ATTACHMENT A

CITY OF NANAIMO
THE HARBOUR CITY

Staff Report for Decision

File Number: 5460.01.07

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SUBJECT ALLOCATION OF PEDESTRIAN UNALLOCATED FUNDING

OVERVIEW

Purpose of Report

To provide Council with project options for allocation of the 2022 Pedestrian Unallocated Budget.

Recommendation

That Council allocate $1,000,000 of Pedestrian Unallocated funds to the projects listed under Option (A).

BACKGROUND

Beginning in 2018, Council used Strategic Infrastructure Reserve funds to create an annual unallocated budget of $300,000 within the Financial Plan for pedestrian mobility and safety enhancements. These funds were to be used to address issues that arise during the year and are more urgent than could be dealt with through the financial planning process. Council increased this amount to $1,000,000 in Year 2021 of the 2021-2025 Financial Plan. Year 2022 of the 2022-2026 Financial Plan also has $1,000,000 identified for Unallocated Pedestrian Transportation Improvements.

During the Reimagine Nanaimo process, public feedback strongly supported prioritized walking, cycling, and transit networks that are safe, attractive, and comfortable. This value has been enshrined in “A Connected Nanaimo”, Policy 02 of the draft City Plan. To support this value with projects on the road, the Pedestrian Prioritization Tool was developed over the last two years and is now being applied by Staff to identify high priority pedestrian crossings.

At the Governance and Priorities Committee (GPC) meeting held April 21, 2022, Staff presented three main topics: the status of Pedestrian Projects budgeted in 2021, such as crosswalk improvements and their construction schedule; considerations and suggestions for 2022 Pedestrian funding; and the status of Traffic Calming projects. Following discussion, the Committee provided guidance on the allocation of 2022 Pedestrian funding, directing greater attention to physical project improvements. This report is in response to the Committee’s comments and proposes an allocation of 2022’s Pedestrian Unallocated funding

DISCUSSION

Staff had suggested four streams of improvement projects and an update on traffic calming projects for the Committee's consideration at the April 21, 2022 GPC meeting. The four suggested streams were:

- Intersection safety investigations at high crash locations using artificial intelligence;
- Pilot speed reduction project in Urban Centres;
- Improvements to the Trans-Canada Highway (TCH) corridor from Cranberry Avenue to Maki Road; and,
- Pedestrian amenities.

The update on traffic calming projects outlined the four projects that were actively moving forward including:

- Bay Street;
- Lost Lake Road;
- Georgia Avenue Greenway; and,
- Departure Bay Beach.

Bay Street traffic calming was funded and is almost complete now. Pilot projects for Lost Lake Road and Georgia Avenue Greenway have been completed and both show evidence that additional traffic calming features are needed to manage travel speeds effectively. The permanent installations on these two streets and the seasonal traffic calming at Departure Bay Beach are all unfunded.

At the April 21, 2022 meeting, the Committee indicated that for 2022 Pedestrian funding, Staff should focus on projects that could be constructed to create tangible improvements to the pedestrian experience using evidence to support decision-making. This feedback allowed Staff to narrow focus to two proposed streams of pedestrian related improvements and to traffic calming projects. The three topics of this report are:

1. Improvements to the TCH from Cranberry Avenue to Maki Road;
2. Pedestrian amenities including crossings and sidewalks; and,
3. Traffic calming projects.

I. Improvements to the Trans-Canada Highway from Cranberry Avenue to Maki Road

The operation of this section of the TCH has generated concern from the residents in the south end of Nanaimo who have limited options to travel to and from their homes. City of Nanaimo (City) Staff have begun a conversation with representatives of the Ministry of Transportation and Infrastructure (MoTI) about a joint improvement project. MoTI staff have been receptive to the notion.

If approved by Council, the scope would need to be refined through conceptual design and a detailed cost estimate would need to be completed. The cost for the works would be broken out between the two agencies with each agency paying for its portion. The City's portion of the project, the sidewalk, is a pedestrian improvement which fits naturally into Pedestrian Unallocated funding. The $350,000 estimate is anticipated to cover the engineering fees for the design of the project, and the City's sidewalk construction.

Following the GPC meeting, additional work has been carried out to refine the scope of this project. The proposed scope (Map 1, Attachment A) and funding responsibilities are discussed below:

- Sidewalk on the west side of the TCH.
  The sidewalk on the west side of the TCH from Cranberry Avenue to Twelfth Street would be funded by the City;
- Southbound deceleration lane from TCH to Cranberry Avenue.
  A deceleration lane for southbound right turn traffic coming from the TCH to Cranberry Avenue would be funded by MoTI. Design options to reduce the right turn speed onto Cranberry Avenue would be explored;
- Extend northbound left turn slots on the TCH both at Cranberry Avenue and at Maki Street/Tenth Street.
  Lengthening of left turn slots on the TCH northbound at both signals would be funded by MoTI; and,
- Improved signal timings.
  Signal timing options would be explored using traffic signal simulation modeling. Changes to the traffic signal timings would be funded by MoTI.

The cost estimate for the engineering design of the project, and the construction of the sidewalk is $350,000.

II. Pedestrian amenities – Crossings and Sidewalks

Crossings

The Pedestrian Prioritization Tool has been in development over the last two years and is now ready to be implemented for engineering decisions. The tool makes use of the following factors: walk score, school proximity, number of crashes, availability of transit, volume of traffic, Urban Centres, crossing distance, social equity, and posted speed limit. These factors are weighted and combined to create an overall score. The score indicates a priority of each crosswalk relative to each other. The scores in the City currently range between 8.5 and 68 points. The tool, however, does not provide information on what should be done at the crosswalks with the highest scores.

Several crosswalks, despite high scores, have been excluded from the analysis carried out for this report. In its current form, the tool has generated the highest scores at traffic signals on multi-lane roadways. For example, the scores of 68 points were generated for crosswalks crossing Comox Road at Prideaux Street. This intersection is fully signalized with three-colour operation. Three-colour traffic signals with pedestrian actuation buttons offer the strongest form of traffic control and safety for pedestrians. In addition, evaluating and improving safety performance at signalized intersections is a complex effort. Therefore, the crosswalks at traffic signals have been excluded from analysis.

Similarly, crosswalks at stop-controlled intersections were also excluded. Generally, the rights and responsibilities of both pedestrians and motorists are clear and understood by the public at these types of intersections. So where motorists must come to a stop, those crosswalks were excluded.

Also excluded were crosswalks that will be part of a future large scale capital project. Some high-scoring crosswalks are planned to be improved when the capital project is completed; however, the timeline for that improvement is linked to the larger capital project.

What remained were high-scoring crosswalks that were not at traffic signals, not at stop-controlled intersections, and not within future planned capital projects. Eight potential projects were identified and are discussed below.

1. Wakesiah Avenue at Foster Street – 61 points

This intersection is located adjacent to Nanaimo District Secondary School and it has the following causal factors:

- Transit stops
- Heavy student usage
- Vehicle congestion at the opening and closing of the school day

The Rectangular Rapid Flashing Beacons (RRFBs) at this location have been shown to be insufficient for the conditions here because of high pedestrian demand. Concerns have been expressed by School District No. 68, Regional District of Nanaimo Transit, and motorists about the before and after school congestion. The combination of vehicle volumes, pedestrian demand and transit operation lead to a high number of conflicts and the need for a higher form of traffic control. Ideally, a pedestrian signal (half signal) would be installed. While ideal, the costs are considerable as it is expected to be on the order of $500k.

A major capital project is planned for this corridor in the foreseeable future and the signal could be considered as part of that work when it happens. If Council is interested in accelerating this project, it could be funded from the unallocated budget. This, however, would consume a large portion of the available funds.

2. Departure Bay Road at Barons Road – 57 points

This crossing has the following features:

- RRFB at the end of its functional life span
- Transit stops
- Wide crossing distance with a median island
- 50 km/h posted speed
- Heavy student usage

It is possible to take advantage of the centre median by converting this crossing to two stages. This gives pedestrians a refuge in the middle of Departure Bay Road for a safe place to stand between directions of traffic. This is anticipated to address pedestrian needs at this location. The cost estimate in Table 2 includes replacement RRFB technology and the median treatment.

3. Fitzwilliam Street at Selby Street – 57 points

This crossing is:

- Within the Old City Quarter and part of the downtown Urban Centre
- Marked with paint and signs, plus a warning sign advising drivers to yield to pedestrians
- Within a 50 km/h posted speed

This crosswalk sits between two other crosswalks and it has bump-outs to shorten the crossing distance. A raised crosswalk would be helpful at this location. However, Fitzwilliam is an emergency services corridor which makes vertical deflections undesirable. Staff also considered

a 30 km/h speed limit but information from the GPC meeting encouraged alternative approaches. Weighing all the options, Staff are recommending installation of a RRFB as the next step to address crossing needs.

4. Applecross Road at Calinda Street – 54 points
This crossing has the following features:

- Wide crossing distance
- Marked with paint and signs
- 50 km/h posted speed

With the wide crossing distance here, Staff recommend bump-outs in combination with RRFBs.

5. & 6. NIC-NAC and Trail Crossings on Third Street - 53 and 50 points
There are two crossings on Third Street. The first is located between the Nanaimo Ice and Aquatic Centres (NIC-NAC). The second is the trail connection adjacent to Serauxmen Stadium. These are presented as a pair because they are close together and have similar features:

- Well-used by pedestrians
- Higher volumes and speeds of vehicles
- RRFBs at the end of their functional lifespans

The 85th percentile travel speed was 66 km/h at the last count. Based on the travel speeds of traffic, Staff recommend pedestrian signals (half-signals) at these two locations. The two half signals could be combined operationally, and synchronized to minimize stoppage for motorists. The design of these two signals, the hardware and the operational analysis, require engineering and cost estimation for financial accuracy; however it is expected the cost would be approximately $1,000,000.

7. Franklyn Street at Selby Street – 53 points
This crossing has the following features:

- Within the downtown Urban Centre
- Posted speed of 50 km/h
- Wide crossing distance

Staff recommend bump-outs to narrow the crossing distance as the first step to address crossing needs.

8. Townsite Road at Holly Avenue – 52 points
This crosswalk connects the E&N Trail across Townsite Road and is part of a primary active transportation corridor identified in the draft City Plan. It has the following features:

- Wide crossing distance
- Active transportation connectivity
- 50 km/h speed limit

Based on these factors, an RRFB along with curb bump-outs is recommended.

The above information is summarized in Table 1 and represented on Map 2, Attachment A. Table 1 also includes Class D cost estimates.

Table 1 - Proposed Crosswalk Improvements & Cost Estimates

Crosswalk Location		Score	Current Control Features	Proposed Improvement	Cost Estimate - Class D
1	Wakesiah Ave at Foster St	61	RRFB	Half signal	$500,000 – Capital program
2	Departure Bay Rd at Barons Rd	57	RRFB	RRFB & 2-stage crossing	$90,000
3	Fitzwilliam St at Selby St	57	None	RRFB	$20,000
4	Applecross Rd at Calinda St	54	None	RRFB & 2-stage crossing	$90,000
5 & 6	NIC-NAC and Trail, Third St	53 & 50	RRFB (2)	Half signals (2)	$1,000,000 - Capital program
7	Franklyn St at Selby St	53	None	Bump-outs	$50,000
8	Townsite Rd at Holly Ave	52	None	RRFB and bump-outs	$150,000

Summary of Crossings
Staff recommend:

- Reassign the half signal at Wakesiah Avenue at Foster Street to the Capital program for future funding consideration;
- Reassign the two half signals at NIC-NAC and Trail on Third to the Capital program for future funding consideration; and,
- Complete remaining crosswalks (2), (3), (4), (7), and (8), at total expenditures of $400,000.

Sidewalks

Three sidewalk projects are presented for consideration. Each has been brought to Staff's attention separately, and more information is offered under each heading.

1. Departure Bay Road south side – Alan-A-Dale Place to Wardropper Park
   Class D Estimate: $450,000

This location was identified through the Departure Bay Eco School Active Route to School Plan and noted as a particularly concerning area for students to walk. Through this process, parents indicated that this was one of the key barriers to allowing children to walk to and from school. As an interim measure, shoulder-mounted bollards were installed in 2020 to separate vehicles from pedestrians. In 2021, RRFBs were installed at the main crossing to the front entrance of the school.

This sidewalk was offered for consideration previously, within the 2021 Pedestrian Unallocated presentation. This location is especially challenging to construct because of the topography. The cost estimate, $450,000, is higher than average to account for the challenging topography and recent increases in construction costs.

2. Departure Bay Road north side – from Highland Boulevard to Highway 19A
   Class A Estimate: $85,000

Although there is a private concrete walkway adjacent to the commercial property, it is only accessible by stairs. This sidewalk request came in from a citizen who uses a wheelchair and is a regular patron of Brooks Landing Mall. For people with mobility challenges, this area has few viable route options and the sidewalk would provide an important connection. The sidewalk has already been designed and costs established.

3. Third Street east side – from 850 Third Street (Rotary Field House) to Jingle Pot Road
   Class D Estimate: $240,000

Currently, a multi-use path ends at the shoulder of Third Street near the north end of the Rotary Field House parking area. For pedestrians to continue north, there is a paved shoulder available along this portion of Third Street taking them to the intersection with Jingle Pot Road. This area has high volumes and speeds of traffic, and separating pedestrians would improve their level of comfort. There is a public request to add sidewalk to this stretch which would complete the pedestrian network in this area. Furthermore, the recreational facilities in this area are included in the VIU Urban Centre and the supply of sidewalk is in keeping with values in the draft City Plan.

III. **Traffic Calming Projects**

The purpose of traffic calming is to moderate vehicle speeds, enhance pedestrian and other user safety, while avoiding impacts to emergency services response times. Achieving success with traffic calming is challenging due to the conflicting nature of the objectives. While it is evident that some features like speed tables are very effective at slowing traffic, public acceptance of many features is low, and impacts to commercial or emergency services is unacceptable. Several traffic calming projects have been piloted and the results show additional features are needed to manage travel speeds effectively. The outcome of the pilot projects on Lost Lake Road, Georgia Avenue Greenway, and Departure Bay Beach seasonal traffic calming are discussed in more detail below.

<u>Lost Lake Road</u>
Traffic calming was installed during 2021 with some success. At the west end of the road where Vanderneuk Road intersects with Rutherford Road, traffic speeds were reduced by 3 km/h. At the east end of the road near Blue Jay Way, the speed reduction was 9 km/h but the 85th percentile remained above desirable at 57 km/h. The traffic calming devices at the east end of the road included concrete median treatments which appear to be more effective than the flexible bollards installed at the west end. The before and after data are shown on Map 3, Attachment A.

Based on communication received from the neighborhood, it appears that residents are generally pleased with the traffic calming efforts. However, they felt that more should have been done.

There remains a desire for the installation of sidewalks; however, limited right-of-way and challenging topography means that the costs would be 3 to 4 times higher than other typical sidewalk locations. Unfortunately, sidewalk construction as a standalone effort is cost prohibitive at this time. Sidewalks and traffic calming devices are being included as development works proceed, as well as within utility projects where feasible.

Georgia Avenue Greenway

The Greenway was first proposed to be an active transportation corridor in the 2013 Harewood Neighbourhood Plan. Phase 1 was completed in 2019 and was well received by the community. Phase 2 included the traffic calming efforts of 2021 which appear to have had small impact on travel speeds. Of concern is the "after" 85th percentile speed of 45 km/h in front of Georgia Avenue Elementary School where a 30 km/h zone is posted. The before and after data are shown on Map 4, Attachment A.

Neighbourhood feedback received by email was generally negative about the temporary traffic circles. The residents did not appreciate traffic calming on a road they felt was safe enough. However, in an on-going online poll which is available to all Nanaimo citizens, 68% of respondents view temporary traffic circles as a cost effective way to test traffic calming.

Departure Bay Seasonal Traffic Calming

This seasonal traffic calming has been installed for three summers, 2019, 2020, and 2021. In 2019, the traffic calming consisted of a 40 km/h posted speed. In 2020, the 40 km/h posted speed was augmented with concrete curbs on centreline. This was repeated in 2021. Comparison of summer travel speeds for three summers are shown in Table 3.

Table 3 - Summer Travel Speeds at Departure Bay Beach by Year

Year	**85th Percentile Speeds**	
	Northbound	**Southbound**
2018 – No traffic calming	49 km/h	52 km/h
2019	56 km/h	55 km/h
2020	54 km/h	54 km/h

Public feedback by email and phone indicated they would like to see permanent year-round traffic calming and more effective measures including speed humps. As part of this year's analysis, staff propose to change the method of data collection to find out how speeds change over the length of the beach section. This would inform future traffic calming efforts.

Traffic Calming Projects next in Queue

Traffic calming projects on Bradley Street, Extension Road, and Mountain Vista Road have begun. Public consultation and conceptual design work are at various stages for each of the locations. Pedestrian Unallocated funding could be reallocated to the general traffic calming fund allowing Staff to further develop the projects.

Summary

Staff recommend $165,000 of Pedestrian Unallocated funding be reallocated to the Traffic Calming IO 50034, raising it from $50,000 to $215,000. This funding would allow Staff to further develop the projects through public consultation and design. Once each project has reached a suitable level of maturity, Staff would return to Council with an outline and an opportunity to move forward with implementation.

IV. Options for Funding Allocation

The program this year is proposed to include: the TCH improvements; some of the crosswalk improvements; a sidewalk installation on Departure Bay Road; and, a portion allocated to traffic calming. Four funding options are presented for discussion. Option A is recommended by Staff.

Option A – Recommended

TCH Corridor Improvements	$350,000
Improve Crosswalks 2, 3, 4, 7, and 8	$400,000
Install Sidewalk (2) – on Departure Bay Road from Highland Boulevard to Hwy 19A	$85,000
Traffic Calming IO Allocation	$165,000

Option B

TCH Corridor Improvements	$350,000
Improve Crosswalk 1 – half signal	$500,000
Traffic calming IO Allocation	$150,000

Option C

Improve Crosswalks 1, 2, 3, 4, 7, and 8	$900,000
Traffic calming IO Allocation	$100,000

Option D

Improve Crosswalks 2, 3 and 4	$200,000
Install Sidewalks 1, 2, and 3	$785,000
Traffic calming IO Allocation	$15,000

OPTIONS

1. That Council allocate $1,000,000 of Pedestrian Unallocated Funding to the projects listed under Option (A).

    - The advantages of this option: This option addresses the pedestrian needs on the Trans-Canada Highway, accessibility on a section of Departure Bay Road, five pedestrian crossings, and accelerates six traffic calming projects.
    - The disadvantages of this option: The crossing with the highest score is not addressed. Traffic calming projects improve the pedestrian experience indirectly.
    - Financial Implications: None.

2. That Council allocate $1,000,000 of Pedestrian Unallocated Funding to projects identified in this report, chosen by way of motion.

    - The advantages of this option: Projects that resonate with the community can be addressed more immediately. Crossings with high scores can be directly addressed.
    - The disadvantages of this option: Projects may not be completed in order of priority. If the Trans-Canada Highway corridor is not included, the opportunity for partnership with Ministry of Transportation and Infrastructure will be diminished.
    - Financial Implications: None.

3. That Council provide alternate direction.

SUMMARY POINTS

- In 2022, $1,000,000 has been allocated to pedestrian improvements.
- The projects under consideration include four sidewalks, eight crosswalk improvements, three sidewalk projects, and six traffic calming projects.
- Council will determine which projects are to have funding allocated.

ATTACHMENTS:

~~Attachment A – Proposed Improvement Maps~~
~~Attachment B – Allocation of Pedestrian Unallocated Funding Presentation~~

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