian crossing distance

Disbenefits: Potential cyclist conflict; not suitable for large vehicles

I - Curb Radius Reduction

Curb radius reduction is the reconstruction of an intersection corner to a smaller radius, forcing right turn vehicles to slow and make pedestrian more visible.

Benefits: Reduced right turn speeds; reduced pedestrian crossing distance

Disbenefits: Difficult for trucks and other large vehicles



J - On-Street Parking

Providing on-street parking can be used as a traffic calming measure by reducing the perceived travel lane width, encouraging slower traffic.

Benefits: Potential speed reduction; pedestrian-traffic buffer

Disbenefits: Reduced visibility of pedestrians crossing; driveway sightline issues; generating through-parked vehicle conflict

K - Raised Median Island

Raised median islands are elevated medians along the centerline of the road, they reduce the travel lane width to reduce travel speeds and pedestrian-vehicle conflicts.

Benefits: Speed reductions, reduced pedestrian conflicts

Disbenefits: Reduces on-street parking, restrict driveway movements; maintenance cost

L - Traffic Circle

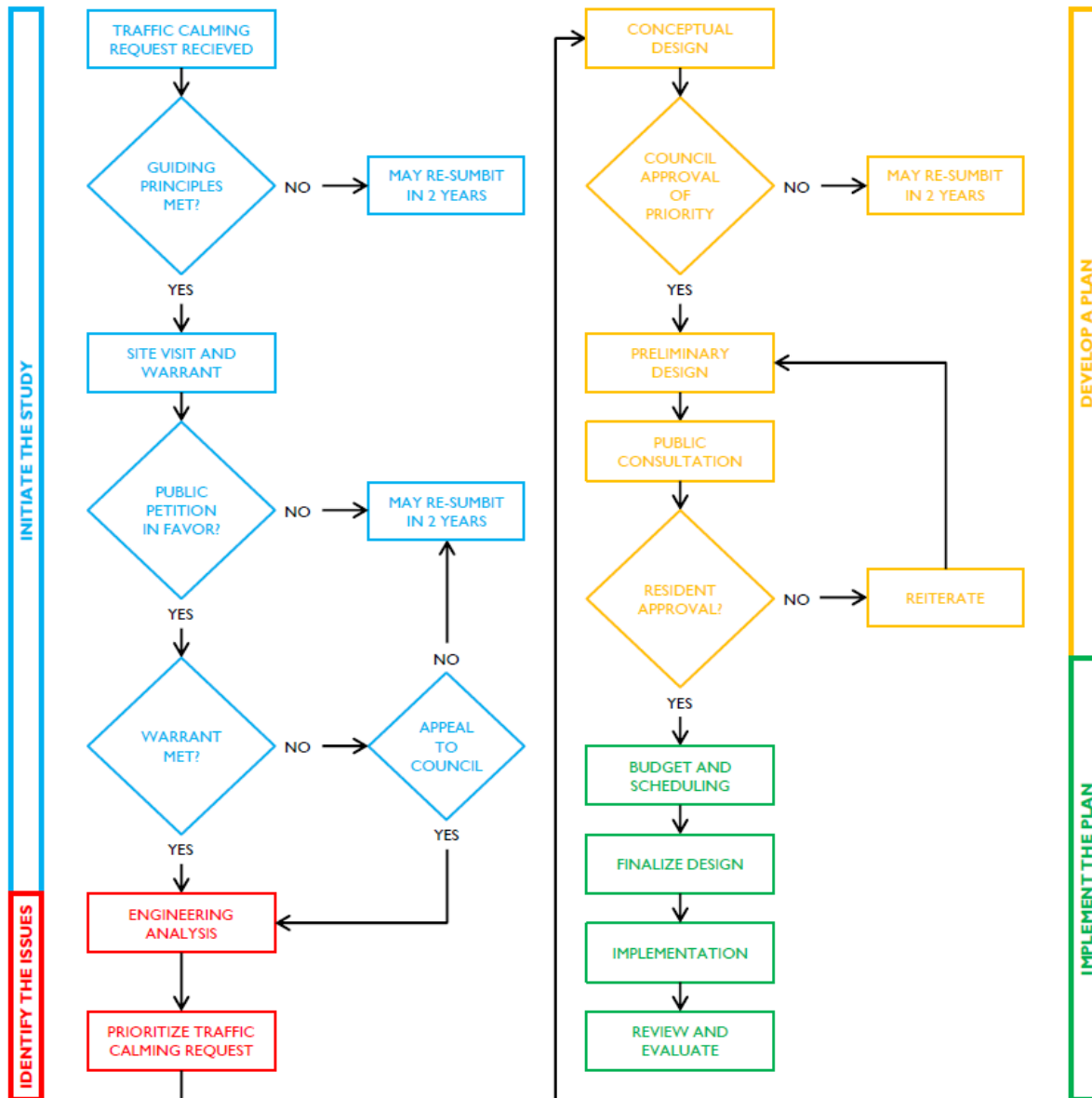
Traffic circles are raised islands in the center of an intersection, which requires vehicles to travel in a counter-clockwise direction, yielding to vehicles already in the intersection. Traffic circles are smaller than roundabouts and do not have raised medians on all approaches.

Benefits: Reduced travel speeds, traffic volume reduction, reduction in collisions

Disbenefits: Potential loss in pedestrian comfort, removal of on-street parking, restrict truck and bus usage; increase safety issues if drivers use the improper direction



Appendix D: Traffic Calming Procedure Flow Chart





Neighborhood Traffic Calming Request Form

I. Where is the specific issue? Try to identify specific road names, landmarks or building and beginning and end of the road segment.

[illegible]

Issue Category	Check	Location (If Applicable)
Speeding		
Cut-Through or Short Cutting		
High Volumes		
Pedestrian Safety		
Difficult Sightlines or Geometry		
Near School or Park		



3. Please briefly describe the problem or issue.

4. Do you have any suggested solutions? (May reference Appendix B of The City of Pitt Meadows Traffic Calming Policy)

Requester Info

Name: _____ Address: _____

Phone Number: _____ Email: _____

You may submit this completed form to the City of Pitt Meadows, Attention: Engineering Department.

City of Pitt Meadows
12007 Harris Road
Pitt Meadows BC V3Y 2B5

Or you may also submit the form electronically by email to: info@pittmeadows.ca



Appendix F: Traffic Calming Petition

Neighborhood Traffic Calming Petition

Organizer Info

Name: _____

Address: _____

Phone Number: _____

Email: _____

Impacted area of proposed traffic calming:

A request for traffic calming has been made in your neighborhood. The City of Pitt Meadows Engineering Department has conducted a site visit and has found the following information about traffic in your neighborhood.

Average Daily Volume _____

85th Percentile Speed* _____

ICBC Accident History _____

Does location meet City warrant criteria? Y / N

*85th Percentile Speed means that 85% of the vehicles captured travel at or below that speed, 15% travel above the speed.



We, the undersigned, hereby support the implementation of traffic calming measures in our neighborhood. (Please limit to one signature per household)

Printed Name	Signature	Address	Phone