Staff Report to Council

Engineering

FILE: 11-5460-07/21

REPORT DATE:	April 12, 2021	**MEETING DATE:**	May 11, 2021
TO:	Mayor and Council		
FROM:	Samantha Maki, Director of Engineering & Operations		
SUBJECT:	**Traffic Data Collection Summary and Update**		

CHIEF ADMINISTRATIVE OFFICER REVIEW/APPROVAL:

RECOMMENDATION(S): THAT Council:

A. Receive for information a summary on the City Traffic Data Collection program, associated traffic calming initiatives and actions planned for each collection area; OR

B. Other.

PURPOSE

To provide Council with a summary of the traffic data collected in 2020 and operational actions planned for each collection area. An overview of the recently purchased collection equipment and collection initiatives for 2021 is also provided.

☒ Information Report ☐ Decision Report ☐ Direction Report

DISCUSSION

Background:

When staff are notified of excessive speeding in Pitt Meadows, the concern is forwarded to the RCMP for enforcement; when complaints of habitual speeding along specific corridors are received, staff will refer residents to the City's Traffic Calming Policy C029, which includes a Traffic Calming Application. The application allows residents to initiate a review of the area of concern. The Traffic Calming Policy guides staff through a procedure of processing applications that are received. To warrant an analysis the

application must first meet a set of guiding principles, and if met, will initiate a traffic study, which includes collecting traffic volumes and vehicle speed data. To justify traffic calming measures, 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

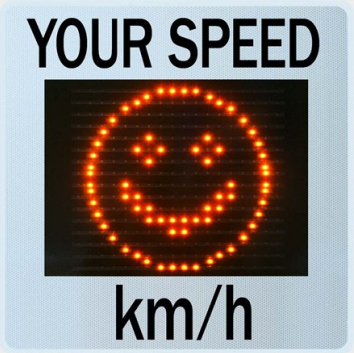


Figure 1: Radar Speed

As of 2020, the City had five Radar Speed Displays (RSD), which were placed in sections of corridors where habitual speeding has been reported. The display boards are used as a tool to notify the motorist of their speed and have been shown to help reduce speeds in localized areas. The Radar Speed Displays also have the capacity to collect data, such as average speed, maximum speed, 85th percentile speed and can also help track general traffic volume variances. When staff receive a concern of speeding, the first step is to forward it to the RCMP; staff will also review and share with the RCMP any existing data the City may have for the location. In select cases, a Radar Speed Display may be placed to help bring awareness to the motorists. When a traffic calming application is received, data is collected and although the Radar Speed Display can collect data on speed, the volume data is general and requires interpolation. In recent years, the City's Traffic Counter (TC) equipment and software used to conduct traffic studies, with the exception of one Traffic Counter unit, has become outdated and the collection of traffic data has been limited. Traffic Counter units do not have a display, but record accurate volume data, vehicle classification (large truck, small car, or mid-size car/SUV/truck) and speed and should be utilized for traffic studies initiated by a Traffic Calming Application. As the City only had one unit, it has been difficult to prioritize corridors.

Over the past year, staff have seen an increase in the number of speeding concerns, especially the speeding of large trucks, primarily adjacent to active fill sites. This increase promoted the purchase of two additional Traffic Counters and two additional Radar Speed Displays, which arrived mid-March 2021. This recent increase in equipment will enable staff to collect additional traffic data around the City and bring additional awareness, encouraging motorists to reduce their speed along specific corridors.

In 2020, staff received four formal traffic calming applications, and in the first quarter of 2021, one new application was received in relation to speed, along the following corridors:

- Wildwood Crescent
- Harris Road, north of Richardson

- Richardson Road
- Neaves Rd at South Alouette Bridge
- McMyn Avenue

Further, staff receive periodic concerns of speeding in the following areas:

- Ford Road and Ford Road Detour
- Harris Road, adjacent to Pitt Meadows Elementary
- Bonson Road, adjacent to Bonson Park and south of Airport Way
- Neaves Road
- Harris Rd at Silver Bridge

The City's Traffic Calming Policy applies to the City's Urban boundary and 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 and enforcement is typically recommended. Traffic calming measures should also be carefully considered on certain roads, such as high demand truck routes, transit routes, emergency response routes and/or major roads leading to fire stations and police stations. Traffic calming is not generally applied in rural or agricultural areas as the urban area is more impacted by competing users and more remote areas wouldn't usually meet the base speed and volume warrants. Speed reduction on rural roads presents specific challenges that may be better served through increased enforcement or changes to signage. Although the policy does not apply to rural roads, the use of RSDs and other changes to the road design outside of the traffic calming process may be warranted in some situations and are reviewed on a case-by-case basis. More details on the types of traffic calming measures are outlined in the policy.

As requests for traffic calming can often exceed the City's annual capacity and available budget, priority is given based on safety considerations that generally correlates with higher degrees of speeding on roads with higher than expected volumes. Higher priority is also given if the area is near a sensitive frontage (like a school zone), a high pedestrian area (like a park) and/or where pedestrian facilities are lacking (no sidewalk/crosswalk). Depending on the submissions received and staff observations, Traffic Operation Safety Reviews (TOSR) are sometimes coordinated jointly with ICBC to review a specific area.

Analysis:

In 2020, the Radar Speed Displays and Traffic Counters were utilized at nine locations around the City. Typically the TC will be installed in a location for one to two months, consideration of the season will also influence when data will be collected; for example, data collection near a school would occur between September and June and collection of data near a fill site would be less than ideal during the rainy months. It is important to collect a representative sample for analysis purposes. Radar Speed Displays will be installed for a minimum of 3 months to ensure adequate awareness is achieved, but they are found to be more effective when there are moved around and motorists do not

become used to them in the same spot. RSDs are also more labor intensive to install and not as easily moved from location to location in comparison to the TC. A map of the 2020 RSD and TC locations are outlined in the figure below.

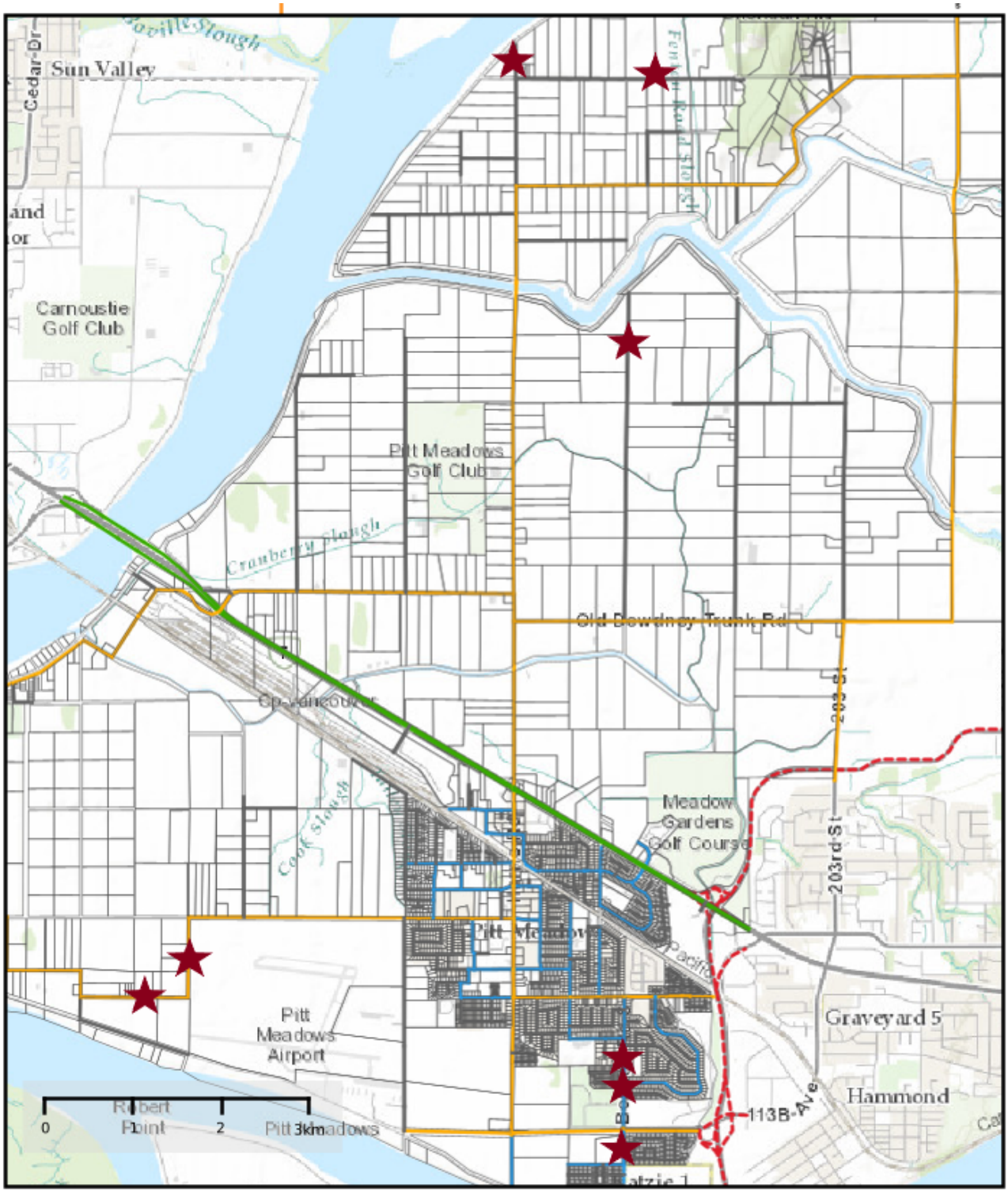


Figure 2: 2020 Radar Speed Display and Traffic Counter Area Map

The data collected has been summarized in the following table:

Table 1: 2020 Traffic Data Summary						Year:		2020
						Pulled By:		AS
Unit	Direction	Location	Speed Limit (km/hr)	Road Classification	Collection Time Frame	Avg. Speed (km/hr)	85% Speed (km/hr)	Avg. Daily Traffic
TC	Merged	Ford Detour EW	50	Arterial (Truck Route)	Nov -Dec	56	64	1125
TC	Merged	Ford Detour NS	50	Arterial (Truck Route)	Oct-Nov	63	73	1229
TC	Merged	Wildwood	50	Collector	Aug-Sept	42	51	430
RSD	Merged	North Hale	40	Local	July-Sept	44	58	203
RSD	Merged	North Harris	50	Local	July-Dec	44	59	939
RSD	Merged	Bonson Park	30	Collector	June-Nov	41	51	N/A*
RSD	Merged	Bonson, South	30	Collector	Feb-Oct	42	52	3659
TC	Merged	Richardson	50	Local	Dec	63	76	148

* Bonson Park Volume data collected from RSD cannot be accurately interpolated due to collection settings used in this location.

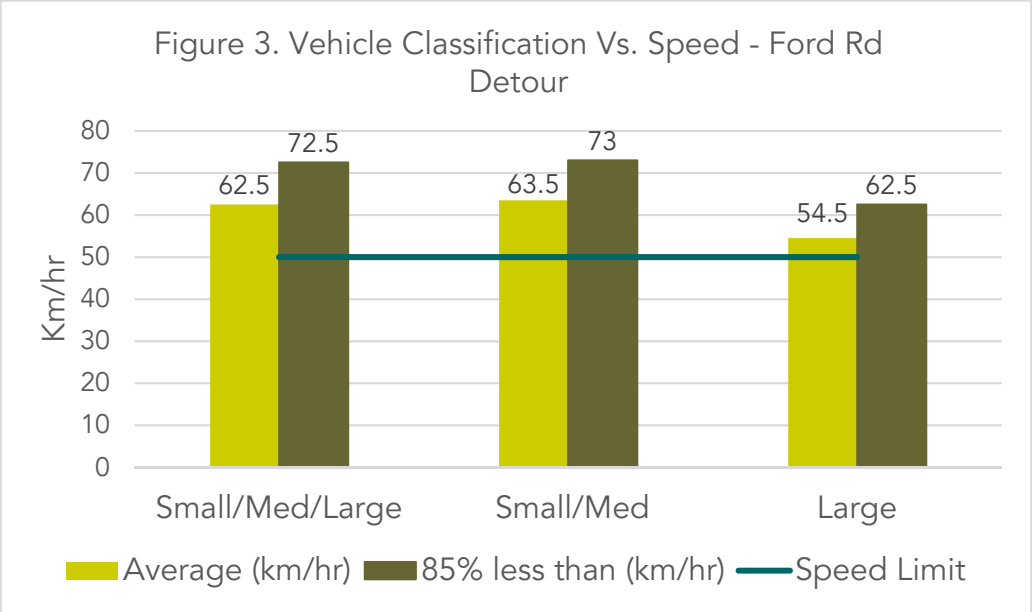
Note that the 85th Percentile Speed means that 85% of the vehicles captured travel at or below that speed, 15% travel above the speed. The data outlined above is merged, meaning that it includes traffic in both directions at that location. The City maintains more detailed records on file.

Ford Road Detour

Overview:

Ford Road Detour is an arterial road, part of the City's Truck Route and not suited for traffic calming measures. There have been several concerns made in relation to the speed of vehicles, especially large trucks excessively speeding along the corridor. Ford Road Detour is also part of the bicycle network and is classified as a neighbourhood bikeway, although recreational cyclist will generally utilize the multi-use trail along Baynes Road to access the Pitt River Green Way along the adjacent dike network. Due to ongoing concerns of speed, a Radar Speed Display was installed on the east/west section of the corridor. The radar faces east, but collects speed data for both east and west-bound traffic. The Radar Speed Display was installed as a tool to advise motorists of their speed and will indicate to them when they are exceeding the speed limit. A Traffic Counter was also placed in two locations along the corridor to collect vehicle

classification data along with vehicle speed and refined volume data. The following table outlines the average speed and 85% speed by vehicle classification:



As indicated on the chart, small and medium vehicles such as cars and SUV's are on average exceeding the speed limit by 13.5 km/hr and large trucks, such as dump and semi-trucks are, on average exceeding the speed limit by 4.5 km/hr. There are also outliers of excessive speeding. Speed data collected in the first quarter of 2021 has been consistent with the data collected in 2020.

Action:

Staff will continue to monitor and forward speed concerns and data collected to the RCMP.

Wildwood Crescent

Overview:

Wildwood Crescent is a collector street; staff receive periodic concerns of speeding along the corridor. In 2020, there was a traffic calming application submitted for the corridor with concerns of speeding and lack of pedestrian crossings. Traffic data was collected over the summer 2020 and it was found that the average speed was actually below the posted speed limit; however, staff did note that alignment and lack of visibility around many of the corridors curves warranted further analysis. Review of design speeds at the curves along the Wildwood corridor is still under review, but the preliminary assessment would indicate that many of the curves along the corridor will warrant advisory signage for reduced speeds. A crosswalk will also be added in the coming months near the entrance to Linden Grove Park, which is also close to a transit stop. This will have an impact on select street parking and notices informing the impacted residents will be distributed prior to implementation. An additional marked crossing is also

planned for 2022 on Wildwood Cres. South, near the entrance to Wildwood trail and will be implemented following some repaving work.

Action:

Staff will wait for the finalized review of the design speeds along the corridor and will implement advisory signage as applicable. Marked crosswalks will be added as outlined above.

Hale Road

Overview:

Hale Road is a local, rural road; a Radar Display Board was installed as there had been concerns of speeding and an increase in volume of motorists accessing the dikes during COVID-19. Rural roads are generally not considered for traffic calming measures, such as speed bumps, and based on the data collected the average vehicle was driving at a speed within 4 km/hr of the posted speed limit. The average daily vehicle count was 203.

Action:

The Radar Speed Display has been removed and placed at Ford Road Detour; no further action is foreseen at this time.

North Harris Road

Overview:

Harris Road, north of Richardson is classified as a local, rural road and would not generally qualify for traffic calming measures. In 2020, a traffic calming application was submitted with concerns of "drag racing" late at night and due to the increased volume of users, accessing the dikes, there were concerns of cars parking along both sides of the road, sometimes encroaching on residential driveways. A Radar Speed Display was installed to help bring awareness and data was collected; it was noted that there were singular recordings of excessive speeds late at night, but the average speed of vehicles was below the speed limit at 44 km/hr.

Action:

The concerns of parking and driveway encroachment have been addressed through the installation of signage and the speed data has been shared with the RCMP. Staff will continue to encourage residents to report observations of dangerous driving to the RCMP.

Richardson Road

Overview:

Richardson Road is classified as a local, rural road and would not generally qualify for traffic calming measures. In 2020, a traffic calming application was submitted with concerns about speeding. A Traffic Counter was installed and data was collected. It was noted that there were periods where excessive speeds were recorded and the average speed of vehicles was above the speed limit by 13 km/hr at 63 km/hr. The average daily traffic is 148.

Action:

The speed data has been shared with the RCMP. Staff will continue to encourage residents to report observations of dangerous driving to the RCMP.

Bonson Park

Overview:

Bonson Road adjacent to Bonson Park is a collector street and neighbourhood bikeway; there are periodic concerns of speeding along the corridor. In 2018, the City conducted a Traffic Operation Safety Review, jointly with ICBC. In line with the recommendations, road markings and Radar Speed Displays were installed. To be the most effective in alerting motorists of the upcoming playground zone, the RSD were placed approximately where the playground zone begins; as the radar detection zone is in front of the unit, the data collected represents the speed taken in the 50 km/hr zone just prior to where the 30 km/hr zone comes into effect. The RSD settings in this location record the "reduction speed", meaning it records the speed entering the radar zone and again when leaving the radar zone (and where the playground zone starts). The average reduction speed through the radar zone is 2.2 km/hr. Speed data collected from the RSDs indicate that the average vehicle is travelling at 41 km/hr and an 85% speed of 51 km/hr. Of note, the 85% speed recorded prior to the installation of the RSDs was 57 km/hr. The average and 85% speed stays fairly consistent throughout the day with no notable decrease during daylight hours, but staff did note outlier excessive speeds were recorded within specific times of the day. This information was shared with the RCMP.

Action:

In Q3 of 2021, staff plan to install a Traffic Counter within the playground zone to collect speed data within the 30 km/hr zone and obtain accurate volume data. Staff will continue to monitor speed data and will forward findings to the RCMP on an ongoing basis. As a Traffic Operation Safety Review was recently conducted in this location and the recommended measures have been implemented, there are no further actions planned. Residents will be encouraged to continue to report observations of dangerous driving to the RCMP.

Bonson South

Overview:

Bonson Road, south of Airport Way is a collector road and has a designated bike lane; the corridor is not part of the City's Truck Route, but does see above-average truck traffic due to its proximity to BC Earth Exchange. In 2018, the regulatory speed of the corridor was changed to 30 km/hr and a Radar Speed Display was installed. Data collected in 2020 from the Radar indicates that the average vehicle is travelling at 42 km/hr, 12 km/hr above the speed limit.

Action:

Due to classification, width and use, implementation of the 30 km/hr speed limit in 2018 has proven difficult to enforce without further measures. The corridor geometry and use is more suited to a 50 km/hr speed limit. Staff recently installed a Traffic Collector and will continue to monitor speed and volume data based on vehicle classification.

2021 Data Collection

Staff plan to utilize the equipment in many locations around the City in 2021. Locations have been prioritized based on the Traffic Calming Policy, applications received and locations that receive ongoing concerns of speeding. The following table summarizes the locations currently prioritized for 2021:

Table 2. Traffic Data Collection Locations				Year Collected	2021 AS
Equipment	Direction	Location	Speed Limit	Road Classification	Yearly Quarter
RSD	North	North Harris	50	Local	Q1
RSD	East	Ford Road Detour	50	Arterial (TR)	Q1
RSD	North/South	Bonson Park	30	Collector	Q1
RSD	South	Bonson South	30	Collector	Q1
TC	North/South	Harris by PME	30	Arterial	Q1
RSD	North	North Harris	50	Local	Q2
RSD	East	Ford Road Detour	50	Arterial (TR)	Q2
TC	North/South	Bonson Park	30	Collector	Q2
RSD	South	Bonson South	30	Collector	Q2
RSD	South	Harris by PME	30	Arterial	Q2
TC	North/South	McMyn Ave	50	Local	Q2
TC	East/West	Advent	30	Collector	Q2
TC	East/West	Hammond	50	Arterial	Q2
TC	North/South	Harris, Silver Bridge	50	Arterial	Q3
TC	North/South	Neaves	50	Arterial (TR)	Q3
TC	All	193rd St & 122A Ave	50	Collector	Q3

2021 Q1 Traffic Data Preview

Data collected in the first quarter of 2021 has shown similar results at locations where data was collected in the previous year. The only additional location in Q1 of 2021 was the collection of speed data adjacent to Pitt Meadows Elementary, within the school zone on Harris Road. The following chart outlines the data collected; note the speed data has been tabulated to show values during school hours (8am to 5pm) and before and after (b/a) school hours, as the speed limit changes.

Table 3. Harris Rd Traffic Data Summary							Year:	2021
							Pulled:	AS
Unit	Direction	Location	Speed Limit	School hr Average (km/hr)	School hr 85% less than(km/hr)	b/a school Average (km/hr)	b/a school 85% less than (km/hr)	Time Frame
TC	Merged	Harris	30/50	41	48	53	60	Q1

It is noted that the average speed in the school zone adjacent to Pitt Meadows Elementary is 11 km/hr above the speed limit during school hours. Staff plan to implement "end of school zone" signage where motorists may resume their speed, in hopes to clarify zone parameters. A Radar Speed Display is set to be installed in this location in Q2 and staff will continue to monitor speed data that is collected.

COUNCIL STRATEGIC PLAN ALIGNMENT

☐ Principled Governance ☐ Balanced Economic Prosperity ☐ Corporate Excellence
☒ Community Spirit & Wellbeing ☒ Transportation & Infrastructure Initiatives
☐ Not Applicable

FINANCIAL IMPLICATIONS

☐ None ☒ Budget Previously Approved ☐ Referral to Business Planning
☐ Other
There is an annual Active Transportation capital project with a budget of $100,000 and a Traffic Calming Implementation capital project, which has a budget of $50,000.

PUBLIC PARTICIPATION

☒ Inform ☐ Consult ☐ Involve ☐ Collaborate ☐ Empower

Comment(s):

Data collected in relation to future Traffic Calming Applications will be reviewed to verify

if warrants are met. Once City staff have performed the warrant check, the requester will be contacted to discuss some of the details. If the area is eligible for traffic calming, the requester will then be provided a map outlining the impacted area of the proposed traffic calming measures to initiate a petition from the surrounding residents prior to any design and/or implementation. This approach aligns with the City's Traffic Calming Policy C029.

KATZIE FIRST NATION CONSIDERATIONS

Referral ☐ Yes ☒ No

SIGN-OFFS

Written by:	Reviewed by:
Ashley Seed, Engineering Technician	Samantha Maki, Director of Engineering and Operations

ATTACHMENT(S)

None.