The Corporation of the City of Courtenay

Staff Report

To: Council **File No.:** 5460-06
From: City Manager (CAO) **Date:** October 23, 2024
Subject: **Traffic Calming Request – Back Road**

PURPOSE:

To provide Council with an overview of the traffic calming needs and concerns raised by residents of Back Road, specifically related to speeding, noise, and safety issues, and to present recommendations for addressing these concerns through targeted traffic calming measures adopted from the Traffic Calming Guide and Policy Report.

BACKGROUND:

At the January 24, 2024 Council Meeting, the City received a formal petition and presentation by Carolyn Rice, endorsed by residents of Back Road and those living near Farquharson Drive. This petition recommended several strategies to deal with the issues.

At the February 14, 2024 Council Meeting, Council resolved the following:

> *"THAT Council direct staff to prepare a report on the requests from the January 24, 2024 Back Road delegation including speed reduction, noise, and safety concerns, and the request to prioritize Back Road in the first phase of reducing the speed limit for all collector roads to 40 km/h."*

DISCUSSION:

In response to direction by Council, Morrison Hershfield now Stantec (MHnS) was retained by the City to conduct a review of traffic calming needs on Back Road from the Ryan Road to the City boundary. The Back Road traffic calming review builds on the recently finalized City of Courtenay Traffic Calming Guide and Policy (the Policy). This review uses the initial screening and point assessment framework introduced in the Policy to evaluate and score various locations along Back Road, prioritizing their traffic calming needs. Based on the traffic calming toolkit proposed in the policy, corresponding measures are also recommended for Back Road.

Location Description

The area along Back Road from Ryan Road to the City border is generally residential in nature, comprised of rural properties with single family dwellings in a low-density environment. Back Road will be considered to run north - south in this report.

Beyond the City's border, Back Road intersects with McDonald Road, which is where the City has a right-of-way to drive the snow plow trucks in the Town of Comox. **Attachment 1**, Back Road Map, illustrates the extent of Back Road from Ryan Road to McDonald Road.

The cross-section of Back Road, beyond 10th Street East rises steeply to the East and falls sharply to the west, as shown in **Figure 1**.

Figure 1: Back Road Cross-Section

Back Road begins at Ryan Road with full facilities for pedestrians, cyclists and motorists but quickly transitions to a road with only vehicle lanes by 10th Street East, as illustrated in **Figure 2**.

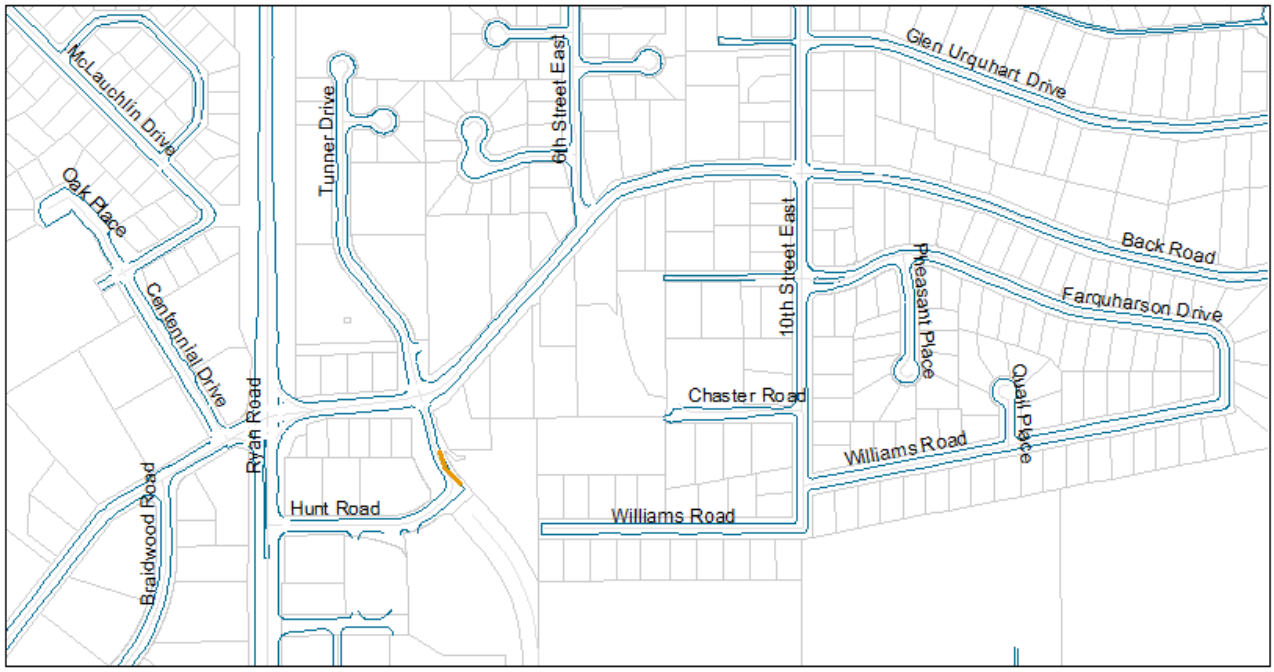


Figure 2: Back Road – Ryan Road to 10th Street East

Beyond 10th Street East, there are only vehicle lanes and limited to no shoulder to the Town of Comox border, as illustrated by **Figure 3**, for a total length of 2.6km within the City.

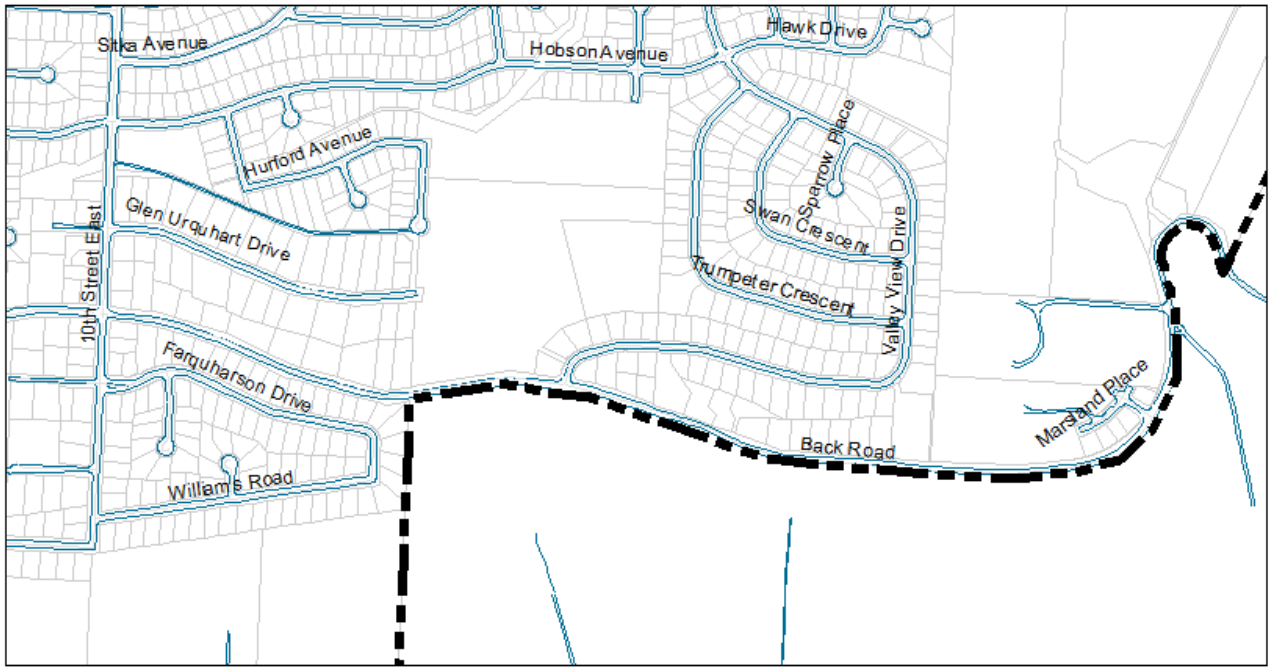


Figure 3: Back Road – 10th Street East to border

The Study area consists of eight intersections within the City limits, listed north to south:

1. Ryan Road (signalised intersection)
2. Tunner Drive (4-leg intersection with stops on Tunner and an RRFB crosswalk on the south side)

3. 6th Street East (T-intersection to east)
4. 10th Street East 4-leg intersection, 4-way stop)
5. Valley View Drive (T-intersection to east)
6. Marsland Place (T-intersection to east)
7. Morrison Road (T-intersection to west)
8. Marsland Drive (T-intersection to east)

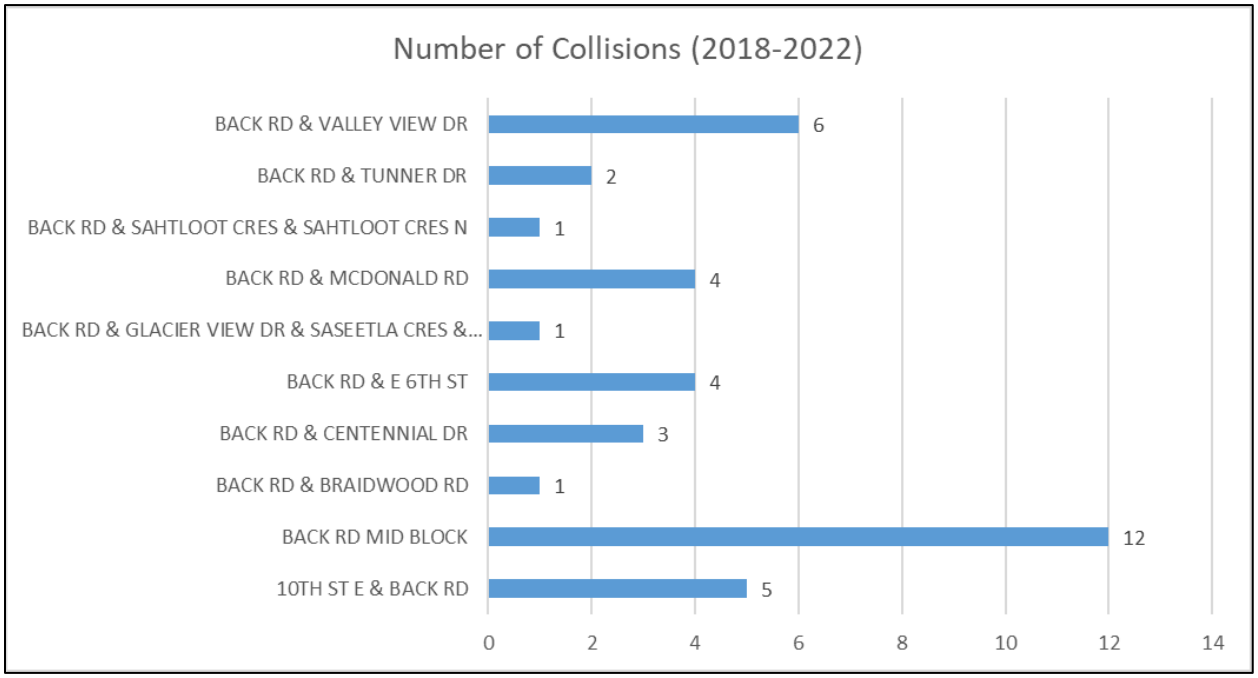
Existing Conditions

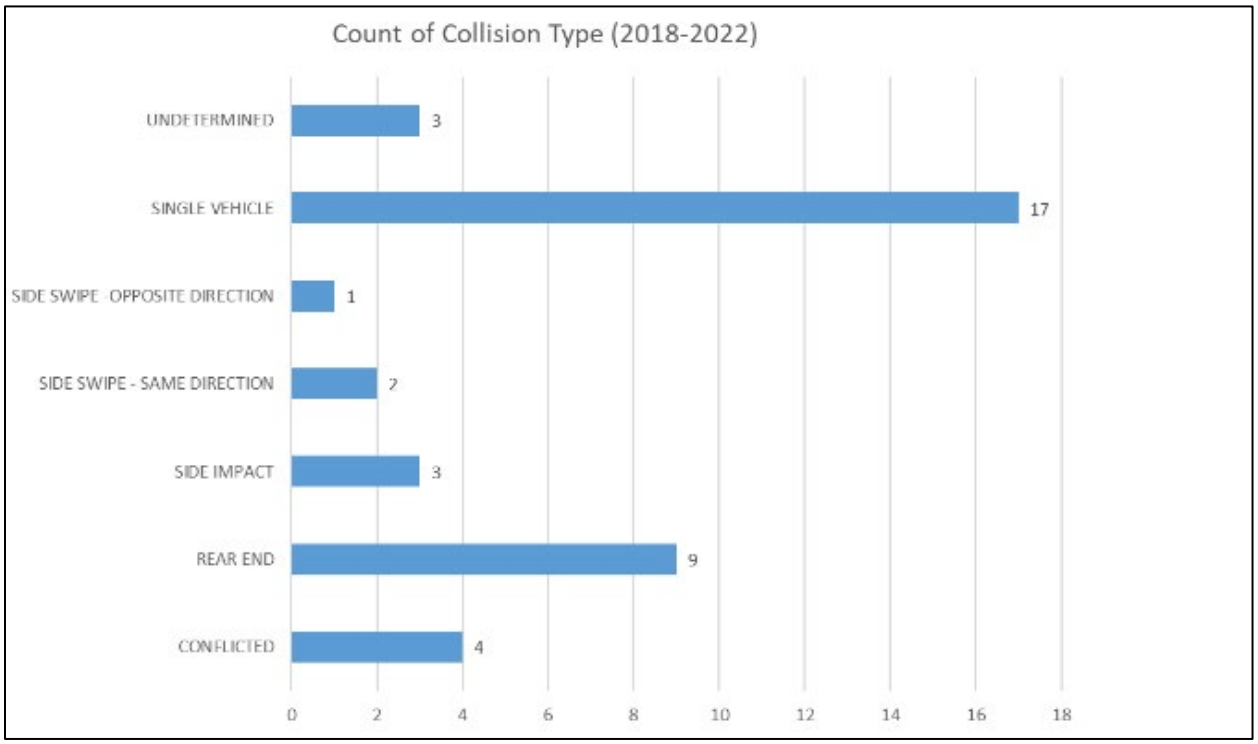
Road Classification:	Arterial Road from Ryan Road to 6th Street East; Collector Road from 6th Street East to city boarder.
Cycling Network Plan (CNP) Implications:	NA
Transit Route:	On demand transit service is provided along the corridor.
Traffic Volume:	Most segments of Back Road have an AADT ranging from 2,000 to 2,500 vehicles approximately.
Posted Speed Limit:	50 km/h
Alternate use:	NA
Pedestrian Access:	No dedicated pedestrian facility from 10th Street East to city border.

Collision Data:

Collision data is recorded by ICBC and provided to municipalities annually. Due to the time needed to review and redact personal information, the data is typically about a year behind when it reaches the municipality.

For this study, collision data for the five-year period from 2018 to 2022 was reviewed. The results of this review are summarized in **Figure 4** below showing the distribution of collision locations





Note: Collisions at Ryan Road & Back Road are not included in this summary.

Figure 4: 2018-2022 Collision Summary - Back Road by Collision Location

Review Matrix

MHnS conducted a detailed field and desktop review on Back Road between Ryan Road and the City's boundary. This review included all aspects of the road's operation. The results are summarized below.

Signage: The signage within the study area was generally found to be in good condition and was visible to road users. The existing street name signs are also visible. The current signage conforms to Transportation Association of Canada (TAC) standards with regard to location and placement.

Pavement markings: The pavement markings within the study area were in good condition and will be refreshed as part of the Operational Services annual painting program, as required.

Sightlines: Sightlines on Back Road at intersections with side streets within the study area were reviewed and there were no impediments identified for road users.

Sidewalks: Sidewalks along Back Road within the study area were inspected and found to be in various states of condition ranging from excellent and available on both sides to very poor and missing on either side. The existing sidewalks generally comply with the City's specifications.

Despite the lack of sidewalks on Back Road from 10th Street East to the city boundary, minimal pedestrian activity was observed during the field review, indicating that new sidewalks may not be immediately necessary. On the other hand, the observed cycling activity along the entire Back Road corridor highlights an opportunity to enhance safety for cyclists through traffic calming measures.

Street Lighting: There is limited street lighting on Back Road from Ryan Road to the City's border. Existing street lighting is installed sporadically along the corridor on BC Hydro poles.

Parking Regulations: Parking is permitted on Back Road where the shoulder is wide enough to accommodate a parked vehicle. No changes to the existing parking regulations are recommended at this time.

Traffic Control Devices: All traffic control devices meet current Transportation Association of Canada standards.

Speed and Volume Data: Speed and volume data were collected along 5 different locations of Back Road corridor, including:

1. Back Road & Valley View Drive
2. Back Road & Snowbird Lane
3. Back Road & Marsland Drive
4. Back Road & 6th Street East
5. Back Road & 10th Street East

Feasibility of Safety Improvements

MHnS has conducted a detailed traffic calming analysis using the initial screening warrant and the point assessment and prioritization system outlined in the Policy. Traffic calming measures, as referred to the Policy's traffic calming toolbox, are selected based on identified safety risks, road characteristics, and other contextual factors.

A. Initial Screening

Back Road meets the initial screening warrant criteria for traffic calming measures (see **Table 1** below).

Table 1. City of Courtenay Back Road Traffic Calming Initial Screening

Criteria	Conditions	Pass / Fail
Roadway must be a local or collector, featuring no more than two travel lanes (one lane for each direction).	Back Road is a collector road in general.	**Pass**
Roadway must have a minimum of 500 annual average daily traffic (AADT).	ADT data is obtained from the following traffic speed/count locations:. 1. Back Road @ Snowbird Lane NB: 1108 2. Back Road @ Valley View SB: 1284 3. Back Road @ Marsland Drive NB: 1105 4. Back Road @ 6th Street East / 10th Street East: approximately 5000 All locations pass this criterion.	**Pass**
The posted speed limit shall not be greater than 50 km/h.	Posted speed limit along Back Road is 50 km/h	**Pass**
85th percentile speed of the roadway should be greater than the posted speed limit.	85th percentile speed data is estimated from the following traffic speed/count locations: 1. Back Road @ Snowbird Lane NB: 61 km/h 2. Back Road @ Valley View SB: 60 km/h 3. Back Road @ Marsland Drive NB: 57 km/h 4. Back Road @ 6th Street East: 56 km/h All locations pass this criterion.	**Pass**
Roadway section should be longer than 150 metres.	Back Road (from Ryan Road to Strathcona Crescent under the jurisdiction of the City of Courtenay) is about 4 km in length.	**Pass**
Roadway must be assumed and maintained by the City of Courtenay.	Back Road (from Ryan Road to City Boundary) is under the jurisdiction of the City of Courtenay.	**Pass**
Zoning should be primarily residential in nature.	Back Road corridor is predominantly lined with residential units, mainly single-family homes.	**Pass**
No traffic calming initiatives have been implemented in the past 36 months, and there are no scheduled capital projects within the next 36 months that would address the traffic issues.	No traffic calming measures have been implemented previously, and there are currently no capital projects planned for traffic calming.	**Pass**
	Overall	**Pass**

B. Point Assessment and Prioritization

Point assessment and prioritization have been conducted for the five locations with speed and volume data. The objective is to rank these locations regarding the need for traffic calming, identify specific safety issues, and inspire the selection of appropriate traffic calming treatments.

Figure 5: Point Assessment and Prioritization Locations along Back Road

The point assessment allocates weighted points based on key factors including speed, volume, collisions, the presence of generators for vulnerable road users, and the availability of active transportation facilities. **Table 2** below summarizes the scoring results of the five assessed locations, and scoring details and rationales can be found in **Attachment 2**.

Location	Point Assessment Score	Traffic Calming Priority	Traffic calming requirement
Back Road & Valley View Drive	78	III	Only traffic calming treatments with minimal impact on traffic movement and accessibility should be considered.
Back Road & Snowbird Lane	71	III	Only traffic calming treatments with minimal impact on traffic movement and accessibility should be considered.
Back Road & Marsland Drive	61	II	Only simple traffic calming measures without physical alternation of the roadway, i.e., signage and/or pavement markings should be applied.
Back Road & 6th Street East	61	II	Only simple traffic calming measures without physical alternation of the roadway, i.e., signage and/or pavement markings should be applied.
Back Road & 10th Street East	55	I	No traffic calming action is needed

Note: The traffic calming priority is classified into 5 categories (I to V) from the lowest to the highest based on the scoring result.

Based on the point assessment result:

- ✓ Back Road at Valley View Drive is prioritized as a high-need location, receiving a relatively high score and even though categorized under Priority III in the point assessment system. According to the table, only traffic calming treatments with minimal impact on traffic movement and accessibility would typically be recommended for this priority category.
    - However, when considering Back Road as one continuous segment and factoring in the 85th percentile speed, it becomes clear that a more impactful traffic calming measure is necessary to address the speeding issues effectively. The decision to proceed with a mini-roundabout at this location is based on the need for a robust solution that aligns with the observed traffic patterns and speeds while also considering the broader context of Back Road as a whole.
- ✓ Back Road at Snowbird Lane is scored and categorized as Priority III. This location is near Valley View Drive, therefore it can also benefit from treatments implemented at Valley View Drive. Currently, only speed reduction is recommended at this location.
- ✓ All the other three locations at Marsland Drive, 6th Street East and 10th Street East are scored relatively lower and no traffic calming measures are recommended to be implemented at current.

C. Traffic Calming Design

MHnS has carefully selected the appropriate measures from the traffic calming toolbox (**Attachment 3**) and proposed the following treatment at Back Road & Valley View Drive.

Mini Roundabout: A mini roundabout is proposed at the intersection of Back Road & Valley View Drive to replace the current stop control. A mini roundabout is a raised island, placed within an unsignalized intersection, around which traffic circulates. It requires approaching motorists yield to motorists already in the roundabout and slow down to a speed that allows them to comfortably manoeuvre around. The reasons for choosing a mini roundabout include:

- Speed Reduction: Speeding is prevalent at this location, with the 85th percentile speed being 10 km/h higher than the posted limit and 45% of vehicles traveling over 60 km/h. A mini roundabout will effectively reduce vehicle speed.
- Collision Reduction: Collision data indicates issues related to speeding and turning/yielding at this intersection. A mini roundabout can help mitigate these types of collisions.

Raised Medians: Raised medians will be provided at both approaches of Back Road to the new roundabout. Raised median is a raised island located along the street centreline that narrows the travel lanes to encourage a motorist to slow. The reasons for choosing raised medians include:

- Speed Reduction: Raised medians will further encourage vehicles to slow down before entering the mini roundabout.
- Raised medians can help mitigate collisions caused by speeding or overtaking, which have been reported at this location.

Signage: It is suggested to install 40 km/h speed limit signs at all segments of Back Road, conforming to TAC standards. Meanwhile, animal crossing warning signs are recommended close to this location as collisions with animals have been recorded.

Guardrail: In addition, guardrail is recommended for construction along the west side of Back Road segment to the north of Valley View Drive. Currently, there is no guardrail or shoulder. Run-off-road collisions have been reported along Back Road, and such collision could cause serious injuries and property damages. A

guardrail is an important measure to keep vehicles on the road and can help significantly mitigate the consequences of run-off-road collisions.

Figure 6: Example of a Back Road Segment without Guardrail Installed

Figure 7 below shows the layout of the suggested traffic calming measures. Refer **Attachment 4** for a detailed conceptual design.

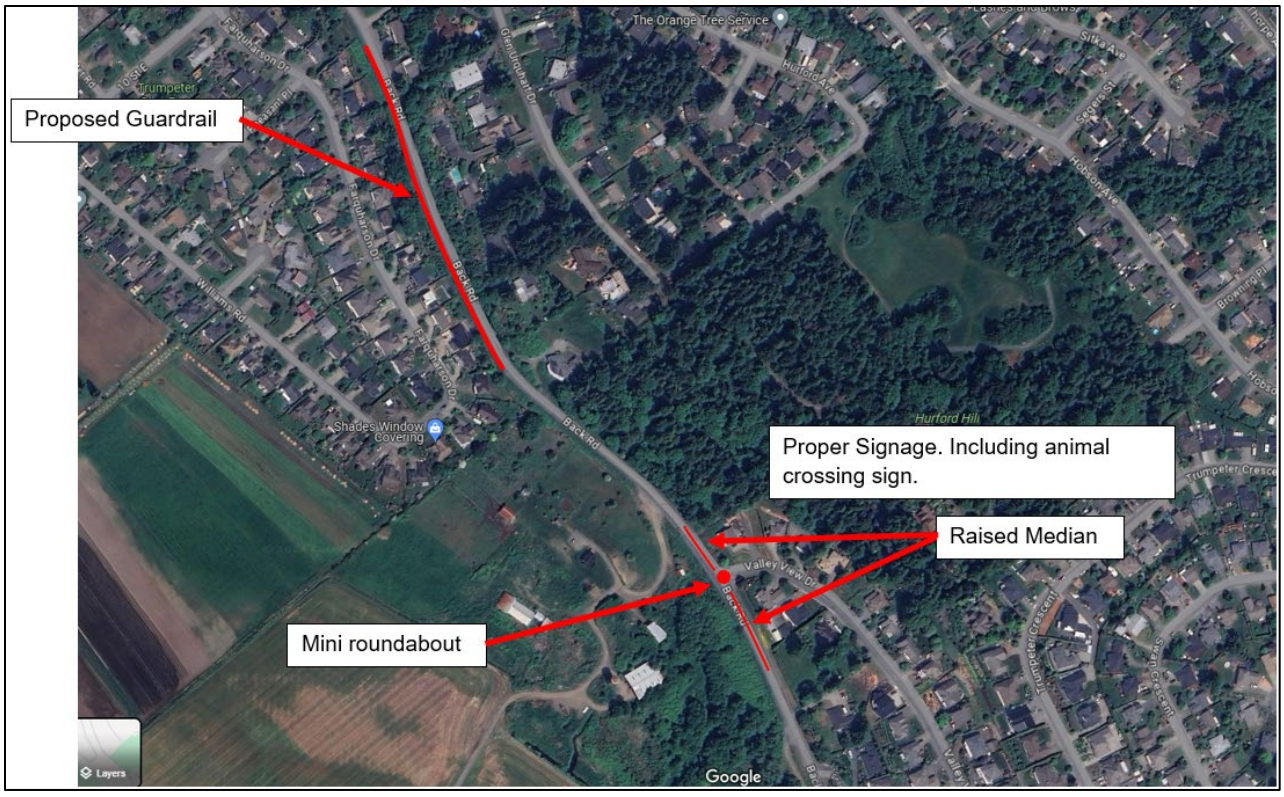


Figure 7: Conceptual Layout of the Proposed Traffic Calming Measures

Conclusion

The City engaged MHnS to conduct a safety review and traffic calming analysis for Back Road. Several locations along Back Road were assessed based on factors such as vehicle speed, traffic volume, collision history, vulnerable road users, and available active transportation facilities. Using a point-based assessment system, the intersection of Back Road & Valley View Drive emerged as the highest priority for traffic calming interventions.

Based on this review, the following phased traffic calming measures are recommended to address the identified risks and concerns:

- **Phase 1:** Install a mini roundabout at the intersection of Back Road & Valley View Drive to replace the current stop control. This will be accompanied by raised medians at both approaches and appropriate signage, including "roundabout ahead" and 40km/h speed limit signs, as well as animal crossing warning signs near Valley View Drive.
- **Phase 2:** Install guardrails along the west side of Back Road, north of Valley View Drive, and adjacent to the roundabout. The presence of residential units near the Valley View segment makes this area particularly vulnerable to run-off-road collisions. Installing guardrails will enhance safety at both locations by reducing the risks associated with these types of incidents.

POLICY ANALYSIS:

Traffic calming policy developments are proposed to include a logical framework that addresses which measures are considered acceptable and when they are applicable for installation on City streets.

The Back Road traffic calming design is based on the recommendations made in the Traffic Calming Guide and Policy Report. Once the Traffic Calming Policy is successfully adopted by the Council, any traffic calming request would need to be initiated by the requesting neighbourhood, and City staff would process these requests following the guidelines outlined in the Traffic Calming Policy. Post policy review, all traffic calming measures that will require an Operational increase in current service level commitments or a capital venture project/commitment as to successfully implement; items will return to open Council for consideration and direction.

FINANCIAL IMPLICATIONS:

Based on the warrant part of the policy, the Back Road traffic calming request will require operational funding for data collection, analysis, design, construction and maintenance. In general, overall project costs will depend based on the policy scoring matrix and implementation strategy that is approved for each length of a road, or combined of road segments, as defined by the traffic calming review outcome. In the case of Back Road, the recommended traffic calming initiatives are estimated to costs between $200,000 - $250,000, based on a class ‘D’ cost estimate.

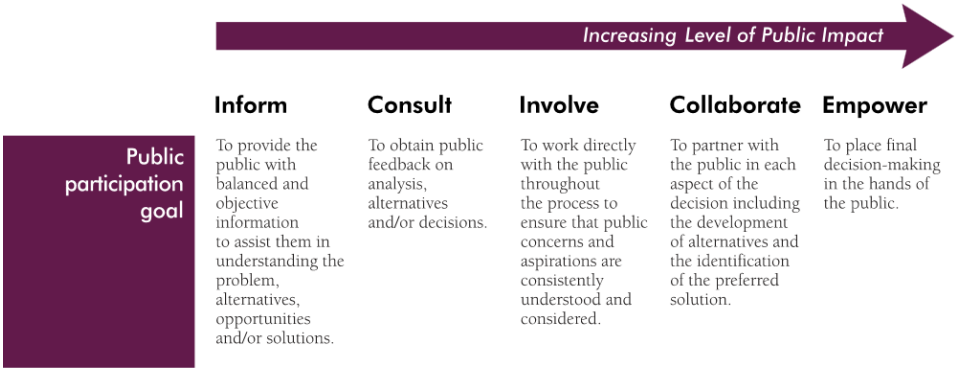
ADMINISTRATIVE IMPLICATIONS:

The addition or adjustment of traffic control devices are part of Operations Services core duties. City staff will be required to allocate time to process, analyse, design, review, implement and maintain the new infrastructure. This may place additional demands on staff resources and potentially impact other projects. Clear and consistent communication with the public throughout this process is crucial. Information should be regularly shared through the City's website, group emails, and community centre notices. Neighbourhood associations can assist in keeping residents informed and engaged from the initial request to project completion.

STRATEGIC PRIORITIES REFERENCE:
This initiative addresses the following strategic priorities: Under the Counsel Strategic Priorities 2023-2026, Streets and Transportation (Page 7);

- Streets and Transportation - Develop traffic calming plans, related policies, and specific implementation when and where, speed limits, school zones, cycling education/awareness
- Streets and Transportation - Implementation of traffic calming plans

PUBLIC ENGAGEMENT:
Staff would inform the public based on the IAP2 Spectrum of Public Participation:
http://c.ymcdn.com/sites/www.iap2.org/resource/resmgr/imported/IAP2%20Spectrum_vertical.pdf



OPTIONS:

1. THAT Council receives the Back Road Traffic calming report and directs staff to implement **both Phase 1**, Mini roundabout and Raised Medians and **Phase 2**, Guardrail Installation as outlined in the report, and; THAT Staff be directed to include the associated funding requirements for the projects in the 2025 financial plan.
2. THAT Council receives the Back Road Traffic Calming Report and direct staff to implement **Phase 2 only,** based available funding.
3. THAT Council provide alternative direction to staff.
4. THAT Council receives this report for information only.

ATTACHMENTS:
1. Back Road Alignemnt Map.
2. Back Road Traffic Calming Point Assessment Scoring Details.
3. Traffic Calming Toolbox.
4. Back Road Traffic Calming Concept Plan.

ATTACHMENTS:

1. Back Road Alignment Map

2. Back Road Traffic Calming Point Assessment Scoring Details

(i) Back Road at Valley View Drive

Back Road & Valley View SB							
Location:		Back Road, Courtenay	Data Compiled:				Scoring Rationale
Roadway Type		▫ Local Road	√ Collector Road				
Feature			Criteria	Max Points	Sub Points	Total Points	
1	Vehicle Speed	85th percentile speed	General speeding - 1 point for every 1 km/h of 85th percentile speed over the posted speed limit*	25	10	25	The 85th percentile speeds at Back Road & Valley View SB is 60 km/h, which is 10 km/h above the posted limit of 50 km/h.
			Excessive speeding - 5 points for 10% of excessive speeding (10 km/h over the posted speed limit) and an additional 5 points for every 5% of excessive speeding.		40		According to the speed records, around 45% of all vehicles travelled at a speed over 60 km/h.
2	Volume	Annual Average Daily Traffic (AADT)	5 points for every 500 AADT on local roads; 5 points for first 1250 AADT and 5 points for every 750 after on collector roads.	20	-	13.78	The road segment functions as a collector. At Back Road & Valley View SB, the southbound traffic count is 1,284. To estimate the total traffic flow for both directions, the NB volume is doubled, resulting in 2,568, as SB traffic data is not collected.
3	Collisions	Collision History	5 points for every collision not involving vulnerable road users within the past 3 years or a longer period.	25	30	25	Collisions are categorized based on their proximity to a specific location along Back Road: - Within 150 meters: Collisions occurring within 150 meters (measured along the road) of the location are counted as one full collision. - Between 150 and 500 meters: Collisions occurring between 150 and 500 meters from the location are counted as half a collision. - Beyond 500 meters: Collisions occurring outside the 500-meter range are not counted. Overall, 6 collisions were recorded within the 150 meter range, which account for a total of 6 collisions.
			20 points for every collision involving vulnerable road users (VRU)** within the past 3 years or a longer period.		0		
4	Vulnerable Road User Generators	Pedestrian/Cyclist Activity	5 points for each pedestrian/cyclist-oriented facility nearby, e.g., elderly housing, parks/playgrounds, community or retail centres, churches, libraries, schools, childcare centres, transit stops without sidewalk, etc. ("nearby" means the facility must have direct connection to subject roadway).	20	-	5	Elderly housing - Glacier View Lodge (5 Points)
5	Active Transportation	Presence of Active Transportation Facilities	10 Points for lacking sidewalks on both sides of the roadway with pedestrians; 5 points for lacking sidewalk on one side of the roadway with pedestrians; 10 points for lacking cycling lane for the roadway with cyclists.	10	-	10	Cycling activities have been observed but there is no cycling lane provided.
Total score					-	78.78	

(ii) Back Road at Snowbird lane

Back Road & Snowbird Lane NB							
Location:		Back Road, Courtenay	Data Compiled:				Scoring Rationale
Roadway Type		☐ Local Road	√ Collector Road				
Feature			Criteria	Max Points	Sub Points	Total Points	
1	Vehicle Speed	85th percentile speed	General speeding - 1 point for every 1 km/h of 85th percentile speed over the posted speed limit*	25	11	25	The 85th percentile speeds at Back Road & Snowbird Lane NB is 61 km/h, which is 11 km/h above the posted limit of 50 km/h.
			Excessive speeding - 5 points for 10% of excessive speeding (10 km/h over the posted speed limit) and an additional 5 points for every 5% of excessive speeding.		45		According to the speed records, around 51% of all vehicles travelled at a speed over 60 km/h.
2	Volume	Annual Average Daily Traffic (AADT)	5 points for every 500 AADT on local roads; 5 points for first 1250 AADT and 5 points for every 750 after on collector roads.	20	-	11.14	The road segment functions as a collector. At Back Road & Snowbird Lane NB, the northbound traffic count is 1,108. To estimate the total traffic flow for both directions, the NB volume is doubled, resulting in 2,216, as SB traffic data is not collected.
3	Collisions	Collision History	5 points for every collision not involving vulnerable road users within the past 3 years or a longer period.	25	20	20	Collisions are categorized based on their proximity to a specific location along Back Road: - Within 150 meters: Collisions occurring within 150 meters (measured along the road) of the location are counted as one full collision. - Between 150 and 500 meters: Collisions occurring between 150 and 500 meters from the location are counted as half a collision. - Beyond 500 meters: Collisions occurring outside the 500-meter range are not counted. Overall, 7 collisions were recorded within the 150-500 meter range, which rounds up to a total of 4 collisions.
			20 points for every collision involving vulnerable road users (VRU)** within the past 3 years or a longer period.		0		
4	Vulnerable Road User Generators	Pedestrian/Cyclist Activity	5 points for each pedestrian/cyclist-oriented facility nearby, e.g., elderly housing, parks/playgrounds, community or retail centres, churches, libraries, schools, childcare centres, transit stops without sidewalk, etc. ("nearby" means the facility must have direct connection to subject roadway).	20	-	5	Elderly housing - Glacier View Lodge (5 Points)
5	Active Transportation	Presence of Active Transportation Facilities	10 Points for lacking sidewalks on both sides of the roadway with pedestrians; 5 points for lacking sidewalk on one side of the roadway with pedestrians; 10 points for lacking cycling lane for the roadway with cyclists.	10	-	10	Cycling activities have been observed but there is no cycling lane provided.
Total score					-	71.14	

(iii) Back Road at Marsland Drive

Back Road & Marsland Drive NB							
Location:		Back Road, Courtenay	Data Compiled:				Scoring Rationale
Roadway Type		☐ Local Road	√ Collector Road				
Feature			Criteria	Max Points	Sub Points	Total Points	
1	Vehicle Speed	85th percentile speed	General speeding - 1 point for every 1 km/h of 85th percentile speed over the posted speed limit*	25	7	25	The 85th percentile speeds at Back Road & Marsland Drive NB is 57 km/h, which is 7 km/h above the posted limit of 50 km/h.
			Excessive speeding - 5 points for 10% of excessive speeding (10 km/h over the posted speed limit) and an additional 5 points for every 5% of excessive speeding.		50		According to the speed records, around 54% of all vehicles travelled at a speed over 60 km/h.
2	Volume	Annual Average Daily Traffic (AADT)	5 points for every 500 AADT on local roads; 5 points for first 1250 AADT and 5 points for every 750 after on collector roads.	20	-	11.13	The road segment functions as a collector. At Back Road & Marsland Drive NB, the southbound traffic count is 1,105. To estimate the total traffic flow for both directions, the NB volume is doubled, resulting in 2,210, as SB traffic data is not
3	Collisions	Collision History	5 points for every collision not involving vulnerable road users within the past 3 years or a longer period.	25	10	10	Collisions are categorized based on their proximity to a specific location along Back Road: - Within 150 meters: Collisions occurring within 150 meters (measured along the road) of the location are counted as one full collision. - Between 150 and 500 meters: Collisions occurring between 150 and 500 meters from the location are counted as half a collision. - Beyond 500 meters: Collisions occurring outside the 500-meter range are not counted. Overall, 1 collision was recorded within the 150 meter range and 1 collision was within the 150-500 m range , which rounds up to a total of 2 collisions.
			20 points for every collision involving vulnerable road users (VRU)** within the past 3 years or a longer period.		0		
4	Vulnerable Road User Generators	Pedestrian/Cyclist Activity	5 points for each pedestrian/cyclist-oriented facility nearby, e.g., elderly housing, parks/playgrounds, community or retail centres, churches, libraries, schools, childcare centres, transit stops without sidewalk, etc. ("nearby" means the facility must have direct connection to subject roadway).	20	-	5	Elderly housing - Glacier View Lodge (5 Points)
5	Active Transportation	Presence of Active Transportation Facilities	10 Points for lacking sidewalks on both sides of the roadway with pedestrians; 5 points for lacking sidewalk on one side of the roadway with pedestrians; 10 points for lacking cycling lane for the roadway with cyclists.	10	-	10	Cycling activities have been observed but there is no cycling lane provided.
Total score					-	61.13	

(iv) Back Road at 6th Street East

Back Road & 6th Street							
Location:		Back Road, Courtenay	Data Compiled:				
Roadway Type		□ Local Road	√ Collector Road				
Feature			Criteria	Max Points	Sub Points	Total Points	Scoring Rationale
1	Vehicle Speed	85th percentile speed	General speeding - 1 point for every 1 km/h of 85th percentile speed over the posted speed limit*	25	6	6	The 85th percentile speed at Back Road & 6 Street is 56 km/h, which is 6 km/h above the posted limit of 50 km/h. The 85th percentile data is obtained and calculated from the field speed survey.
			Excessive speeding - 5 points for 10% of excessive speeding (10 km/h over the posted speed limit) and an additional 5 points for every 5% of excessive speeding.		0		According to the speed records, around 5% of all vehicles travelled at a speed over 60 km/h.
2	Volume	Annual Average Daily Traffic (AADT)	5 points for every 500 AADT on local roads; 5 points for first 1250 AADT and 5 points for every 750 after on collector roads.	20	-	20	At Back Road & 6th Street, the estimated ADT, based on our collected PM peak hour traffic data, is approximately 5,000.
3	Collisions	Collision History	5 points for every collision not involving vulnerable road users within the past 3 years or a longer period.	25	40	25	Collisions are categorized based on their proximity to a specific location along Back Road: - Within 150 meters: Collisions occurring within 150 meters (measured along the road) of the location are counted as one full collision. - Between 150 and 500 meters: Collisions occurring between 150 and 500 meters from the location are counted as half a collision. - Beyond 500 meters: Collisions occurring outside the 500-meter range are not counted. Overall, 4 collision were recorded within the 150 meter range and 7 collisions were within the 150-500 m range (south of Ryan Rd) , which rounds up to a total of 7.5 collisions.
			20 points for every collision involving vulnerable road users (VRU)** within the past 3 years or a longer period.		0		
4	Vulnerable Road User Generators	Pedestrian/Cyclist Activity	5 points for each pedestrian/cyclist-oriented facility nearby, e.g., elderly housing, parks/playgrounds, community or retail centres, churches, libraries, schools, childcare centres, transit stops without sidewalk, etc. ("nearby" means the facility must have direct connection to subject roadway).	20	-	5	Bus Stop - Back Rd at 6th St E (5 Points)
5	Active Transportation	Presence of Active Transportation Facilities	10 Points for lacking sidewalks on both sides of the roadway with pedestrians; 5 points for lacking sidewalk on one side of the roadway with pedestrians; 10 points for lacking cycling lane for the roadway with cyclists.	10	-	5	Lack of sidewalk on the southside of the roadway. Pedestrians have been observed.
Total score					-	61	

(iv) Back Road at 10th Street East

Back Road & 10th Street							
Location:		Back Road, Courtenay	Data Compiled:				Scoring Rationale
Roadway Type		□ Local Road	√ Collector Road				
Feature			Criteria	Max Points	Sub Points	Total Points	
1	Vehicle Speed	85th percentile speed	General speeding - 1 point for every 1 km/h of 85th percentile speed over the posted speed limit*	25	0	0	Due to the all-way stop sign, speeding is not expected to be an issue at this location.
			Excessive speeding - 5 points for 10% of excessive speeding (10 km/h over the posted speed limit) and an additional 5 points for every 5% of excessive speeding.		0		
2	Volume	Annual Average Daily Traffic (AADT)	5 points for every 500 AADT on local roads; 5 points for first 1250 AADT and 5 points for every 750 after on collector roads.	20	-	20	At Back Road & 10th Street, the estimated ADT, based on our collected PM peak hour traffic data, is approximately 5,000.
3	Collisions	Collision History	5 points for every collision not involving vulnerable road users within the past 3 years or a longer period.	25	40	25	Collisions are categorized based on their proximity to a specific location along Back Road: - Within 150 meters: Collisions occurring within 150 meters (measured along the road) of the location are counted as one full collision. - Between 150 and 500 meters: Collisions occurring between 150 and 500 meters from the location are counted as half a collision. - Beyond 500 meters: Collisions occurring outside the 500-meter range are not counted. Overall, 5 collision were recorded within the 150 meter range and 6 collisions were within the 150-500 m range, which rounds up to a total of 8 collisions.
			20 points for every collision involving vulnerable road users (VRU)** within the past 3 years or a longer period.		0		
4	Vulnerable Road User Generators	Pedestrian/Cyclist Activity	5 points for each pedestrian/cyclist-oriented facility nearby, e.g., elderly housing, parks/playgrounds, community or retail centres, churches, libraries, schools, childcare centres, transit stops without sidewalk, etc. ("nearby" means the facility must have direct connection to subject roadway).	20	-	5	Bus Stop - Back Rd at 10th St E (5 Points)
5	Active Transportation	Presence of Active Transportation Facilities	10 Points for lacking sidewalks on both sides of the roadway with pedestrians; 5 points for lacking sidewalk on one side of the roadway with pedestrians; 10 points for lacking cycling lane for the roadway with cyclists.	10	-	5	Lack of sidewalk on the southside of the roadway. Pedestrians have been observed.
Total score					-	55	

3. Traffic Calming Toolbox

TRAFFIC CALMING MEASURES	POTENTIAL INFLUENCES				
	Speed Reduction	Volume Reduction	Collision Reduction	Traffic Movement Disruption	Cost Per Measure
1. HORIZONTAL DEFLECTION					
Chicane	●	◖	○	◖	Medium-High
Lateral Shift	●	○	○	◖	High
Traffic Circle	●	◖	●	●	Medium-High
Mini Roundabout	●	○	●	●	High
Corner Extension	◖	○	○	◖	Medium-High
2. VERTICAL DEFLECTION					
Speed Table	●	◖	●	●	Low
Speed Cushion	●	◖	●	◖	Low
Speed Kidney	●	○	○	◖	Low-Medium
Raised Crosswalk	●	◖	●	◖	Low-Medium
Raised Intersection	◖	○	●	◖	High
3. ROADWAY NARROWING					
Curb Bulge	●	○	○	◖	Medium-High
Raised Median Island	●	○	○	◖	High
Lane Narrowing	◖	○	○	◖	Low
On-Street Parking	◖	◖	○	◖	Low

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