Staff Report to Council

Engineering

FILE: 11-5460-07/24

REPORT DATE:	June 18, 2024	**MEETING DATE:**	June 25, 2024
TO:	Mayor and Council		
FROM:	Samantha Maki, Director of Engineering and Operations		
SUBJECT:	Traffic Management and Statistics Update		

CHIEF ADMINISTRATIVE OFFICER REVIEW/APPROVAL:

RECOMMENDATION(S):

THAT Council:

A. Receive for information the Staff Report titled 'Traffic Management and Statistics Update' as presented at the June 25, 2024 Council Meeting; OR

B. Other.

PURPOSE

This report is to provide Council with an update on the following key initiatives:

- Development of the new Traffic Complaint Tracking and prioritization program;
- A new internal crosswalk treatment selection matrix and prioritization system;
- Traffic signal updates, active transportation and traffic calming applications;
- Traffic data collection and ICBC crash data statistics.

This report builds on the content of the April 12, 2021, report titled 'Traffic Data Collection Summary and Update'.

☒ Information Report ☐ Decision Report ☐ Direction Report

Background:

The Engineering Department oversees activities within the City's road network. This ranges from facilitating vision documents such as the Transportation Master Plan and Active Transportation

Plan, through individual intersection reviews and traffic calming projects, to changes in on-street parking regulations. While balancing the demands of day-to-day issues with the need to progress specific projects, one of the biggest challenges for both short term and long range tasks, is taking a proactive approach rather than a reactionary approach. In 2023, one of the goals for the department was to refine our processes to streamline traffic-related submissions and establish a better prioritization system.

In addition, each year traffic capital projects, initiatives and data collection are coordinated and the below section summarizes some of the key takeaways.

Relevant Policy, Bylaw or Legislation:

The Highway and Traffic Bylaw No. 2836, 2020, regulates speed limits, parking and speed zones within City highways.

Traffic Calming Policy C029, which outlines consistent procedures and criteria for traffic calming applications in the urban part of the City.

The B.C. Motor Vehicle Act (MVA) sets a default speed limit of 50 km/hr on municipal streets when a different speed limit has not been posted by signs.

DISCUSSION

Analysis:

Traffic Complaint Tracking and Prioritization Program

The Engineering Department receives many public requests for traffic reviews concerning speeding, pedestrian safety, parking, signage, congestion, crosswalks, and more. These requests inform our data collection program and traffic analyses.

In 2023, the Engineering Department adopted a more formalized process for receiving, responding to, documenting, and prioritizing traffic-related concerns. The process includes directing all concerns to a centralized departmental email address. They are replied to in a standardized format that acknowledges receipt and provides additional information and resources. All submissions undergo an initial review, then are delegated, as required, or filed for information. Data related to the submission is populated and analyzed to identify trends or specific areas of concern. The new and active submissions are reviewed quarterly, and action is prioritized based on various factors such as the number of concerns in a specific area, incident reports, alignment with capital projects, and funding opportunities. Some items may be closed or require no action, but remain on file for reference, as needed, in the future.

Pedestrian Crossing Treatment Matrix

Crosswalks are implemented throughout the City by a variety of mechanisms. The City follows a standard engineering evaluation process to determine if new or additional crosswalk infrastructure is appropriate at a site. The primary component is the Transportation Association of Canada (TAC) crosswalk warrant. The warrant is a national standard used by municipalities throughout Canada. Its purpose is to help determine what, or if, improvements are required in a consistent way.

The TAC crosswalk warrant is comprised of numerous criteria and supporting data. Criteria includes: surrounding land use context, vehicle and pedestrian volumes, traffic characteristics, speed data, pedestrian crossing distance, distance to existing traffic control, network connectivity, site geometry, and collision data. Within the warrant, minimum thresholds are provided and must be satisfied in order for a site to be warranted for new crossing infrastructure or additional improvements. As Pitt Meadows is a smaller community, with a smaller population compared to the larger cities that also use the TAC crosswalk warrant, crosswalks in Pitt Meadows often don't meet the minimum criteria outlined in the TAC guide. Considering this and feedback received from the community, staff have created a strategy to further build on the TAC warrant criteria to be more intuitive to the needs of a smaller community, while still aiming to achieve consistency in the assessment and provision of pedestrian crossings across the City.

Currently, crosswalk assessments are generally initiated by public requests. There are 11 locations currently under review, only 1 appears to meet TACs warrant criteria for possible upgrades (Bonson Rd at PMAP entrance). With Pitt Meadows' specific criteria, 3 to 5 are likely to be recommended for upgrade:

	Crossing location	Existing Crossing	Road Classification	TAC Guide	Selection Matrix	*ATP	Upgrade
	North Bonson at Hammond Road	NA	C	NA	NA		N
	122 Ave at 190 St	GM+	C	GM	GM+		N
	Somerset Drive at Cypress Ct	NA	C	NA	NA		N
*	**Baynes Road at Airport Trail**	GM+	A	GM	RRFB	RRFB	Y
	Ford Rd at 191B St	GM+	A	GM	RRFB		Y
	Bonson Rd at Sutton Ave	GM+	C	GM	GM+		N
	Ford Rd at 190A St	GM+	A	UR	UR		UR
	Wildwood at Wildcrest	NA	C	NA	NA		N
	Bonson at PMAP entrance	GM+	C	UR	UR		UR
	Wildwood at Hammond	NA	C	NA	NA		N
*	**Harris @ Silver Bridge**	GM+	A	GM	RRFB	RRFB	Y

Under Review	UR
Not Applicable	NA
Twin Parallel Bars/Zebra	PM
Zebra Markings	GM+
Rectangular Rapid Flashing Beacons	RRFB
RRFB or Special	RRFB-OF
Special (Pedestrian Half Signal)	OF
Signal upgrade	TS

Arterial	A
Collector	C
Local	L

* Active Transportation Plan

TABLE 1:2024 CROSSWALK SECTION MATRIX RESULTS

In 2024, two existing crosswalks will be upgraded with Rapid Rectangular Flashing Beacons (RRFBs) as initiatives of the Active Transportation Advisory Committee (ATAC):

- Harris Road at Silver Bridge, which has received grant cost-share through the British Columbia Vision Zero in Road Safety for Vulnerable Road Users Program, and
- Baynes Road at the Airport Trail Crossing, which is to be cost-shared through Translink's Major Road Network & Bike (MRNB) funding program.

In 2025, two additional crosswalks are likely be upgraded based on the outcome of the Pedestrian Crossing Treatment Matrix analysis. This matrix will need some refinement by staff over the next few years to ensure it is functioning as intended.

Traffic Signal Upgrades

In 2022, to mitigate decreased service levels due to increased traffic, a new advanced southbound left turn signal was installed at Harris Road and Hammond Road, improving travel efficiency and safety. ICBC funded over 50% of this upgrade.

In 2023, with funding from the *British Columbia Vision Zero in Road Safety for Vulnerable Road Users Program*, the City implemented Leading Pedestrian Intervals (LPIs) at most major intersections along the Harris Rd corridor. An LPI allows pedestrians to enter a crosswalk 3-7 seconds before vehicles, enhancing their visibility and safety. An LPI upgrade was also recently implemented at the intersection of Hammond Rd and Blakely Rd.

Benefits of the LPI signal timing includes:

- Increased visibility of crossing pedestrians.
- Reduced conflicts between pedestrians and vehicles.
- Increased likelihood of motorists yielding to pedestrians.
- Enhanced safety for pedestrians who may be slower to start into the intersection.

Active Transportation Plan

The City's new Active Transportation Plan, endorsed by the council in 2023, replaces the 2012 Pedestrian and Cycling Master Plan. The plan reflects evolving guidance on active mode design and planning, outlining strategies for developing walking and biking infrastructure. It guides future investments in active transportation, supporting a balanced and sustainable transportation system. Approximately 50% of the plan's development costs were funded by a BC Active Transportation Network Plan Grant.

A priority project for 2024 is the Harris Rd Complete Street Feasibility Study; staff are actively working through two funding applications and expect to receive a minimum 50% cost share. In

April, HUB also conducted ride-the-road courses for various elementary schools in the City. The City recently launched the annual Active Transportation social media campaign to increase awareness as we move into the warmer weather.

More information on this and other active transportation initiatives will be presented at the July 16, 2024 Engagement and Priorities Committee (EPC) meeting.

Traffic Calming

Traffic calming enhances residential neighborhood livability by discouraging speeding and minimizing user conflicts. The City's Traffic Calming Policy provides a comprehensive approach to identifying and resolving neighborhood traffic problems through various measures. Each Traffic Calming application is processed using guidelines from this policy. Most applications staff receive do not meet the criteria (location, volume, and speed) for action. When a request fails to meet the criteria, applicants are informed of the speeds, volumes, and accident data on the proposed street and can choose to proceed to the petition stage. Currently, one application is in the petition stage. Figure 1 shows a summary of the Traffic Calming Applications the City has received.

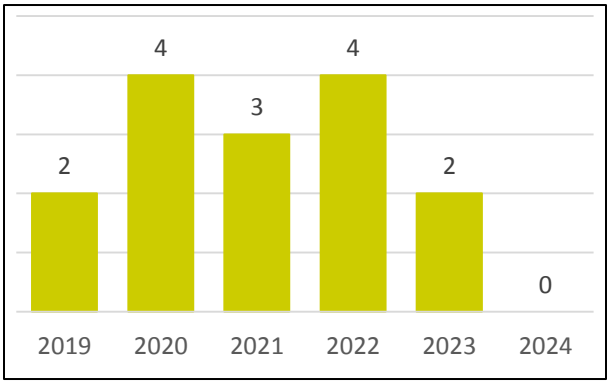

FIGURE 1: TRAFFIC CALMING APPLICATIONS BY YEAR

Crash Data Statistics

Initiatives and prioritization of projects involves review of available ICBC collision data. The total 5 year ICBC vehicular collision data from 2018 to 2022 shows most of the collisions were at intersections and on collector and arterial roadways within the urban core. Some were also along the City's truck route (Old Dewdney Trunk Rd).

From 2018 to 2022, excluding provincially regulated highways, there have been 716 recorded vehicular collision. From that, 262 were injury collisions. The intersection with the largest increase of incidents is Harris Road & Hammond Road, and this data was before the new advanced green signal and LPIs were implemented. Figure 2 shows the ten intersections with the highest reported vehicle collisions.

Note that a study is currently underway jointly with Maple Ridge for the 203rd St and ODTR.

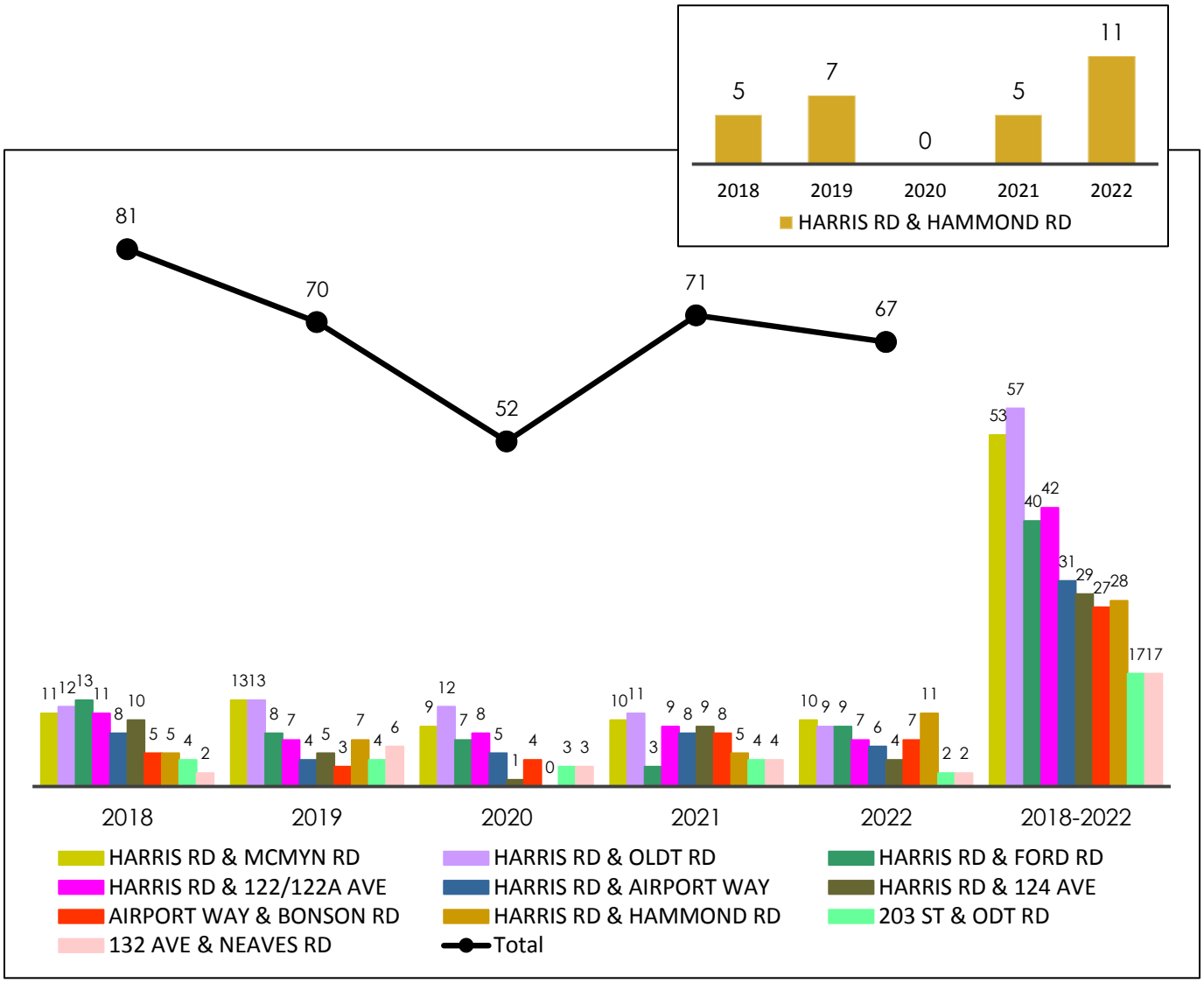

FIGURE 2: VEHICLE COLLISION DATA- TOP 10 INTERSECTIONS

The ICBC collision data from 2018 to 2022 for pedestrians collisions shows there was a total of 18 incidents reported to ICBC; one of the pedestrian collisions was on a local road. Within the 5 years, the majority of pedestrian incidents were are at intersections and are concentrated along the City's main urban arterial, Harris Road. The intersections with the most pedestrian collisions were Harris & Ford and Harris & McMyn Rd. When reviewing the pedestrian data, there is a clear decline in incidents from 2018 (Figure 3). In general, higher conflicts are expected along busier corridors. Once data is received for 2023 and 2024, staff can review again and see what measurable improvement the LPIs had.

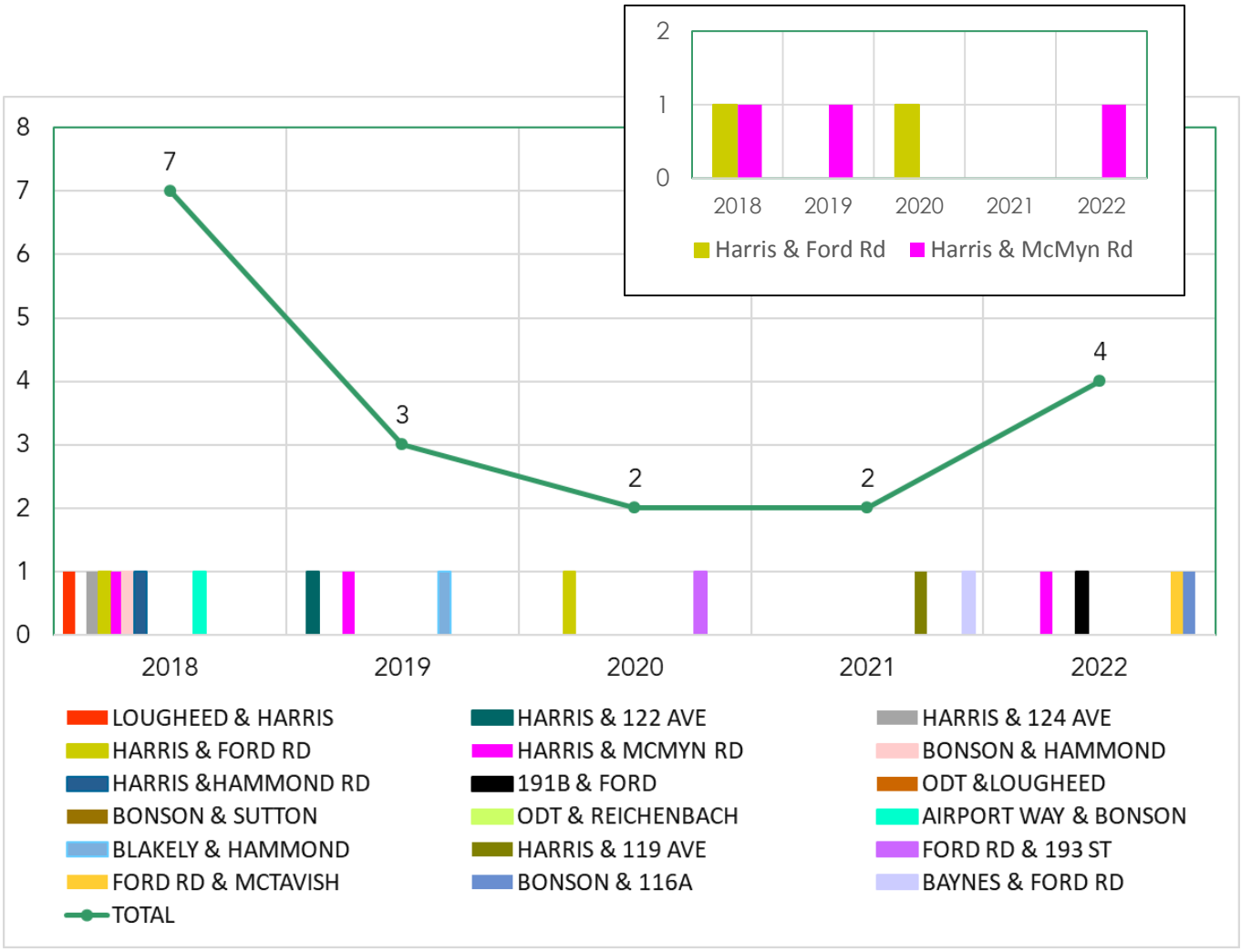

FIGURE 3: PEDESTRIAN COLLISIONS BY YEAR

The 5 year ICBC collision data from 2018 to 2022 for cyclist collisions shows there were 18 incidents between a vehicle and a cyclist; with no cyclist collisions on local roads within the urban area. The majority of the collisions were at intersections and on arterial roadways with 2 collisions taking place on collector roadways. As shown on Figure 4, the number of cyclist collisions more than doubled in 2021 over past years with a steep decline in 2022. This may be attributed to increased activity during COVID-19. The intersections with the highest overall cyclist collisions were at Harris Road & Airport Way and Harris Road & 124th Ave.

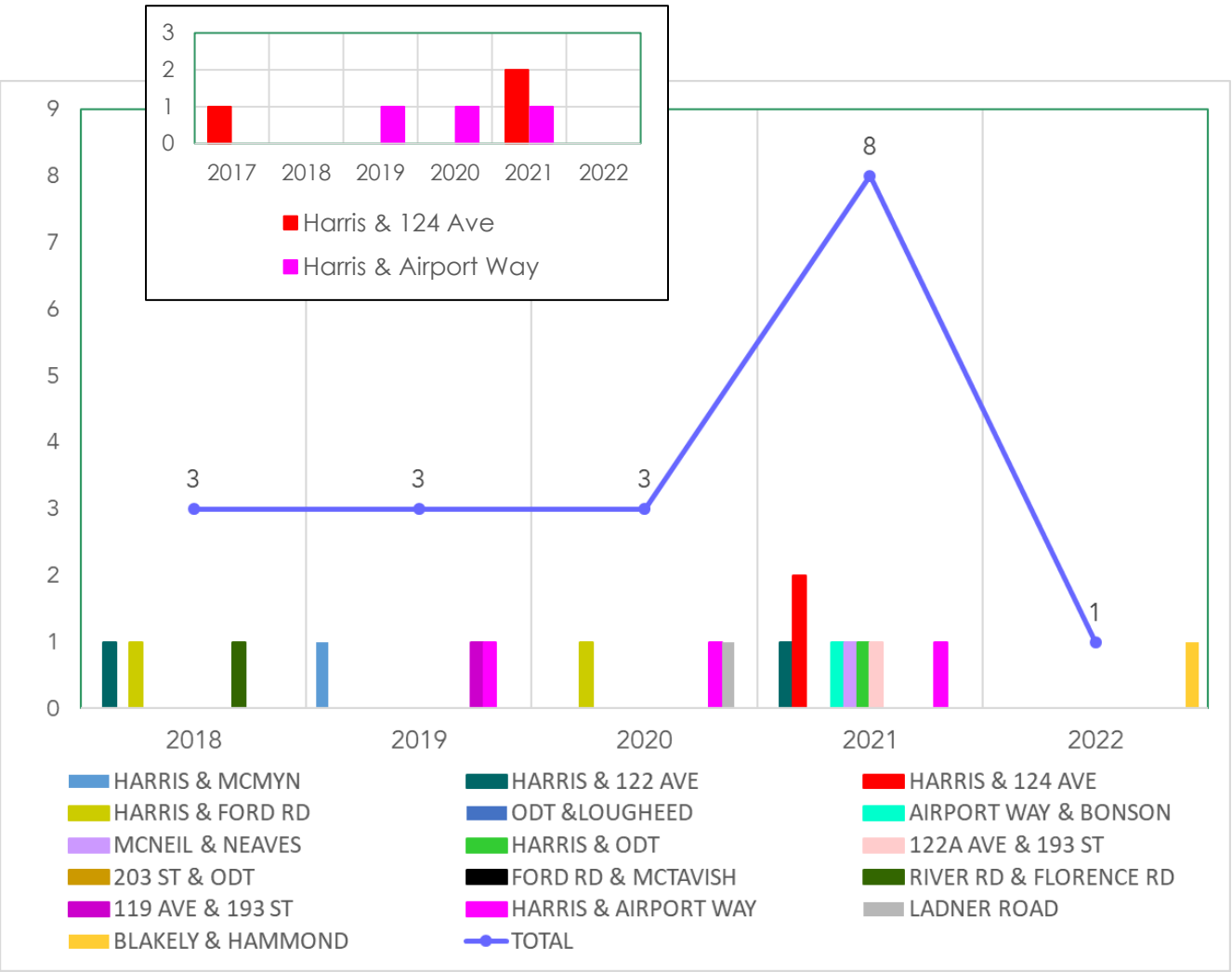

FIGURE 4: CYCLIST COLLISIONS BY YEAR

Specific incidents and data are discussed with the RCMP as well. While there are no specific trends or concerns at this time, an ongoing focus for the City and the RCMP is in relation to education and awareness. The RCMP also reaches out to the School District and coordinates key messaging, and ICBC coordinates many campaigns throughout the year. Residents are also encouraged to take part in volunteer Speed Watch.

Speed Data and Concerns of Speed

One of the most common concerns received by the Engineering Department is related to speeding. Reported accounts of speeding are often subjective, based on perception and local standards. To understand actual travel speeds along roadways, staff deploy measures such as Radar Speed Displays (RSDs) and covert Traffic Counters (TCs). Data frequently shows that on average, vehicles travel at or below posted speed limits, except on roads where the speed limit is lower than expected (e.g., 30 km/h limits outside school or playground zones). Concerns and data are also shared with the RCMP for enforcement and hot spot awareness.

Typically, TCs will be installed in a location for one to two months and consideration of the season will also influence when data will be collected. RSDs will be installed for a minimum of 3 months to ensure adequate awareness is achieved, but they are found to be more effective when they are moved around and motorists do not become use 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. Due to other departmental priorities, overall collection of data has been limited to areas where Traffic Calming applications have been submitted.

The table below summarizes the traffic data collected from 2020 to 2023 and part of 2024, and the map in Figure 5 shows the general locations.

Location	Stn No.	Posted Speed (km/hr)	Road Classification	Average Speed (km/hr)				
				2020	2021	2022	2023	2024
North Harris	0	60	L	44	45			
Richardson Road	1	50	L	63.0				
Harris Road (Silver Bridge)	6	60	A		42.0			
Neaves Rd- N/O S. Alouette Bridge	11a	60	A		69.0	71.0		
Hale Road	15	40	A	44.0				
Ford Road Detour(West of 176th)	27a	50	A	56.0				
Ford Road Detour(South of Ford)	27b	50	A	63.0				
BroomStick Lane	30a	20	L					33.0
Sutton	30b	50	C		33.0			
Advent Road east of 189B	37	30	C		37.0			
McMyn Ave	40A	50	L		25.0			
Ford Road (East of Baynes)	44A	50	A			49.0		
Harris Road (PME)	46	30	A		41.0		42.0	
Ford Road (west of 191B)	47A	50	A			48.0		
Baynes Road Mid	52A	50	A			66.0		
119 Avenue (West of Blakley)	58	50	C		48.0			
Harris Road(North of Ham/Mit)	62	50	A		42.0			
Blakely Road north of Hammond	66	50	C		50.0			
Wildwood Cresent (South)	75	50	C	42.0				
122 Avenue Midblock	86A	50	C		46.0			
193 Ave North of Ford (Southbound)	106	50	C				44.1	
Bonson Road south of Airport Way	109	30	C	41.0	41.0	43.0	41.4	42.7
Bonson Road north of Airport Way	110	50	C			50.0		
Park Rd West of Sommerset	116	50	C			38.0		
Kennedy Road (South Slough)	231a	50	A				34.1	33.1
193rd St Midblock Sout of 120B	235	50	C			51.0		
Bonson Rd at Bonson Park	236	30	C	40.9	40.9	41.0	39.7	39.8

TABLE 2: TRAFFIC DATA

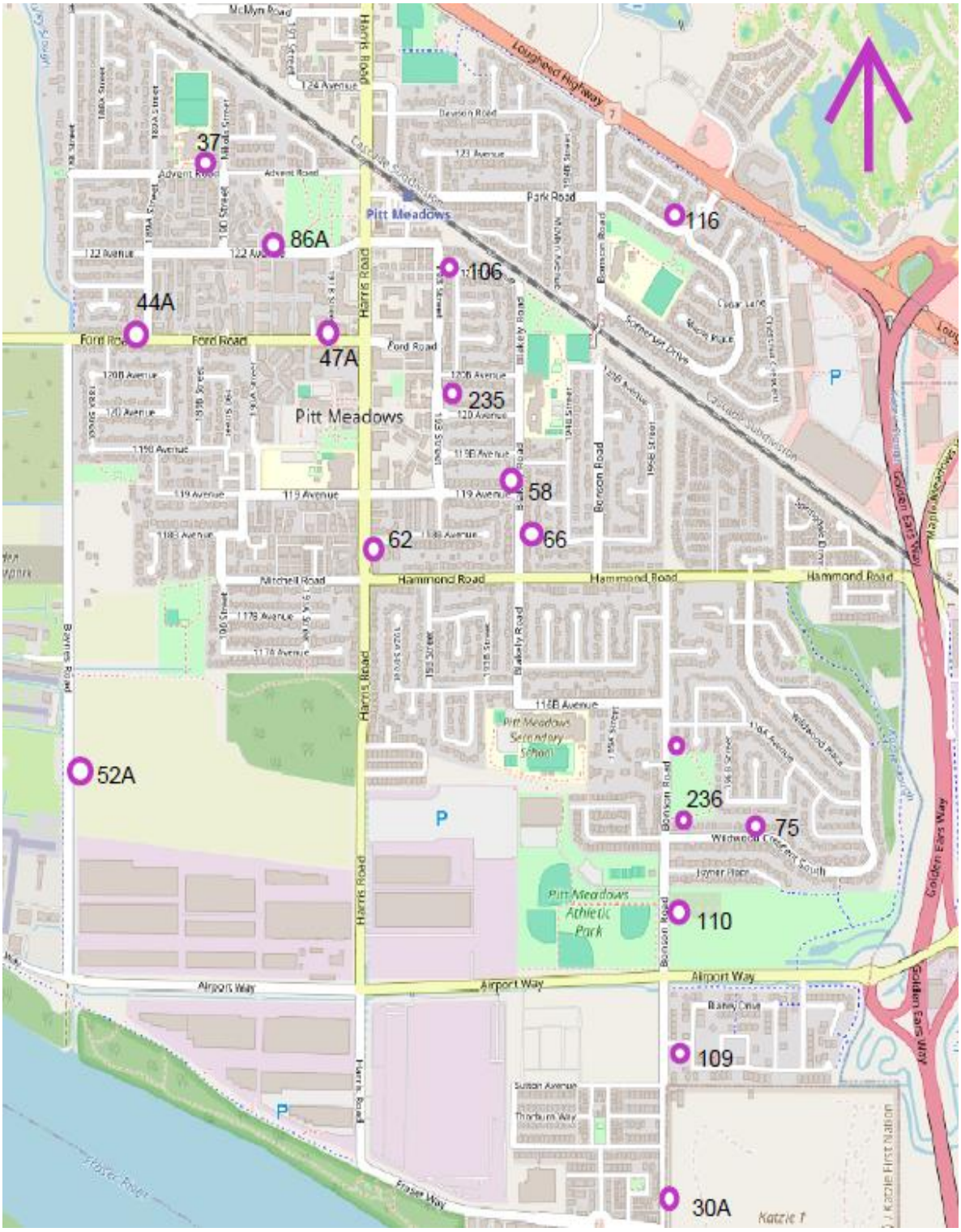

FIGURE 5: DATA COLLECTION STATIONS

It is noted that urban roads with an average speed exceeding the posted speed limit by 20% or more are on roads with a posted speed limit of 30 km/hr or less. Of those roads with a posted speed limit of 30km/hr or less, 4 of the 5 are collector/arterial roads and 3 of the 4 are school or playground zones. Figure 6 shows what percentage the average vehicle speeds are exceeding (or if negative are less then) the posted speed limit. It is noted that of the 4 locations that are exceeding the speed limit, 3 are locations where the speed limit is 30 km/hr on a collector road.

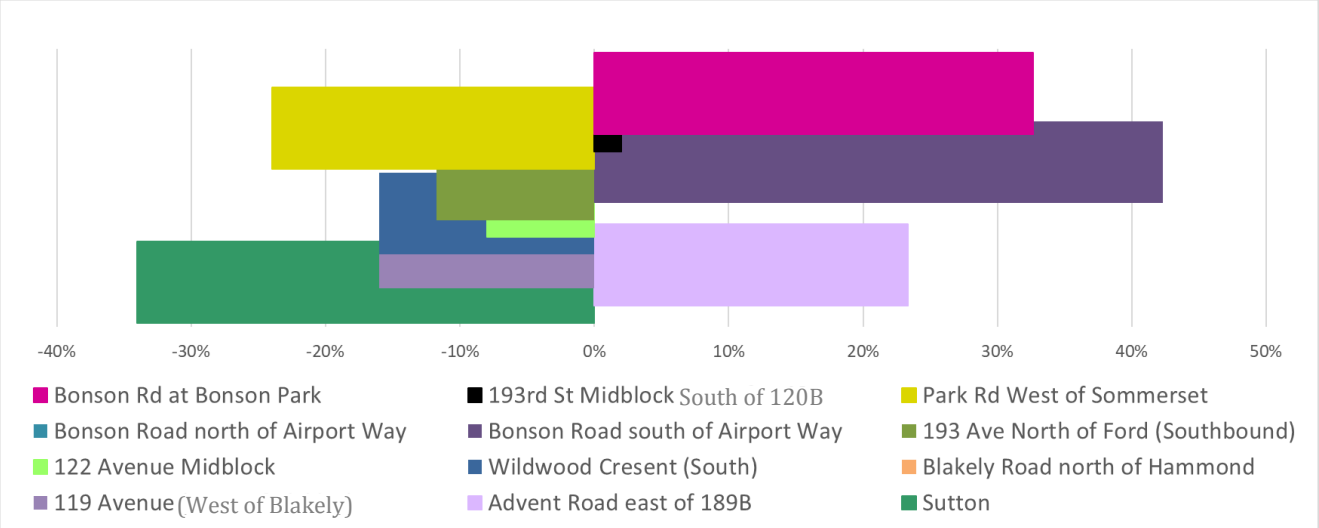

FIGURE 6: PERCENT SPEED- COLLECTOR

The data shows that reducing the speed limit from 50 km/hr to 30 km/hr, by only installing lower speed limit signs, has minimal impact on vehicle speeds. Even data collected within school and playground zones which have a posted speed 30 km/hr, the speeds were 7 to 11 km/hr over the speed limit. This conclusion has been mirrored in many studies in the Lower Mainland and across the country. Even with enforcement, at locations where drivers expect to encounter speed enforcement, like school zones, vehicle speeds are not reduced significantly. The most effective way to reduce travelled speeds is through engineering design and construction of speed management or traffic calming measures.

Updates on Various Projects and Priorities

Wildwood Crescent

In 2021, a corridor traffic study was conducted along Wildwood Crescent. The assessment indicated that many of the curves along the corridor warranted advisory signage for reduced speeds. In 2022 and 2023, updates to the corridor included:

1. A crosswalk was also added near the entrance to Linden Grove Park, which is also close to a transit stop;
2. A marked crossings on Wildwood Cres. South, near the entrance to Wildwood trail;

3. New sidewalk letdowns at all the new crossings and additional letdown upgrades at 3 other locations along Wildwood Crescent; and
4. Advisory signage added at curves based on road alignment design speeds.

Crosswalks and letdowns were cost-shared through Translink funding programs.

Bonson South, South of Airport Way

Bonson Road, south of Airport Way is a collector road and has a partial designated bike lane. Past data collection showed that the average vehicle is travelling at 42 km/hr, 12 km/hr above the speed limit. Due to classification, width and use, implementation of the 30 km/hr speed limit in 2018 has proven difficult to enforce without further measures. As previously mentioned, the corridor geometry and use is more suited to a 50 km/hr speed limit.

A development-specific traffic impact assessment was recently completed and did not warrant any further improvements to the roadway or crossings at this time; however, painted bike lanes and parking restrictions were extended from Sutton Ave to Fraser Way. As part of the Eagle Meadows Business Park development on KFN lands, localized improvements such as a slightly widened roadway, sidewalks, street lighting and landscaping are planned. The City also continues to advocate for secondary access to q̓ic̓əy̓ (Katzie) First Nation IR1 with all parties.

Staff will continue to monitor speed and volume data as development progresses, and provide an update and possible recommendation as part of a future traffic statistic update to Council.

Harris Road by Pitt Meadows Elementary

In 2023, several upgrades were implemented to improve awareness and availability to the school zone on Harris Road at PME. The upgrades included:

1. Addition of 2 new Radar Speed Boards - north and southbound;
2. Large, neon “school zone” pavement markings at the beginning of the school zone;
3. Updated diamond grade reflective “school zone” signage; and the addition of signage to confirm the end of school zone;
4. Updated pedestrian pushbutton signage to bring awareness and education about when to “walk”; and
5. Adjacent roads on the “walk to school” routes were also reviewed, and updates to the school drop off zone and parking signage were implemented.

As previously mentioned, the average speed in the school zone adjacent to Pitt Meadows Elementary is 12 km/hr above the speed limit during school hours. As the school zone is on an arterial roadway and the main north-south vein though the urban area, it is unlikely there will be a reduction in speed in this area without the implementation of physical engineering measures. This section of Harris Rd will be a focus of the Harris Road Complete Street Feasibility Study, and is an ongoing hot spot for the RCMP.

School Areas and Zones

Similar to the traffic review at Pitt Meadows Elementary, staff plan to review one Pitt Meadows School per year, to assess existing conditions, define areas of concern and identify short-term needs and any long-term plans that can be considered as part of future neighbourhood bikeways in the area. Currently, Edith McDermott Elementary School is under review. Staff have been collaborating with and gathering feedback from the school administration in assessing the current drop off/pick up zones and the concerns of adjacent residents in relation to congestion in the area.

A review of the School Area on Old Dewdney Trunk Rd is also underway, adjacent to the Canyon Springs Montessori Academy. Staff have been coordinating efforts with TransLink as the School Area is on the Major Road Network, which is regulated in-part by Translink. An initial analysis of the area has identified some requirements for improved vegetation management and an established point of entry in and out of the site.

CONCLUSION

Staff will continue to progress these important initiatives and share information with the RCMP. During 2024 Business Planning, resourcing in relation to traffic, active transportation and associated grants were asked above. Following up to this, a 2-year trial position has been approved by the CAO to help with these priorities. This position is funded from past years' position vacancy funds that are carried forward to help alleviate workloads.

COUNCIL STRATEGIC PLAN ALIGNMENT

☐ Principled Governance ☐ Balanced Economic Prosperity ☒ Infrastructure
☒ Community Spirit & Wellbeing ☐ Corporate Pride ☒ Public Safety
☐ Not Applicable

WORKPLAN IMPLICATIONS

☒ Already accounted for in department workplan / no adjustments required
☐ Emergent issue / will require deferral of other priority(ies)
☐ Other

FINANCIAL IMPLICATIONS

☐ None ☒ Budget Previously Approved ☒ Referral to Business Planning
☐ Other

Works are being completed as budget allows. Future works will be referred to future business planning and staff will continue to seek grants, where possible, to help offset the associated costs.

Following the 2-year trial position, staff will evaluate the success of this additional resource, in regards to grants and projects completed, and may consider a permanent position as part of future business planning, if needed.

PUBLIC PARTICIPATION

☒ Inform ☐ Consult ☐ Involve ☐ Collaborate ☐ Empower

Comment(s):

KATZIE FIRST NATION CONSIDERATIONS

Referral ☐ Yes ☐ No ☒ Other

Coordination and collaboration with q̓ic̓əy̓ (Katzie) First Nation is ongoing in relation to the Eagle Meadows Business Park.

SIGN-OFFS

Written by:	**Reviewed by:**
Ashley Seed, Engineering Technologist	Samantha Maki, Director of Engineering & Operations

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ATTACHMENT(S):

None.