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ACTIVE TRANSPORTATION NETWORK PLAN

Village of Belcarra

Final Report | November 2025

VILLAGE OF BELCARRA

Corporate Authorization

This document was prepared by Bunt & Associates Engineering Ltd. (Bunt) on behalf of the Village of Belcarra. The information and data in this report reflects Bunt's best professional judgment in light of the knowledge and information available at the time of preparation.

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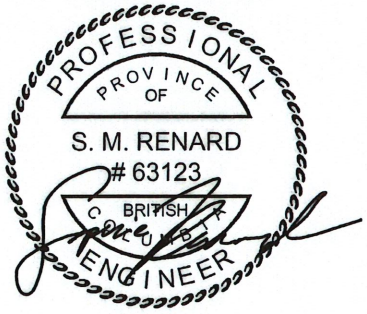

2025-11-18

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1. INTRODUCTION

The Active Transportation Network Plan (ATNP) for the Village of Belcarra is designed to enhance accessibility, safety, and sustainability within the community. By building out a more inclusive and complete active transportation network, the ATNP will make active transportation a more attractive choice for trips within the community.

1.1 WHAT IS ACTIVE TRANSPORTATION?

Active transportation includes any form of human-powered transportation. It is often synonymous with cycling and walking, however there are many other forms of active transportation such as skateboarding, in-line skating, and mobility scooters. Advancements in technology have introduced new forms of transportation, including pedal assist or fully electric bicycles, electric scooters and skateboards, and other mobility assistance devices, known as micro-mobility. These micro-mobility devices expand the number of people who can make use of active transportation networks.

While Belcarra boasts a network of trails and pathways, its local roads lack infrastructure to safely connect people to key destinations by walking, cycling, or using other modes of active transportation. The village has approximately 15-20 roads and maintains several unofficial trails. To address this, the ATNP will focus on practical, context-specific solutions and improvements to create a safer and more accessible and inclusive active transportation network.

Benefits of Active Transportation

Active transportation promotes sustainability and livability by offering affordable, healthy, and eco-friendly ways to move around. Enhancing active transportation infrastructure aligns with Belcarra's commitment to preserving its natural beauty and ensuring residents' high quality of life.

Health

Physical activity is widely documented to improve both physical and mental well-being. Active transportation is both an affordable and accessible way to add exercise to a daily routine and increase face-to-face social interaction.

Environment

Vehicle trips, traffic congestion, noise pollution and greenhouse gas emissions are reduced, which can help protect the land and its resources for future generations.

Safety

Increasing awareness and visibility of active transportation users and facilities have shown to result in lower vehicle speeds, which leads directly to safety benefits for vulnerable road users (i.e., children, those with disabilities, older residents).

Society

Transportation options are increased leading to equitable methods of travel to include lower income individuals, youth, older residents, and others who may not have or desire access to a vehicle.

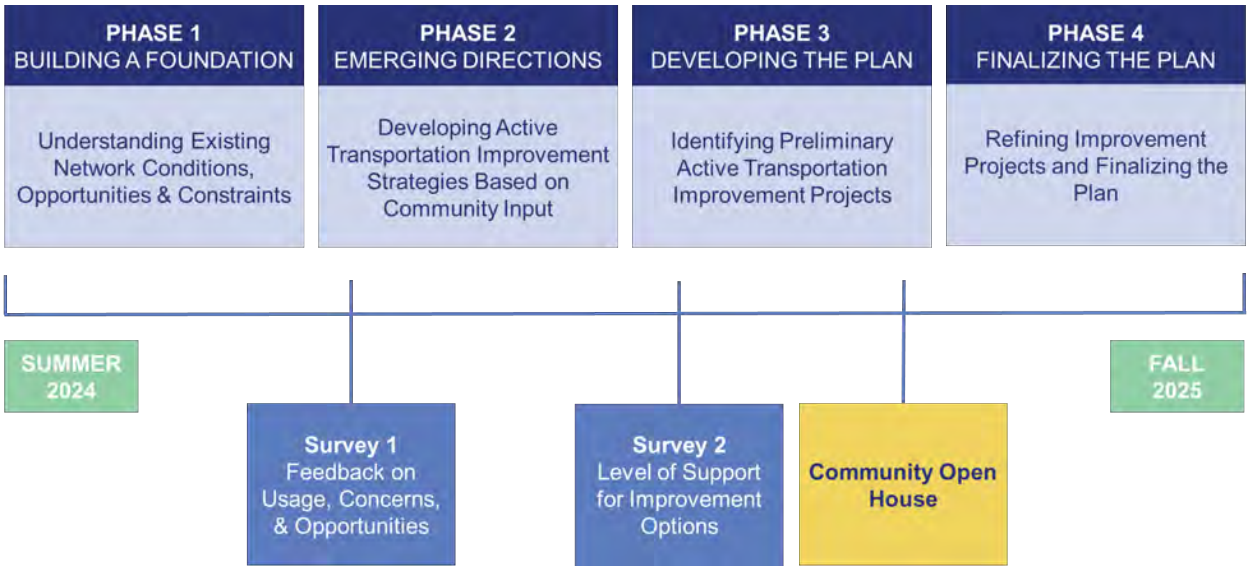
Forms of Active Transportation in Belcarra

Active transportation can take many forms, ranging from traditional modes such as walking and cycling to emerging options like e-scooters and e-skateboards. This Plan focuses on walking and biking, as these are the most common modes to accommodate given the Village's scale, geography, and resources. But these same facilities are often well-suited for other forms of active transportation. Where possible, walking facilities can be designed to be accessible for a range of users, including people using mobility aids such as walkers and wheelchairs. Similarly, cycling facilities can be designed to accommodate other small, low-emission travel modes like e-scooters, wherever possible.

1.2 PLAN PROCESS

Belcarra's Active Transportation Network Plan (ATNP) was developed over four phases beginning in Summer 2024, building from the ground up, and starting with the Village and its residents. By embedding engagement at the heart of the ATNP, the Plan ensures that Belcarra's active transportation future reflects local aspirations, making it feasible and responsive to the community's needs.

Project Process



Phase 1 | Building a Foundation

The process began with initiatives to review background information and engage with the community, establishing an understanding of the community context and setting a clear direction for the ATNP.

Phase 2 | Emerging Directions

Building on the knowledge and understanding gained through the first phase, we began identifying emerging directions for the ATNP and developing near, intermediate, and long-term network plans. We brought these ideas forward to Village residents to gather their feedback on improvement options.

Phase 3 | Developing the Plan

We continued to develop the Plan by refining the proposed improvement options to suit the community's needs, ensuring that each resident's concerns were heard and addressed. In this phase, we also began to develop supporting strategies to implement and monitor the Plan's outcomes.

Phase 4 | Finalizing the Plan

In the final phase, we further refined the ATNP based on the review and feedback on the Draft ATNP documents, delivering a finalized, actionable plan that is ready for implementation.

1.3 GOALS AND OBJECTIVES

In Belcarra Council's Strategic Plan, one of the key priorities is to incrementally build out and maintain a path, trail, and road shoulder network. The ATNP also supports Belcarra's Official Community Plan (OCP), aligning with its Mobility Policies on Active Transportation and Trails. The ATNP is guided by Policy M22 which establishes the following key considerations for developing Belcarra's ATNP:

1. ***"Options to improve pedestrian safety on Bedwell Bay Road** including new crosswalks at Village Hall, at Midden Road, north of Watson Road and other locations as appropriate."*
2. ***"Additional transit shelters on Bedwell Bay Road** at Village Hall, Midden Road, and other locations as appropriate."*
3. ***"Options to control vehicle speed on Bedwell Bay Road** and other locations as appropriate (e.g., flashing signage, speed camera etc.)."*

Project Goals

The ATNP for the Village of Belcarra is designed to enhance accessibility, safety, and connectivity within the community while aligning with broader objectives in the OCP. Key goals include:

1. **Enhance Active Transportation Safety:** Addressing safety concerns related to active transportation, ensuring that infrastructure improvements offer secure and reliable options for residents.
2. **Close Active Transportation Network Gaps:** Identifying and addressing gaps in the current active transportation network to improve biking and walking within the Village for users with diverse accessibility needs.
3. **Support Walking and Biking for Health and Leisure:** Making it easier for residents to walk and bike within the village, supporting walking and biking as safe option for health and leisure activities, such as running, jogging, and walking pets.
4. **Improve Access to Parks and Beaches:** Providing active transportation infrastructure to support local access to parks and beaches. This includes, but is not limited to, təmtəmíxwtən (Belcarra Regional Park) and several foreshore accesses throughout the Village.
5. **Improve Access to Existing Trail Systems:** Improving connections to existing trail systems, such as Cosy Cove, Jug Island Beach, and those on the west side of Buntzen Lake (including the Diez Vistas Trail), as well as access to the Belcarra Paddling Centre. This will benefit residents who use the trails recreationally for walking.

Beyond specific project goals, the ATNP aims to provide broader benefits by contributing to climate change mitigation and improving health outcomes through enabling increased physical activity.

Project Objectives

The following objectives guide the ATNP for Belcarra:

Address Issues in the Official Community Plan

The ATNP seeks to resolve issues highlighted in the OCP, with a focus on improving:

- **Pedestrian and cyclist safety**, particularly through enhanced infrastructure and safer walking environments.
- **Trails and pathways**, including better maintenance of local trails such as the Watson Trail, Tatlow Trail, Taylor Trail, and other existing pathways throughout the Village.
- **Vehicle speed management**, especially along Bedwell Bay Road, to ensure safer conditions for all road users.

Identify Implementation Strategies

The ATNP will lay out actionable steps for the realization of its goals:

- **Explore funding opportunities** from various sources, ensuring the plan's financial viability.
- **Coordinate with roadway projects** to integrate active transportation improvements seamlessly.
- **Establish monitoring and maintenance plans** to ensure the long-term success and upkeep of the transportation network.

Collaborate with Neighbouring Jurisdictions and Governing Agencies

The ATNP emphasizes working with neighbouring communities and agencies such as TransLink, Metro Vancouver, and BC Hydro. This approach aims to:

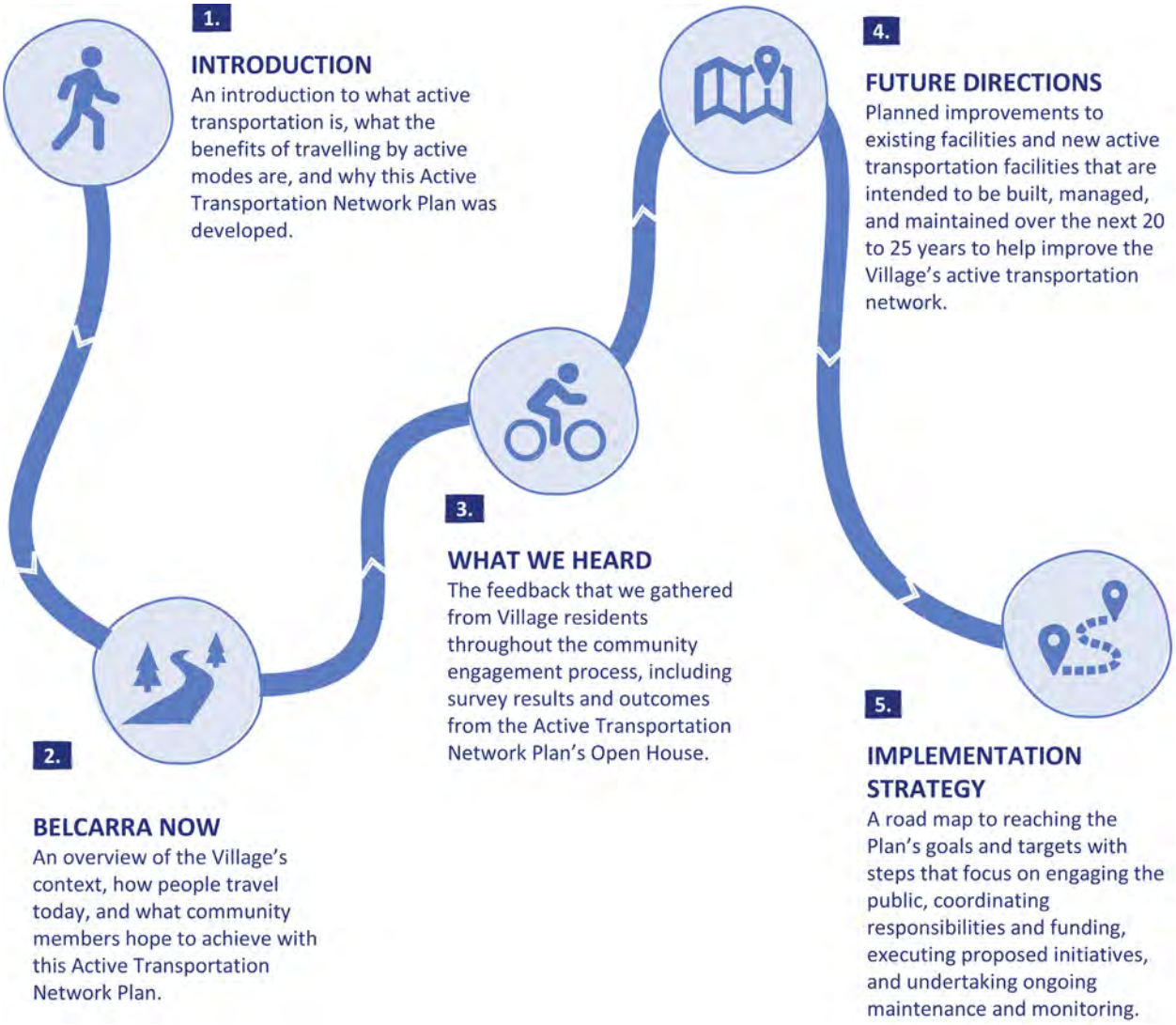
- Ensure Belcarra's active transportation improvements **complement regional efforts**.
- Facilitate **consistency of active transportation infrastructure** with best practices of the broader Metro Vancouver region.

These objectives position the ATNP as a comprehensive and cooperative effort to enhance safety, connectivity, and sustainability, benefiting both Belcarra residents and visitors.

1.4 USING THIS DOCUMENT

This ATNP can serve as a guide for creating a safer and more connected active transportation network in Belcarra, ensuring that each project is financially viable and strategically planned to suit the unique needs of Belcarra's residents. This ATNP should be reviewed and updated periodically as the Village continues to monitor the growth and success of Belcarra's active transportation network. By treating this ATNP as a living document, Belcarra's plans and priorities will be adaptable over time as best practices, emerging technologies, and political directions continue to evolve.

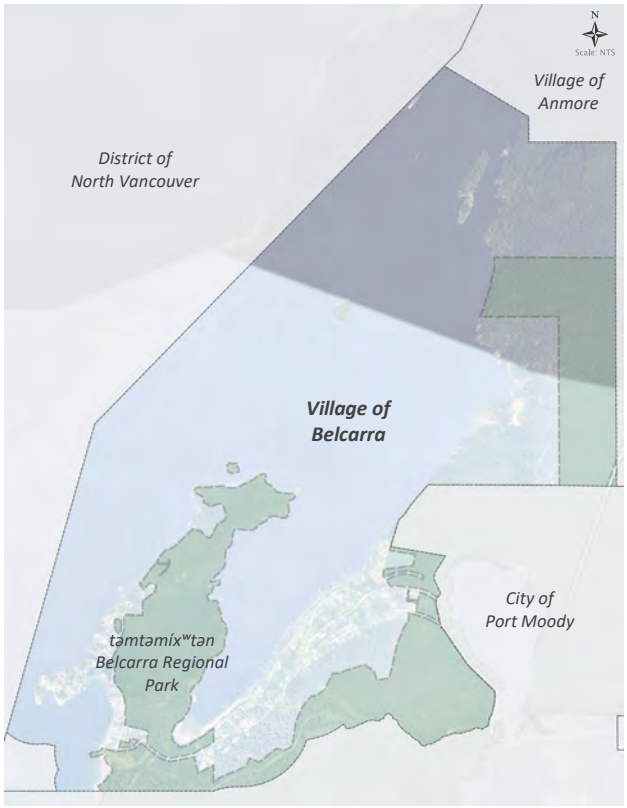
Plan Layout



2 BELCARRA NOW

2. BELCARRA NOW

To build a plan for the future of active transportation within Belcarra, it is important to first establish a baseline. This section outlines the land use and demographic characteristics that influence the existing transportation choices and travel patterns across the Village.



Belcarra Village Boundaries

2.1 LOCAL CONTEXT

The Village of Belcarra is a coastal community that sits along the scenic shores of Indian Arm and Bedwell Bay. Surrounded by conservation and recreation areas, Belcarra is characterized by its tranquility and natural beauty with a population of just 700 residents. Belcarra is located within the traditional territory of the səlilwətaɬ/Tsleil-Waututh Nation between the City of Port Moody and the Village of Anmore.

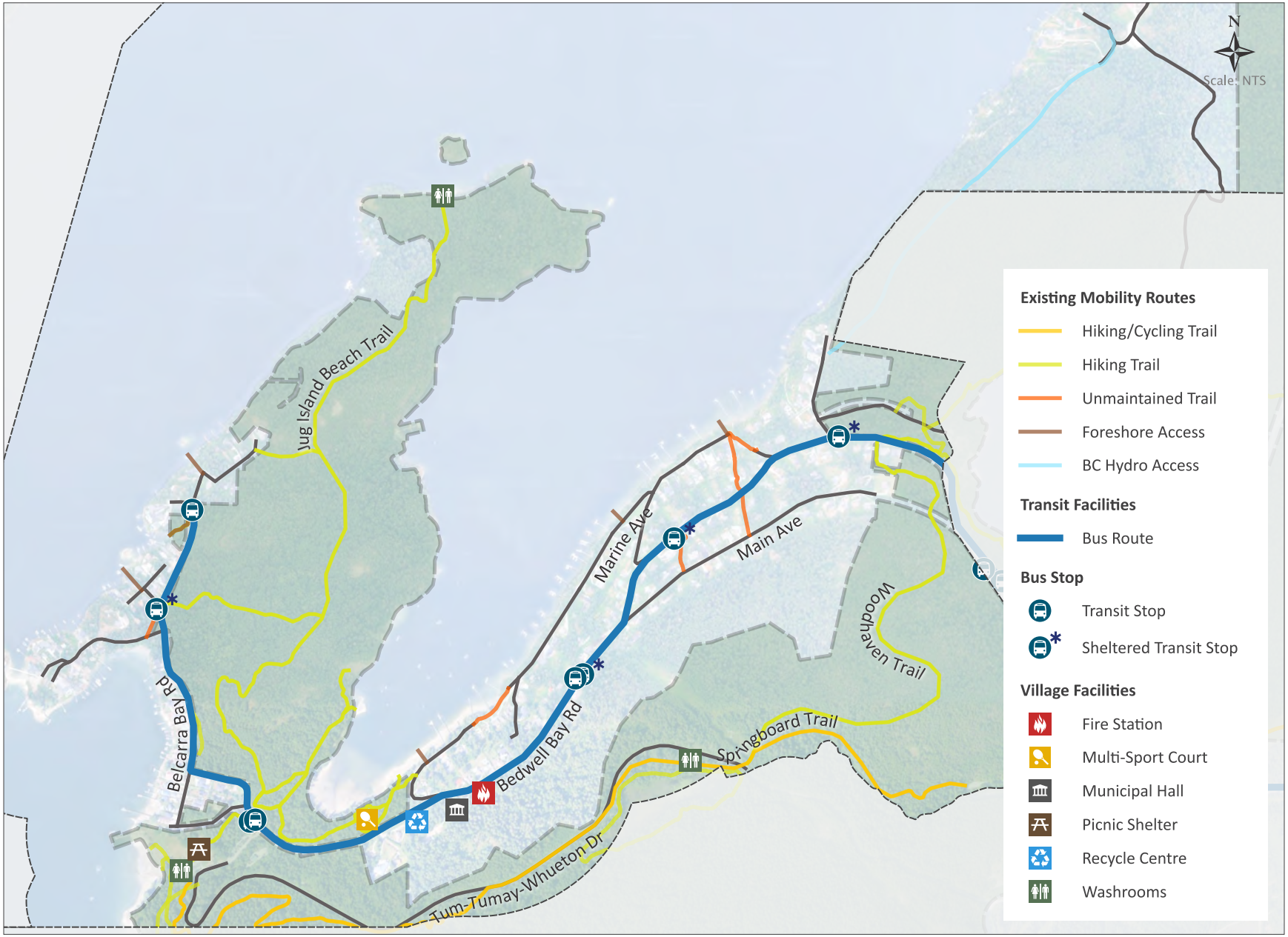
Belcarra's trails and pathways connect residents and visitors to the natural environment with popular walking, hiking, and biking trails within təmtəmíxʷtən/Belcarra Regional Park and Say Nunth Khaw Yum/Indian Arm Provincial Park. The Springboard Trail offers walking and biking connections along Belcarra's southern border, forming part of Metro Vancouver's Regional Greenway Network. Bus stops along Bedwell Bay Road and Belcarra Bay Road provide transit access into Belcarra Village Centre with connections to Moody Centre.

Primary vehicle routes into Belcarra include Bedwell Bay Road and Tum Tumay Whueton Drive, which provide access to the Belcarra Picnic Area and Jug Island Trailhead. Other vehicle routes provide access into Belcarra's residential areas along Belcarra Bay Road, Marine Avenue, and Main Avenue. Bowser Avenue provides access to the Sasamat Outdoor Centre. White Pine Beach Road provides access from Port Moody into the Farrer Cove area, but, other than a rough BC Hydro service route, there are currently no public connections from the Village into Farrer Cove, and many homes in the area are water-access only. Plans to develop a new road into Farrer Cove are under consideration and referenced in the Village's OCP.

2.2 ACTIVE TRANSPORTATION IN THE VILLAGE OF BELCARRA

Belcarra's active transportation network, shown in **Exhibit 2.1**, is characterized by its many trails and pathways, but the local roads lack supporting infrastructure to connect people to key destinations by walking, cycling, and other modes of active transportation. By focusing on context-specific solutions that align with Belcarra's commitment to preserving its natural beauty, this ATNP can help guide the development of a safe, accessible, and inclusive active mobility network.

EXHIBIT 2.1 | EXISTING MOBILITY NETWORK



2.2.1 EXISTING MOBILITY NETWORK

Belcarra's existing mobility network is the foundation of this Plan. Understanding the local context, limitations, and opportunities provides the knowledge and insights needed to tailor the ATNP to meet Belcarra's unique needs. Building on the community's existing network of trails and pathways, the ATNP was developed with context appropriate solutions that focus on enhancing safety and accessibility.

Tum Tumay Whueton Drive

Tum Tumay Whueton Drive serves as the primary access road into the Belcarra Picnic Area, providing access to public parking for people visiting təmtəmíxʷtən/Belcarra Regional Park. Vehicle volumes are higher than those throughout Belcarra's residential neighbourhoods with more visitor traffic along this roadway, although vehicle speeds are managed with a reduced speed limit of 30 km/hr.

Images of Tum Tumay Whueton Drive

Springboard Trail

The Springboard Trail extends along Tum Tumay Whueton Drive, with several access points to packed gravel walking and cycling paths and a section of an on-street painted bike lane connecting the south boundary of Belcarra to the Belcarra Picnic Area and other major trailheads. There are speed bumps and crosswalks near the trail accesses along Tum Tumay Whueton Drive. Forming part of the Regional Greenway Network, the Springboard Trail is a key link to destinations throughout the region.

Images of Springboard Trail

Bedwell Bay Road

Bedwell Bay Road extends across the Village of Belcarra and provides the sole vehicle access to Belcarra's residential neighbourhoods. It provides access to many trails and pathways, including Jug Island Beach Trail, Bedwell Bay Trail, Woodhaven Trail, and other unmaintained recreational connections including Taylor Trail, Tatlow Trail, and Watson Trail.

Forming part of TransLink's Major Road Network (MRN), Belcarra Bay Road experiences higher resident, truck, and bus traffic than local roads, with many vehicles travelling at higher speeds around corners with limited visibility. While portions of Bedwell Bay Road feature wide shoulders that can be used by pedestrians and cyclists, there are missing links where road shoulders are too narrow to safely accommodate active users. Share the Road signage is used to encourage cyclists to share the vehicle travel lanes.

Belcarra's transit network is accessed primarily by bus stops along Bedwell Bay Road, with some bus stops featuring shelters and benches with marked crosswalks, and others featuring little to no supporting infrastructure for pedestrians and cyclists.

Images of Bedwell Bay Road

Bedwell Bay Trail

Bedwell Bay Trail is a walking trail that runs from Bedwell Bay Road around the old multi-sports court between Marine Avenue and out towards the Bedwell Bay Bluffs Trail.


Images of Bedwell Bay Trail

Woodhaven Trail

Woodhaven Trail extends across Belcarra from Springboard Trail to Sasamat Lake Loop Trail. A crosswalk provides safe passage across Bedwell Bay Road with a wide shoulder on the north side.


Images of Woodhaven Trail

Jug Island Beach Trail

The Jug Island Beach Trail extends from the Belcarra Picnic Area out to Jug Island Beach at the tip of Bedwell Bay. The trail crossing at Bedwell Bay Road is well used by people travelling to and from the Belcarra Picnic Area parking lots and the bus stops along Bedwell Bay Road near Midden Road.


Images of Jug Island Beach Trail

Marine Avenue

Marine Avenue extends along the shoreline parallel with Bedwell Bay Road. It is a local road with low vehicle volumes and speeds and offers trail connections to Bedwell Bay Road and Main Avenue.


Images of Marine Avenue

Recreational Trail Connections to the Beach

There are three unmaintained recreational trails connecting to the beach from Marine Avenue, one of which is currently closed to the public. These connections are currently difficult for most to access.

Images of Recreational Trail Connections to the Beach

East-West Recreational Trail Link

A packed gravel pathway connects the east and west edges of Marine Avenue with expansive views of Bedwell Bay, although there are steep edges that are without rails or other forms of protection.

Images of East-West Recreational Trail Link

Watson Trail

Watson Trail extends from Marine Avenue towards Bedwell Bay Road. The packed gravel pathway features some protective guarding but has narrow portions that are difficult for some users to access.

Images of Watson Trail

Tatlow Trail

Tatlow Trail connects across Marine Avenue to Main Avenue. A crosswalk provides passage across Bedwell Bay Road; however, the packed gravel trail features steep slopes and narrow sections.


Images of Tatlow Trail

Main Avenue

Main Avenue runs parallel to Marine Avenue and Bedwell Bay Road. Vehicle volumes and speeds are low, making it a more comfortable alternative to Bedwell Bay Road for pedestrians and cyclists.


Images of Main Avenue

Taylor Trail

Taylor Trail is an unmaintained recreational path that extends from Main Avenue to the bus stop on Bedwell Bay Road near Kelly Avenue, but steep drop-offs and a lack of signage make it difficult to find.


Images of Taylor Trail

2.3 SHAPING INFLUENCES

2.3.1 DEMOGRAPHICS

Demographics often influence transportation choices and travel behavior, playing a key role in shaping the community's unique mobility needs.

- **Belcarra has a small, stable population,** with just over a 5% increase in the population from 2016 to 2021, Belcarra's population rests comfortably with less than 700 residents, making it important not to overdesign Belcarra's mobility network. Improvements should focus on safety and accessibility, while aligning with Belcarra's commitment to preserving its natural beauty.
- **Belcarra is an aging community,** with 30% of the population aged 65 years and older, it is important to ensure that Belcarra's mobility network supports aging in place by providing safe, convenient, and accessible transportation options for people of different ages and abilities.
- **Some of Belcarra's ageing population can no longer drive and may need to take the bus,** improving local area active transportation connections to local TransLink/Coast Mountain Bus Company (CMBC) stops on Bedwell Bay Road can create safer, more convenient access to public transit.
- **Most residents do not commute to work,** with only 25% of the population commuting to work, active mobility can focus on creating opportunities for health, recreation, and leisure, rather than catering to commuter needs.

2.3.2 TRAVEL PATTERNS

Understanding where, when, and how people currently travel in Belcarra – whether by walking, biking, or driving, provides insight into residents' mobility choices, needs, and preferences. These insights shed light on existing barriers, gaps, and opportunities that inform the development of a user focused ATNP.

Belcarra's residents have to travel outside of the community to access most of their daily and essential needs such as groceries, schools, employment, and healthcare. People still travel by active modes several times a week, with 81% of survey respondents using active transportation at least once a week for recreational purposes within the community.

We asked residents to expand on how and why they use active modes, and this is what we heard:

Most Frequently Used Active Travel Modes

Respondents cited **walking is the most frequently used active travel mode**, with 117 respondents ranking it among their top three choices. Cycling and running/jogging were the second most popular modes, each mode selected by 38 respondents.

Eleven open-ended comments were received regarding active travel methods. These comments highlighted safety concerns about walking on roads and expressed a desire for safer conditions to encourage more biking and walking.

Most Common Reasons for Active Travel

Health and fitness are the most common reason for active travel, cited by 103 respondents, followed by recreation and leisure (82 respondents) and visiting parks and trails (75 respondents).

Eighteen open-ended comments noted the use of active transportation for daily activities, such as collecting mail, dog walking, and visiting friends. There were also comments that emphasized concerns about safety due to the lack of sidewalks and called for improved cycling access on existing trails.

What Would Encourage More Active Travel

65% of respondents cited that better and safer infrastructure and safer conditions would inspire more frequent active travel. 33% of respondents were satisfied with their current active travel habits.

3 | WHAT WE HEARD

3. WHAT WE HEARD

Engagement and communication are the foundation of Belcarra's ATNP, with input gathered from the community, stakeholders, and elected officials throughout the planning process. By embedding engagement at the heart of the ATNP, the Village of Belcarra ensures that its active transportation future reflects local aspirations, making it feasible and responsive to the community's needs.

3.1 ENGAGEMENT AND COMMUNICATIONS APPROACH

The Project Team deployed a range of methods to engage the public, ensuring that residents were informed throughout the process, consulting with community members to help shape the plan, and educating the community about the benefits of active transportation.

Engagement Tools and Techniques

Various engagement methods and communication tools were used to share information, promote engagement opportunities, and gather feedback from the community, including:

- 2 Online Surveys
- 2 Project Posters at Belcarra Municipal Hall and Mailbox Bulletin Boards
- A Project Webpage
- 2 Informational Mail-Outs
- 2 Articles in the Belcarra Barnacle
- 2 Presentations at Village Council Meetings
- A Community Open House

Table 3.1: Engagement Schedule

ENGAGEMENT	DATE
Round 1	*October 21 – November 28, 2024*
Presentation to Council	October 21, 2024
Project Webpage	October 22 – Project Completion
Informational Mail-Outs to Residents	October 22 – 31, 2024
Project Poster at Municipal Hall and Mailbox Bulletin Boards	October 22 – November 28 2024
Online Survey and Print Survey at Belcarra Municipal Hall	October 30 – November 28 2024
Article in the Belcarra Barnacle	November 1, 2024
Round 2	*March 17 – July 7, 2025*
Informational Mail-Outs to Residents	March 17 – 25, 2025
Project Poster at Municipal Hall and Mailbox Bulletin Boards	March 17 – April 13, 2025
Online Survey and Print Survey at Belcarra Municipal Hall	March 21 – April 13, 2025
Article in the Belcarra Barnacle	April 1, 2025
Community Open House at Belcarra Municipal Hall	April 2, 2025
Engagement Results Report to Council	July 7, 2025

The efforts that took place together with what we heard are summarized in the Engagement Summary Reports that are included in **Appendix A** and **B**.

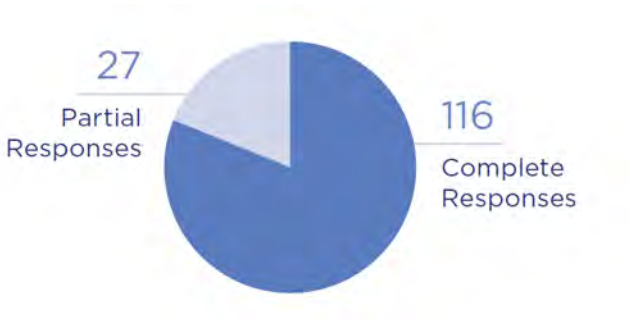
3.2 PUBLIC ENGAGEMENT ACTIVITIES

3.2.1 ENGAGEMENT ROUND 1

The first round of engagement was launched during the Fall of 2024, including a public survey that was open from October 30th to November 28th and a presentation at the Village Council Meeting on October 21st, 2024. The engagement process was advertised using informational mail-outs, project posters posted at the local mailboxes, an advertisement in the Belcarra Barnacle, and a project webpage posted on the Village of Belcarra's website.

Public Survey

143 responses (116 complete and 27 partial) were received for the survey. The purpose of the survey was to capture active travel observations and experiences in Belcarra.



Feedback revealed that residents most frequently use active modes for health and recreation as well as daily needs such as collecting mail, dog walking, and visiting friends. Desired improvements were focused on traffic safety, speed control, and trail maintenance. However, there was an overarching preference towards low impact and low-cost solutions to maintain Belcarra's rural character and reduce financial strains.

38%
Travel by Active Modes on a **Daily** Basis

117
Ranked **Walking** as their Most Frequent Active Mode of Travel

103
Ranked **Health & Fitness** as a Primary Reason for Travelling by Active Modes

42%
Indicated that **Better & Safer Infrastructure** would Encourage use of Active Modes More Often

55%
Were **Concerned About Improvements** to the Active Transportation Network

78%
Of Concerned Residents identified the **Cost of Improvements** as a Primary Concern

3.2.2 ENGAGEMENT ROUND 2

The second round of engagement was launched during the Spring of 2025, including a public survey that was open from March 21st to April 13th, an Open House on April 2nd, 2025, informational mail-outs, project posters posted at the local mailboxes, and an advertisement in the Belcarra Barnacle.

Public Survey

166 responses (98 complete and 68 partial) were received for the second survey. The purpose of the survey was to collect feedback from residents about the design options and project segments. Feedback revealed opposition to several design concepts and improvements. However, there was support for low-cost, minimal-impact solutions, including **walkable shoulders, trail maintenance, and speed reduction measures**, along with other improvements such as transit shelters and crosswalk safety improvements.

54%	47%	50%
Prioritized **On-Street Improvements along Bedwell Bay Road**	Supported **Speed Reduction along Bedwell Bay Road**	Supported **Pedestrian Crosswalk Flashers**
52%	69%	61%
Opposed **Benches and Bike Parking**	Opposed **Sidewalks and Shared Pathways**	Supported **Unpaved Foreshore Access Improvements**

"Thank you for the great information and options your team is suggesting for Belcarra. It's my hope that all of these improvements will greatly enhance the safety of people walking, cycling, and rolling in our village."

"I love where I live and part of the reason I enjoy living in Belcarra is because it is decidedly different from other urban areas. Upgrades are necessary especially where safety is concerned. But I don't want to see Belcarra morph into a mini metropolis."

"We are a small community of 250ish households. We are having issues paying for our existing infrastructure as it stands now. There is no need to add these features especially when we already have several perfectly safe low traffic walking corridors (i.e., Marine and Maine). Council's priorities should be focused on revenue raising activities like selling surplus land instead of spending dollars we don't have."

Community Open House

An Open House was held at Municipal Hall on Wednesday April 2, 2025, from 5:30 to 8:00 PM. Approximately 25 residents attended the event. Feedback from residents at the Open House revealed several recurring themes, with both supportive and opposing feedback to the preliminary design options presented.

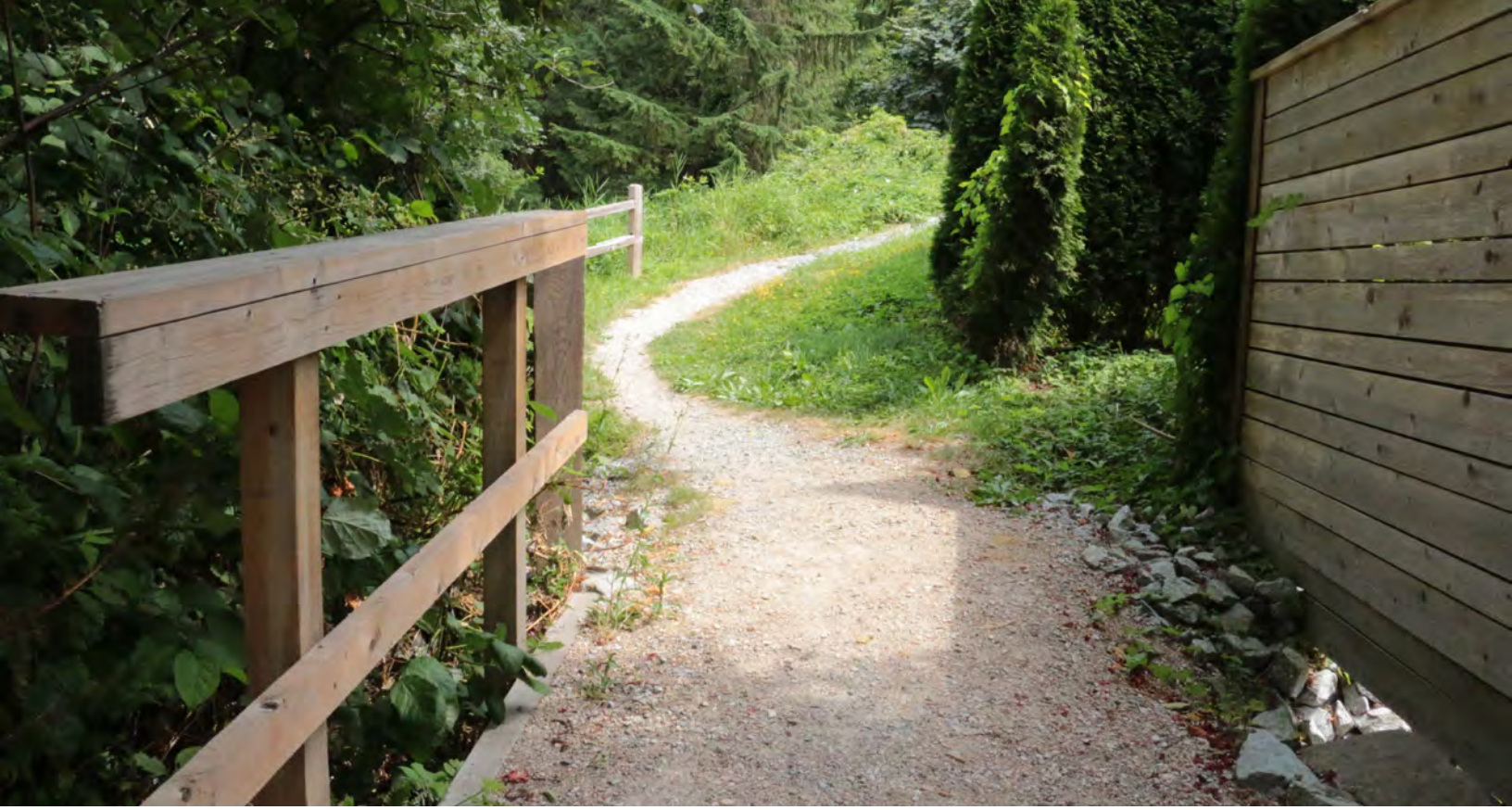
Suggestions included:

- Creating packed gravel paths along road shoulders.
- Re-routing cyclists from Bedwell Bay Road to Marine Avenue where traffic is lighter.
- Adding speed humps and raised crosswalks provided that the designs can effectively accommodate emergency vehicle access.
- Improving safety along Bedwell Bay Road by increasing enforcement and implementing traffic calming measures, such as signage, radar signs, and pavement markings.
- Improving safety at the Main Avenue and Bedwell Bay Road intersection.

Areas of concern/opposition included:

- Cost of the proposed projects, emphasizing the importance of a more modest, realistic approach that aligns with Belcarra's small-scale context.
- Accuracy of foreshore access naming.
- Environmental sensitivities at D3 - Scuba Diver Trail foreshore access point, cautioning against development for kayak use.

4 FUTURE DIRECTIONS



4. FUTURE DIRECTIONS

Building on the community's existing network of trails and pathways, the future network plan provides context appropriate solutions that focus on enhancing safety and accessibility for residents and visitors of Belcarra. The Plan includes a list of well defined and actionable improvement strategies that support Belcarra's priorities.

4.1 EMERGING ISSUES AND IMPROVEMENT STRATEGIES

4.1.1 EMERGING ISSUES

Through public engagement, residents shared their experiences, concerns, and suggestions related to active mobility within Belcarra. The following themes emerged:

Traffic Safety and Speed Control

Many people expressed concerns about vehicle speeding and suggested measures such as speed indicators, enforcement for speeders, and lower speed limits.

Signage and Traffic Diversion

There is a call for better signage to direct park visitors away from the village onto designated roadways, along with calls for blind corner signage and guidance for cyclists.

Trail Maintenance and Improvements

Residents emphasized the importance of maintaining existing trails and forest paths, with improvements to those connecting Watson Road, Main Avenue, and Belcarra Park.

Road Safety

Suggestions included widening or paving road shoulders for safer walking and biking, crosswalk improvements, trimming hedges to improve visibility, and enhancing road markings for better delineation.

Perceptions of Safety

While some residents believe the village is already safe and requires no changes, others highlighted specific areas needing improvement, particularly for pedestrians and cyclists.

Amenities

Supportive amenities such as transit shelters and bus stop improvements can also support residents in choosing more sustainable modes of transportation.

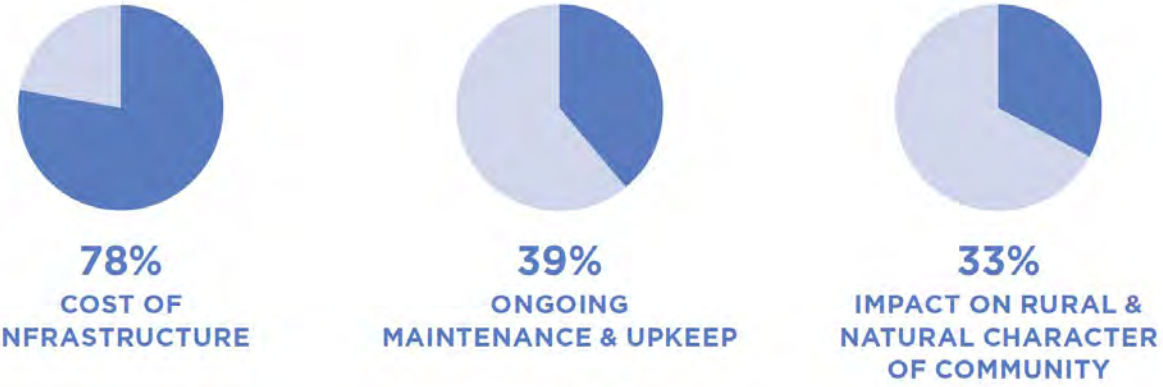
Desired Safety Measures

Opinions were mixed in terms of desire for safety measures. Some supported better and safer infrastructure and safer conditions, while 33% were satisfied with existing conditions.

Concerns About Improvements

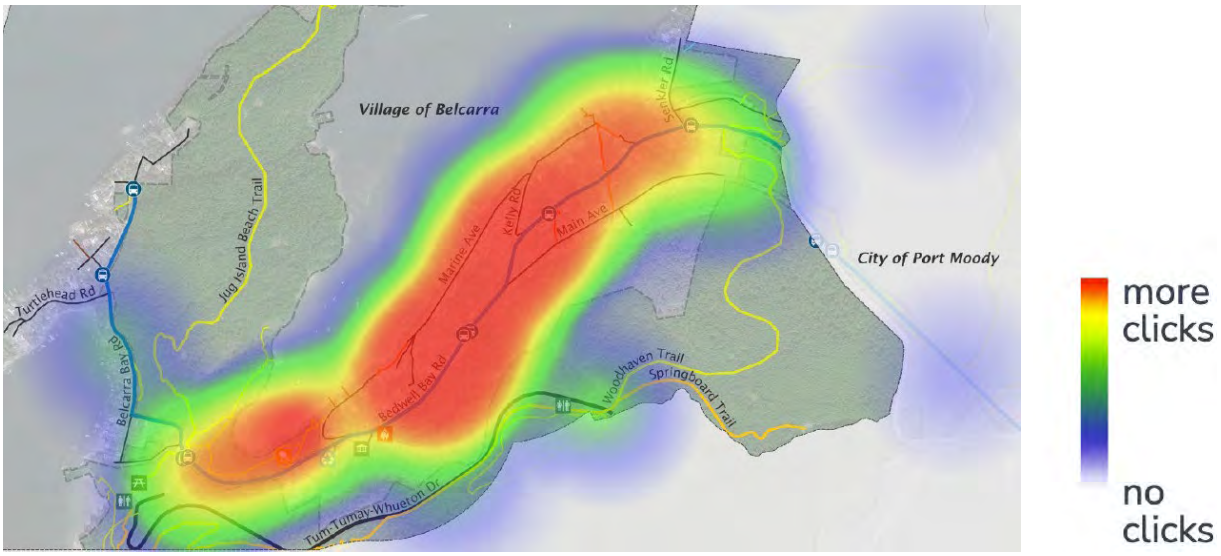
Over half of respondents identified concerns about the Village of Belcarra improving the Active Transportation Network (55%).

Of the 55% of respondents concerned about improvements to the active transportation network, 78% of respondents cited the cost of infrastructure as the key concern. Additionally, 39% were concerned about ongoing maintenance and upkeep, while 33% expressed concerns about the potential impact on the rural and natural character of the community.



Areas for Improvements

Respondents identified areas on a heat map for where they wish to see active transportation improvements. The resulting heat map shows most of the responses along Bedwell Bay Road, where residents expressed the most concerns for safety and vehicle speeds. Belcarra's existing trails and pathways were also flagged by residents as an opportunity to improve the network without the need for formal sidewalks and bike lanes.



4.1.2 IMPROVEMENT STRATEGIES

Engagement with Belcarra residents highlighted a desire for active transportation improvements that enhance safety for people who want to walk and bike throughout the community. At the same time, residents emphasized the importance of respecting the community's rural character, managing costs, and recognizing the physical constraints of local roads.

The Plan responds to this balance of priorities by focusing on strategies that are practical, cost-effective, and sensitive to Belcarra's unique setting, while also laying the foundation for a safer, more connected community. The approach emphasizes incremental steps that can be implemented easily and affordably yet work together over time to create a cohesive and connected active transportation network. The guiding strategies are as follows:

- **Prioritize safety along Bedwell Bay Road,** using speed reduction measures such as reduced speed limits, speed radar signs, and pavement markings in addition to enforcement of speed limits.
- **Focus on minimalistic design strategies,** such as widening and clearing road shoulders, painting lines to delineate space for walking and cycling, and crossings with lighting and/or pedestrian flashers for improved visibility and safety.
- **Leverage the existing trail network,** focusing on trail maintenance and targeted upgrades such as widening paths, adding stairs or railings, and improving accessibility where needed.
- **Adopt a phased approach to implementation,** breaking larger projects into smaller, manageable steps that align with Belcarra's budget and can be incorporated into programs and capital projects, while working cohesively towards a safer, more connected active transportation network over time.

The ATNP's Active Transportation Design Toolkit, attached as **Appendix C**, provides design options for Belcarra's active transportation facilities, focusing on rural design strategies and low-cost solutions to suit the community's unique needs and interests.

4.2 IMPROVEMENT PROJECTS

The following improvement projects could be considered for Belcarra's unique context. The projects are divided into segments that can be implemented in phases, offering flexibility and reducing upfront costs.

ON-STREET IMPROVEMENTS

A range of on-street walking and biking improvements could be implemented along Bedwell Bay Road along with supporting facilities on Belcarra's local streets and safer crossings for active users.

Bedwell Bay Road Walking & Biking Facilities

The conceptual design recommendations for Bedwell Bay Road are outlined as follows:

Walkable Shoulders

Walkable shoulders are recommended along Bedwell Bay Road as a temporary quick-build solution, which eventually could be replaced with a more permanent treatment or enhanced with physical buffers. Walkable shoulders can be constructed to accommodate pedestrians and cyclists.

Pavement Markings

Pavement markings can be used to mark the roadway as a shared street for cyclists and vehicles. These are best implemented along with signage and speed reduction measures.

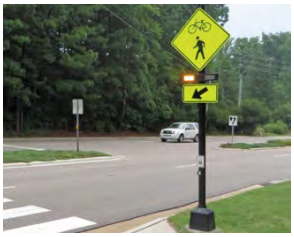
Project Segments

The improvement projects for Bedwell Bay Road are segmented as follows:

- **A1.** Belcarra Bay Rd to Midden Rd
- **A2.** Midden Rd to Marine Ave
- **A3.** Marine Ave to Main Ave
- **A4.** Main Ave to Kelly Rd
- **A5.** Kelly Rd to Watson Rd

Crosswalk Upgrades

The conceptual design option for crosswalk upgrades is outlined as follows:



Pedestrian Flashers and Lighting

Pedestrian lighting and flashers can be used to improve pedestrian visibility and safety at crossings.

Project Segments

The improvement projects for crosswalk upgrades are segmented as follows:

- **B1.** Bedwell Bay Road & Jug Island Beach Trail
- **B2.** Bedwell Bay Road & Kelly Road
- **B3.** Bedwell Bay Road & Tatlow Trail
- **B4.** Bedwell Bay Road & Woodhaven Trail

OFF-STREET IMPROVEMENTS

Belcarra boasts several existing trails and foreshore accesses, offering opportunities to provide walking and cycling connections that are separated from vehicular traffic. However, many of these facilities are currently unmaintained and often too narrow or steep to comfortably accommodate most users.

Recreational Trail Improvements

The conceptual design recommendations for recreational trails are outlined as follows:

Paved Trail (Marine Avenue)

A paved trail is recommended to connect active modes across the east and west sections of Marine Avenue. This recommendation aligns with emergency vehicle access requirements and readily accommodates pedestrians and cyclists, providing a safe alternate route from Bedwell Bay Road.

Unpaved Trails

The remaining trails throughout the Village are recommended to remain unpaved trails. Improvements to these trails could be made to improve safety, access, and comfort where feasible, with widening, improved signage, and ongoing trail maintenance.

Project Segments

The improvement projects for recreational trails are segmented as follows:

- **C1.** Marine Trail
- **C2.** Watson Trail
- **C3.** Taylor Trail
- **C4.** Tatlow Trail
- **C5.** Main Trail
- **C6.** Turtlehead Trail

Foreshore Access Improvements

The conceptual design recommendations for foreshore accesses are outlined as follows:

Unpaved Trails Or Stairs

Unpaved trails or stairs provide access to Belcarra's foreshore. Improvements to these trails or stairs can be made to improve safety, access, and comfort, along with regular and ongoing trail maintenance.

Project Segments

The improvement projects for recreational trails are segmented as follows:

- **D1.** Marine Avenue West
- **D2.** Scuba Divers Trail
- **D3.** Marine Avenue East
- **D4.** Salish Road Trail
- **D5.** Whiskey Cove Trail
- **D6.** Coombe Lane Trail

SPEED REDUCTION MEASURES

Speed reduction measures help slow down vehicles to make roads safer for people walking and biking.

Bedwell Bay Road Speed Reduction

The conceptual design options for Bedwell Bay Road speed reduction are outlined as follows:

Reduced Speed Limits

Reduced speed limits can encourage drivers to slow down, making roads safer for people walking and biking, and discouraging non-residents from driving along the roadway. Reducing speed limits along sections of Bedwell Bay Road (e.g., Village entrance sign to Belcarra Bay Road) offers a quick, easy to implement, low-cost, and effective approach to improving safety for all users along the roadway.

Speed Radar Signs

Radar speed signs are pole mounted devices equipped with radar speed detectors that slow drivers down by alerting them of their speed. Providing speed radar signs in strategic locations (i.e., locations where speeding is known to occur) along Bedwell Bay Road may be a quick way to encourage and remind drivers to slow down.

Pavement Markings

Pavement markings are road surface markings that guide and regulate traffic to improve safety for all users, including drivers, cyclists, and pedestrians. Pavement markings include symbols and words indicating speed limits, reminding drivers to slow down, and designating road users in shared spaces.

Speed Enforcement

The Village can request periodic speed enforcement from the RCMP to target sections of Bedwell Bay Road with known speeding issues or high pedestrian/cyclist use.

SUPPORTIVE AMENITIES

Supportive amenities support safe and enjoyable trips for people of all ages and abilities.

Transit Shelters

Integrating active transportation with public transit helps support multimodal connectivity, especially for longer trips that couldn't be made by walking or biking alone. Transit shelters play a critical role in providing comfort, safety, and accessibility for transit users, particularly during inclement weather and peak travel times.

There are eight bus stops in Belcarra, run by CMBC. CMBC is the contract operator for bus transit services in Metro Vancouver and is a wholly owned subsidiary of TransLink. Belcarra's transit stops include:

E1. SB Belcarra Bay Rd @ Whiskey Cove Rd
E2. SB Belcarra Bay Rd @ Salish Rd*
E3. WB Bedwell Bay Rd @ Midden Rd
E4. EB Bedwell Bay Rd @ Midden Rd
E5. EB Bedwell Bay Rd @ 3900 Blk*
E6. WB Bedwell Bay Rd @ 3900 Blk
E7. EB Bedwell Bay Rd @ Kelly Ave*
E8. WB Bedwell Bay Road @ Senkler Rd*

The Village owns four transit shelters at Bedwell Bay Road and Senkler Road, Bedwell Bay Road Kelly Avenue, Bedwell Bay Road at 3900 Block (eastbound), and Belcarra Bay Road and Salish Road (indicated by an asterisk* in the list above). The shelter at Senkler Road was recently damaged, and the other two are in poor condition and due for replacement. To help support walking and biking trips to transit, the Village plans to replace and add shelters to transit stops where space allows.

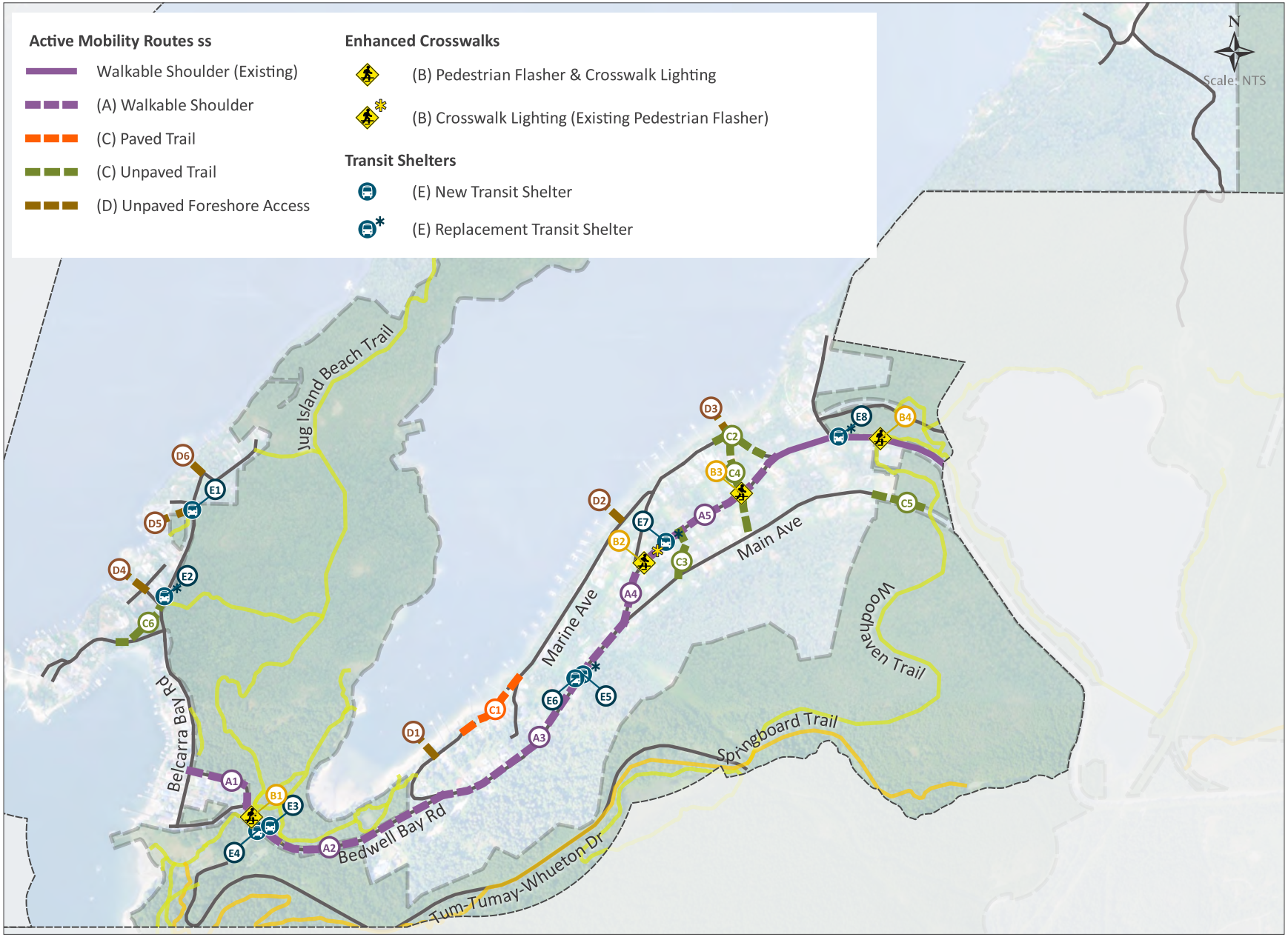
4.3 FUTURE NETWORK PLAN

The active transportation network improvement projects, shown in **Exhibit 4.1**, focus on providing low-cost solutions to improve safety for people walking and biking in Belcarra. The projects, outlined in **Table 4.1** below, provide immediate benefits to residents and help build support for future active transportation initiatives. These projects can be coordinated with other capital projects and prioritized for implementation with available operational and capital funding.

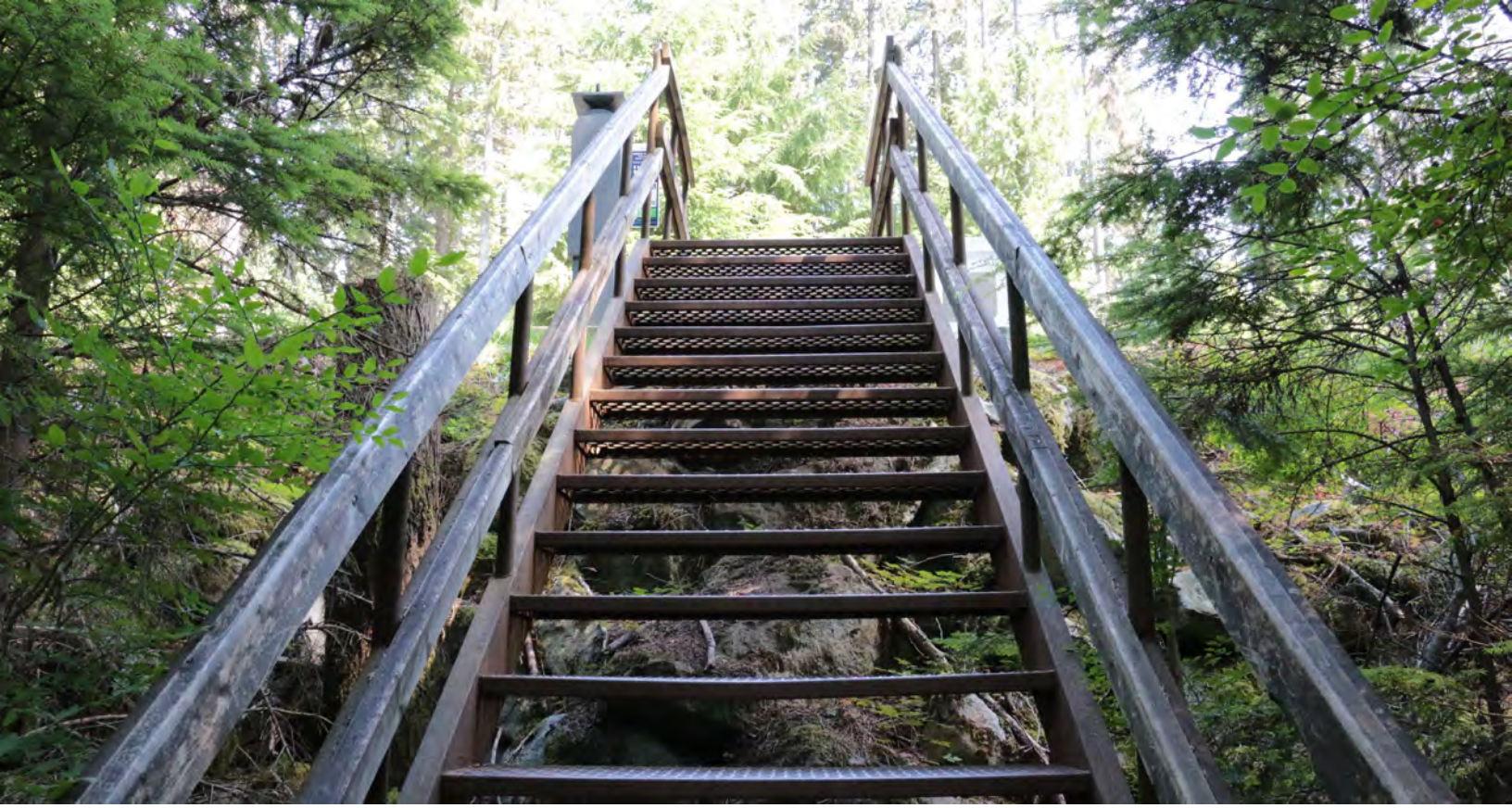
Table 4.1: Active Transportation Network Improvement Projects

MAP REF	ROUTE	SEGMENT	IMPROVEMENT
A1	Bedwell Bay Rd	Belcarra Bay Rd - Midden	Walkable Shoulder
A2	Bedwell Bay Rd	Midden Rd - Marine Ave	Walkable Shoulder
A3	Bedwell Bay Rd	Marine Ave - Main Ave	Walkable Shoulder
A4	Bedwell Bay Rd	Main Ave - Kelly Rd	Walkable Shoulder
A5	Bedwell Bay Rd	Kelly Rd - Watson Rd	Walkable Shoulder
B1	Bedwell Bay Rd	Bedwell Bay Road & Jug Island Beach Trail	Pedestrian Flasher & Crosswalk Lighting
B2	Bedwell Bay Rd	Bedwell Bay Road & Kelly Road	Crosswalk Lighting
B3	Bedwell Bay Rd	Bedwell Bay Road & Tatlow Trail	Pedestrian Flasher & Crosswalk Lighting
B4	Bedwell Bay Rd	Bedwell Bay Road & Woodhaven Trail	Pedestrian Flasher & Crosswalk Lighting
C1	Marine Trail	Marine Ave West - Marine Ave East	Paved Trail
C2	Watson Trail	Marine Ave - Watson Rd	Unpaved Trail
C3	Taylor Trail	Bedwell Bay Rd - Main Ave	Unpaved Trail
C4	Tatlow Trail	Marine Ave - Main Ave	Unpaved Trail
C5	Main Trail	Main Ave - Woodhaven Trail	Unpaved Trail
C6	Turtlehead Trail	Turtlehead Rd - Salish Rd	Unpaved Trail
D1	Marine Ave West	Marine Ave West - Foreshore (1)	Unpaved Foreshore Access
D2	Scuba Divers Trail	Scuba Divers Trail - Foreshore (2)	Unpaved Foreshore Access
D3	Marine Ave East	Marine Ave East - Foreshore (3)	Unpaved Foreshore Access
D4	Salish Road Trail	Salish Road - Foreshore (4)	Unpaved Foreshore Access
D5	Whiskey Cove Trail	Whiskey Cove Lane - Foreshore (5)	Unpaved Foreshore Access
D6	Coombe Lane Trail	Coombe Lane - Foreshore (6)	Unpaved Foreshore Access
E1	Belcarra Bay Rd	SB Belcarra Bay Rd @ Whiskey Cove Rd	New Transit Shelter
E2	Belcarra Bay Rd	SB Belcarra Bay Rd @ Salish Rd	Replacement Transit Shelter
E3	Bedwell Bay Rd	WB Bedwell Bay Rd @ Midden Rd	New Transit Shelter
E4	Bedwell Bay Rd	EB Bedwell Bay Rd @ Midden Rd	New Transit Shelter
E5	Bedwell Bay Rd	EB Bedwell Bay Rd @ 3900 Blk	New Transit Shelter
E6	Bedwell Bay Rd	WB Bedwell Bay Rd @ 3900 Blk	New Transit Shelter
E7	Bedwell Bay Rd	EB Bedwell Bay Rd @ Kelly Ave	Replacement Transit Shelter
E8	Bedwell Bay Rd	WB Bedwell Bay Road @ Senkler Road	Replacement Transit Shelter
N/A	Bedwell Bay Rd	Belcarra Bay Rd - Municipal Boundary	Speed Reduction Measures

EXHIBIT 4.1 | ACTIVE TRANSPORTATION NETWORK IMPROVEMENTS



5 IMPLEMENTATION STRATEGY



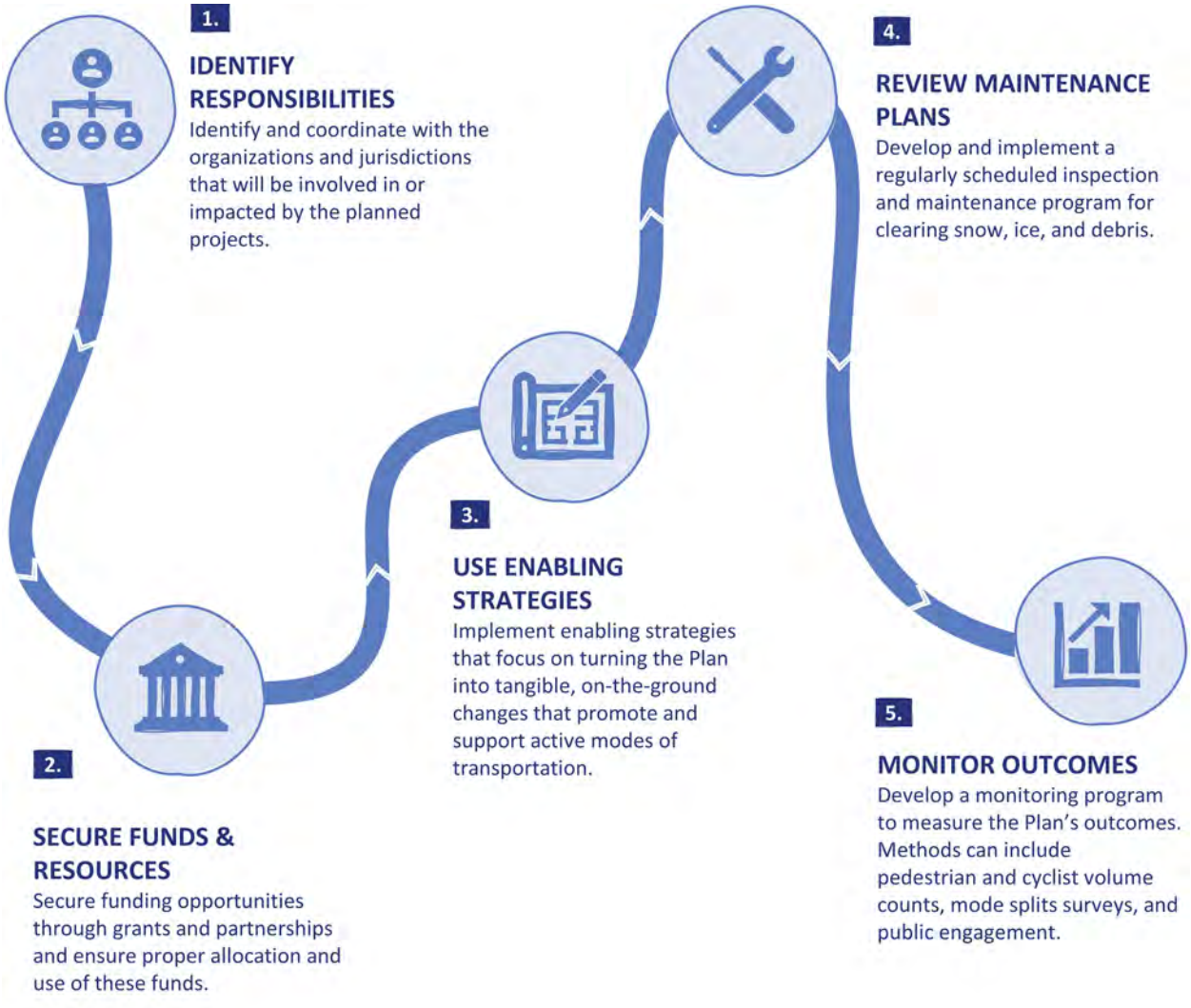
5. IMPLEMENTATION STRATEGY

A well-structured implementation strategy helps facilitate the actions and initiatives outlined in Belcarra's ATNP, turning the Plan into tangible, on-the-ground changes that promote and support all modes of transportation. The implementation strategy is supported by maintenance plans to keep Belcarra's active transportation facilities functional throughout their lifespan, and monitoring techniques to measure the growth and success of the Plan, guiding future updates as best practices, emerging technologies, and political directions continue to evolve.

5.1 IMPLEMENTATION ROAD MAP

An implementation plan translates the actions and initiatives of the ATNP into real, on-the-ground improvements that make walking and biking in Belcarra safer and more accessible. Through public engagement, clear coordination of responsibilities, and secure funding, the strategies outlined below are designed to deliver tangible benefits for the community. The Plan also includes maintenance and rehabilitation measures to ensure trails, pathways, and other facilities remain functional over time. Finally, by monitoring the network's growth and outcomes, Belcarra will be able to track how the Plan influences travel behavior and adapt to evolving best practices, new technologies, and community priorities.

Implementation Roadmap



5.2 RESPONSIBILITIES

Successful implementation of the ATNP relies on collaboration between multiple jurisdictions. Each has a distinct role to play in shaping, delivering, and maintaining active transportation improvements in Belcarra.

Village of Belcarra

The Village is the lead agency responsible for implementing the ATNP. This includes adopting policies and bylaws that support walking and cycling, prioritizing and advancing projects, and coordinating with regional and provincial partners. The Village will also oversee local trail and pathway maintenance, ensure community priorities are reflected in project delivery, and monitor the performance of the active transportation network over time.

Metro Vancouver Parks

Metro Vancouver Parks manages regional parks and trails within and adjacent to Belcarra. Their role includes ensuring that regional greenways, trails, and park access points connect seamlessly with the Village's active transportation network. Collaboration will focus on integrating wayfinding, trail access points, and exploring opportunities to expand recreational and commuter connections through the regional park system.

TransLink

As the regional transportation authority, TransLink's role is to provide safe, reliable, and accessible transit services that complement active transportation. This includes ensuring bus stops and facilities are integrated with walking and cycling connections, supporting investments in end-of-trip amenities, and coordinating regional funding programs that can help advance ATNP projects. TransLink's broader planning initiatives will also guide how Belcarra's network fits within the region's sustainable transportation system.

Province of British Columbia

The Province of British Columbia plays an enabling role in advancing active transportation initiatives at the municipal level. While municipalities are responsible for planning and delivering local projects, the Province supports these efforts by setting overarching policy direction, providing grant funding, and offering technical guidance through resources such as the *BC Active Transportation Design Guide*.

The Province also establishes the legislative framework for road safety and works in partnership with local and regional governments to ensure networks connect across boundaries and align with broader provincial goals for climate action, health, and sustainable communities.

Federal Government of Canada

The Federal Government supports active transportation through policy leadership and funding programs. Canada's National Active Transportation Strategy (2021–2026) outlines a vision for safe, accessible, and inclusive active transportation across the country. Guided by the A-C-T-I-V-E framework—Awareness, Coordination, Targets, Investments, Value, and Experience—the strategy promotes multimodal connectivity and sustainable mobility. Key funding programs include the Active Transportation Fund (ATF), which allocates $400 million to support infrastructure projects such as trails, bike lanes, and pedestrian pathways. Additional federal programs like the Investing in Canada Infrastructure Program (ICIP) and the Canada Community-Building Fund offer opportunities for municipalities like Belcarra to secure financial support for active transportation initiatives.

ICBC

ICBC plays a vital role in enhancing road safety through its Road Improvement Program, which provides cost-sharing opportunities, technical expertise, and data analysis to support infrastructure upgrades. Since its inception, ICBC has partnered on over 9,000 projects across B.C., including pedestrian and cyclist safety improvements such as crosswalk enhancements, protected bike lanes, and intersection upgrades. ICBC uses crash data to identify high-risk locations and supports both reactive and proactive safety interventions. Their investments help reduce collisions, injuries, and insurance claims, contributing to safer roads and more affordable insurance for British Columbians.

5.3 FUNDING OPPORTUNITIES

Delivering active transportation projects in Belcarra will require collaboration across jurisdictions and strategic use of external funding sources. Several regional, provincial, and federal programs are available to help small communities like Belcarra provide new walking and cycling facilities.

These programs offer cost-sharing opportunities that can significantly reduce the financial burden on the Village while accelerating the delivery of safe and accessible infrastructure. The following subsections highlight key funding streams that Belcarra may pursue to implement the ATNP.

Regional Funding

TransLink's Bicycle Infrastructure Capital Cost Share (BICCS) Program

TransLink's Bicycle Infrastructure Capital Cost Share (BICCS) Program provides funding for new or improved bicycle infrastructure projects located in areas with “high cycling potential”, including cost sharing of up to 50% for projects meeting eligibility criteria in Belcarra.

TransLink's Walking Infrastructure to Transit (WITT) Program

TransLink's Walking Infrastructure to Transit (WITT) Program provides cost-sharing opportunities for projects that improve the pedestrian environment around transit stations and stops, covering up to 75% of eligible project costs for local governments with populations under 15,000.

TransLink’s Major Road Network and Bike (MRNB) Program

TransLink’s Major Road Network and Bike (MRNB) Program supports capital improvements to roads within the Major Road Network (MRN) and the construction of bicycle infrastructure both on and off the MRN. For small municipalities, the program offers enhanced cost-sharing options and supports projects that align with regional cycling and transportation strategies.

TransLink's Operations, Maintenance and Rehabilitation (OMR) Program

The OMR Program provides annual funding to municipalities for the upkeep of MRN roads, including pavement rehabilitation, drainage, lighting, signage, and maintenance of pedestrian and cycling facilities. This funding helps ensure that infrastructure remains in a state of good repair and supports long-term sustainability of active transportation routes.

CMBC's Transit-Related Infrastructure Program (TRIP)

Coast Mountain Bus Company (CMBC), a subsidiary of TransLink, supports municipalities through the TRIP program by funding improvements to transit stops and related infrastructure. This includes shelters, lighting, accessibility upgrades, and integration with pedestrian and cycling networks. TRIP investments help enhance the comfort and safety of transit users and support multimodal connectivity.

ICBC Road Improvement Program

ICBC's Road Improvement Program offers cost-sharing funding for safety-focused infrastructure upgrades. Projects may include enhanced crosswalks, protected bike lanes, curb extensions, rumble strips, and intersection redesigns. ICBC uses crash data to identify high-risk locations and partners with municipalities to reduce collisions and improve safety for all road users. Since its inception, the program has supported over 9,000 projects across B.C.

Provincial Funding

BC Active Transportation Infrastructure Grants Program

The BC Active Transportation Infrastructure Grants Program provides cost-sharing funding to local governments and Indigenous communities for active transportation infrastructure projects, covering up to 70% of eligible project costs for communities with populations under 15,000.

Federal Funding

Active Transportation Fund

The Active Transportation Fund dedicates $400 million over five years to support the expansion of active transportation networks across Canada, including capital project funding contributions up to $50 million with a maximum contribution rate between 40-100% depending on recipient and project location.

5.4 MAINTENANCE AND MONITORING

Maintenance

Well-maintained walking and cycling facilities are essential for keeping the network safe, comfortable, and accessible for everyone. Regular upkeep ensures that trails, pathways, and bike routes remain usable throughout the year and continue to support people of all ages and abilities.

As Belcarra expands its active transportation network, the Village will need to consider how best to care for its facilities. This may mean investing in equipment and staff resources to clear snow, ice, and debris from pathways that are too narrow for traditional snow-removal vehicles. A strong year-round maintenance program will help ensure these routes are treated with the same priority as roadways, keeping them functional in all seasons.

To guide this, three levels of maintenance priority are recommended:

1. **Primary Priority Routes:** High-use routes that connect key destinations. These should be inspected every year and maintained first during snow or ice events.
2. **Secondary Priority Routes:** Medium-use routes and connections. These should be inspected every 2–3 years and maintained within 24 hours of a snow or ice event.
3. **Tertiary Priority Routes:** Low-use routes. These should be inspected every 5 years and maintained within 48 hours of a snow or ice event.

Regular sweeping and inspection schedules will also help keep routes free of debris, reduce hazards, and extend the life of facilities.

Monitoring

Monitoring helps the Village understand how well the active transportation network is working and how people's travel choices are changing over time. Tracking progress also provides valuable information to improve facilities, attract funding, and celebrate successes with the community.

Belcarra can use a variety of tools to monitor the network, including:

- **User Counts:** Annual counts of people walking and cycling at key locations.
- **Community Surveys:** Short surveys every 2–3 years to learn about travel habits and satisfaction. School surveys can be an especially effective way to capture input from younger residents.
- **Public Feedback**: Ongoing opportunities for residents to share ideas and priorities. Monitoring provides a chance not only to measure progress but also to keep the community engaged, motivated, and involved in shaping the future of the network.

5.5 NEXT STEPS

The following actions are recommended as next steps to this ATNP, helping Belcarra move from planning to implementation:

- Seek endorsement of the ATNP by Village Council, which will unlock eligibility for federal and provincial government funding.
- Bring forward projects for Council consideration and approval with capital and operational plans/budgets.
- Coordinate improvements with existing capital plan upgrades and work programs.
- Coordinate the ATNP with other planning documents and policies to ensure consistency across Village initiatives.
- Explore available grant programs to help deliver priority projects.
- Ensure annual budgets include resources for maintenance so that new facilities remain safe and usable over the long term.

APPENDIX A
Engagement Summary Report #1

UPLIFTco.

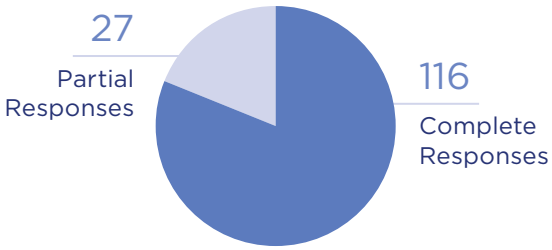
Belcarra Active Transportation Network Plan
What We Heard - Survey 1

DECEMBER 13, 2024

CONTENTS

1 SURVEY SUMMARY

143 responses (116 complete and 27 partial) were received for the Village of Belcarra's Active Transportation Network Plan (ATNP) survey that was open from October 30th to November 28th, 2024. The purpose of the survey was to capture active travel observations and experiences in Belcarra.



Most Frequently Used Active Travel Modes

Respondents cited **walking is the most frequently used active travel mode**, with 117 respondents ranking it among their top three choices. Cycling and running/jogging were the second most popular modes, each mode selected by 38 respondents.

Eleven open-ended comments were received regarding active travel methods. These comments highlighted safety concerns about walking on roads and expressed a desire for safer conditions to encourage more biking and walking.

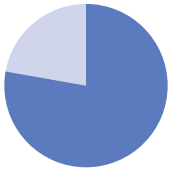
Most Common Reasons for Active Travel

Health and fitness is the most common reason for active travel, cited by 103 respondents, followed by recreation and leisure (82 respondents) and visiting parks and trails (75 respondents).

Eighteen open-ended comments noted the use of active transportation for daily activities, such as collecting mail, dog walking, and visiting friends. There were also comments that emphasized concerns about safety due to the lack of sidewalks and called for improved cycling access on existing trails, along with recognition of the time and cost benefits of active travel.

1 SURVEY SUMMARY

Frequency of Using Active Travel



81%
USE ACTIVE TRANSPORTATION AT LEAST ONCE A WEEK

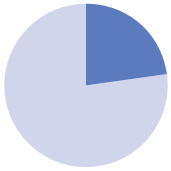
38%
USE ACTIVE TRANSPORTATION EVERY DAY

15%
USE ACTIVE TRANSPORTATION RARELY OR NEVER

A significant majority of survey respondents (81%) reported using active travel once a week or more (38% daily), (20% four to six days a week), (23% one to three days a week). 15% of respondents cited they use active travel rarely (7%) or never (8%).

What Would Encourage More Active Travel

42%
BETTER & SAFER INFRASTRUCTURE

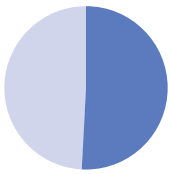


23%
SAFER CONDITIONS

33%
SATISFIED WITH CURRENT HABITS

65% of respondents cited that better and safer infrastructure and safer conditions would inspire more frequent active travel. 33% of respondents were satisfied with their current active travel habits.

Desired Safety Measures



51%
SEPARATED OR OFF-STREET SIDEWALKS

41%
LOWER SPEED LIMITS & ADDITIONAL SPEED HUMPS

39%
SAFER INTERSECTIONS & TRAIL CROSSINGS

Over half of respondents (51%) identified separated or off-street sidewalks, pathways, or bike lanes as one of their top three desired safety measures. Other popular measures included lower vehicle speed limits and additional speed humps (41%) along with safer intersections and trail crossings (39%).

1 SURVEY SUMMARY

There were 37 open-ended comments about the importantance of safety measures for the Village. The comments centred on the following key themes:

Traffic Safety and Speed Control

Many people expressed concerns about chronic speeding, particularly in the early morning, and suggested measures such as speed indicators, selective enforcement for speeders, and redesigning roads to naturally slow traffic. There was opposition to speed humps but support for alternative calming measures, including crosswalk warning lights.

Signage and Traffic Diversion

There is a call for better signage to direct park visitors away from the village onto designated roadways, along with calls for blind corner signage and guidance for cyclists to improve safety.

Path and Trail Improvements

Residents emphasized the importance of improving existing trails and forest paths, particularly those connecting Watson Road, Main Street, and Belcarra Park. Concerns were also raised about mountain bike safety and reckless behaviour on shared trails.

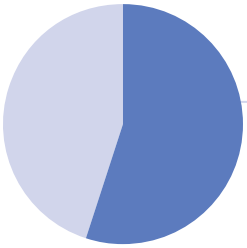
Road and Path Maintenance

Suggestions included widening or paving road shoulders for safer walking and biking, trimming hedges to improve visibility, and enhancing road markings for better night driving.

Perceptions of Safety

While some residents believe the village is already safe and requires no changes, others highlighted specific areas needing improvement, particularly for pedestrians and cyclists.

1 SURVEY SUMMARY



55%

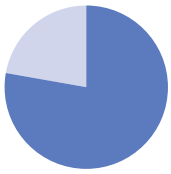
Concerned about Improving the Active Transportation Network

Over half of respondents are concerned about the Village of Belcarra improving the Active Transportation Network (55%). 67 comments expanded on the concerns, and are summarized below:

1. **Financial Concerns**: Many residents are worried about the high costs of proposed projects and the potential for increased taxes in an already financially strained village.
2. **Topographical and Practical Challenges**: The village's steep terrain and limited space make implementing new pathways difficult and expensive.
3. **Limited Perceived Need**: Some feel that the existing infrastructure and trails are sufficient for walking and biking, with no significant safety concerns.
4. **Desire for Minimal Impact Solutions**: There is interest in low-cost, minimally disruptive improvements like maintaining existing trails, reducing traffic speeds, or adding basic sidewalks.
5. **Safety Concerns**: Safety is a concern, especially along Bedwell Bay Road, with calls for safer walking and biking options and better signage.
6. **General Support with Reservations**: While there is support for improvements, many emphasize the need for careful planning, financial prudence, and phased implementation.
7. **Priority on Fire Hall and Basic Infrastructure**: Many residents feel that resources should be focused on urgent needs like a new fire hall and improving essential services rather than on non-essential projects.

1 SURVEY SUMMARY

Concerns About Improvements



78%
COST OF INFRASTRUCTURE

39%
ONGOING MAINTENANCE & UPKEEP

33%
IMPACT ON RURAL & NATURAL CHARACTER OF COMMUNITY

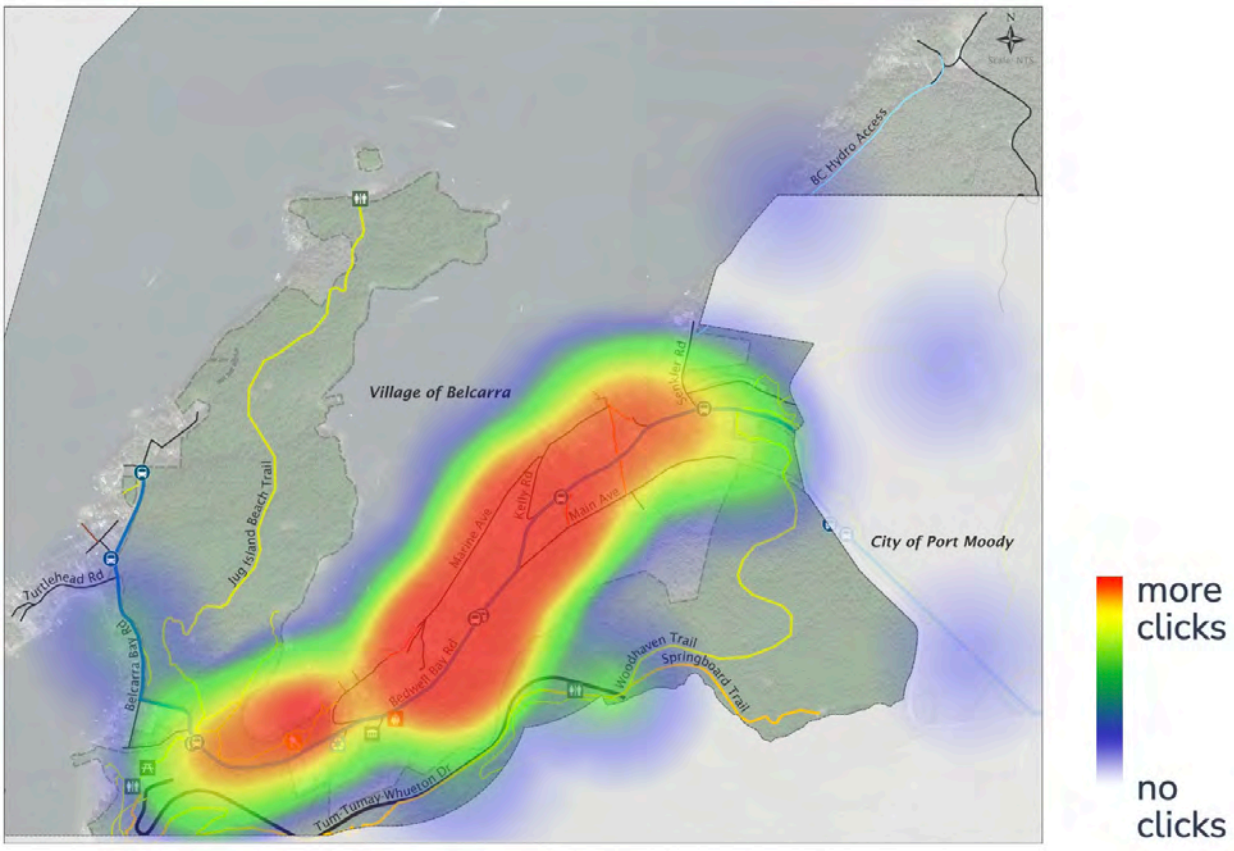
Of the 55% of respondents concerned about improvements to the active transportation network, 78% of respondents cited the cost of infrastructure as a key issue. Additionally, 39% were worried about ongoing maintenance and upkeep, while 33% expressed concerns about the potential impact on the rural and natural character of the community.

Fifteen comments provided further insights into these concerns, which can be summarized into the following themes:

1. **Safety and Practicality Concerns**: There are concerns that bike lane improvements in other communities have made cycling less safe and that the proposed changes may not be practical or suitable for Belcarra.
2. **Cost and Financial Feasibility**: A significant number of respondents believe the costs of implementing the improvements are too high and not justified for a small village like Belcarra.
3. **Benefits for Non-Residents**: Some believe the proposed improvements will mainly benefit visitors who do not contribute to Belcarra's tax base, rather than the residents themselves.

2 HEAT MAP RESPONSES

Respondents identified areas on a heat map for where they wish to see active transportation improvements. The comments on the following pages are categorized based on location and have not been edited.



2 HEAT MAP RESPONSES

2.1 MARINE AVENUE

Marine Avenue (General)

- Improve access and safety for children, pedestrians and cyclists between Watson Road and Village Hall
- Lower speed limit would be nice. In general, the shoulder maintenance could be improved.
- Sidewalks and bike lanes along marine ave. Where more room is available. If appropriate grant funds are available.

Marine Avenue Unmaintained Trail

- Pave this gravel path to make it suitable for road bikes and wheelchairs to use.

Marine Avenue and Young Road

- Trail connection
- Improve or maintain all weather surface for bikes.

Marine Avenue and Kelly Road

- Route cyclist off Bedwell Bay Rd to Marine Ave by paving patches at either end.
- Crosswalk @ Kelly needs take-off and landing spots for walkers.
- bike lane and/or dedicated sidewalk
- Move route to Marine (waterfront) top of foreshore safety first!!!

2 HEAT MAP RESPONSES

2.2 BEDWELL BAY ROAD

Bedwell Bay Road (General)

- All of Bedwell Bay Road could benefit from a bike lane/sidewalk for safer commuting in traffic. The other roads are not as busy so it's not necessary, but being the main thoroughfare through the whole village, at the very least Bedwell Bay Road should have better infrastructure. Speed bumps as well, as some people drive way too fast.
- Bedwell Bay Road ... lower speed limit, speed activated warning signs.
- Bedwell Bay Road from boundary to the park (previous comment "Bedwell Bay Road ... lower speed limit, speed activated warning signs.")
- I would like to see a safe place to walk on Bedwell Bay Road from Village entrance to Belcarra Park
- All is good. NO CHANGE NEEDED
- Also somewhere along Bedwell up to Tum Tum (connection)
- Bedwell Bay Road is not safe because shoulders are narrow or have become completely unsafe with guardrails recently installed.
- Most of Bedwell Bay Rd (especially between Watson and West Rd) needs a separated path for pedestrians (not a MUP - a MUP or shared active path should go along Marine, sections of this road are too steep for most casual cyclists that aren't riding e-bikes).
- I would like to see either a proper bike trail through the village or dedicated bike lane.
- Reduce speed limit & traffic noise on Bedwell Bay Rd. Improvements should find way to stop/eliminate car & motorcycle "race track" which occurs overnight on weekends.
- Sidewalk along Bedwell Bay Road from Senkler to Park
- To the best of my knowledge, residing in Belcarra for 25+ years, there have been no injuries/deaths to residents related to the status quo. How many people actually need sidewalks for strollers. Preserve Belcarra. Sidewalks commence at Ioco Road if that's what people need. Thank you.
- Bedwell Bay road has VERY poor walking support... narrow to non existent pathway next to very busy and fast street.
- Belcarra Bay Road, from Minden to the entry/exit of Belcarra.
- wider shoulder on Bedwell Bay Road

Bedwell Bay Road and Senkler Road

- bike lane and/or dedicated sidewalk

Bedwell Bay Road 3900 Block Bus Stop

- Trail connection
- Trail upgrade on Taylor Road allowance connecting to the Bus Stop and mail boxes on Bedwell Bay Road
- Will take away much needed parking

2 HEAT MAP RESPONSES

Bedwell Bay Road and Marine Avenue

- Allow bikes on gravel trail between Marine Ave. and the park on Bedwell Bay Road.
- Trail connection
- Pave or improve trail from Marine Ave to Bedwell Bay Road ... 200 m stretch

Bedwell Bay Road Near Young Road

- This is a very narrow section, very dark at night.
- The edge of the road along Bedwell Bay road is very narrow and I have to step off the road and stop every time I hear a car. It is not safe, particularly since I walk with a cane and am not nimble on my feet.
- Sidewalks
- Pedestrian safety.
- No more lights or lighted crosswalks
- Improve walking areas on side of road.
- Integrate a sidewalk with storm drain improvements on N bound side of Bedwell Bay Rd from 4100 Marine Ave to mailboxes.
- bike lane and/or dedicated sidewalk

Bedwell Bay Road and Kelly Road

- Sight lines are poor
- Better trail maintenance
- Bedwell Bay road is narrow from the Village Hall to Senkler Road. A separate space or sidewalk for walking/biking would help me feel safer walking along that stretch.
- Improve road shoulder on main road
- low visibility, high vehicle speeds and no pathway or crossing
- sidewalk from Mai to Village Hall
- Trail upgrade on Taylor Road allowance connecting to the Bus Stop and mail boxes on Bedwell Bay Road
- Improvements to Taylor road trail to be prioritized to provide safe access to bus stop & postal boxes in addition to being a key path between Bedwell Bay and Main St.
- The uphill, blind bend on Bedwell Bay Rd, west of Kelly Rd, as cars round the bend travelling westbound creates a particularly dangerous intersection at Bedwell/Main/Bostock for both passengers and cars. How can this be made safer for cars and pedestrians without installing a light controlled intersection?
- Bedwell bay rd between main and Kelly. The speed with which cars come over the hill is frightening. We live at 3789 Bedwell bay and have had a vehicle loose control and come into our property. Lucky no one was hurt. There was property damage. Walking on bedwell bay road I have almost been hit twice by a car coming from behind. And I was walking on the correct side. To go to the lake I will often drive to Senkler for fear of the traffic.

2 HEAT MAP RESPONSES

Sport Court Near Bedwell Bay Road

- This court area has been talked about for last 20 yrs (surveys like this fone)with no effect. Woild like a useable area(tennis,pickleball courrs)
- A paved bath through this part of the park connecting Bedwell Bay Rd (near the tennis courts) to Marine Ave would be a very good addition to make a usabe active route through Belcarra - with an additional paved connector from Tatlow Trail to Watson Rd.

Bedwell Bay Road and Jug Island Trail

- Or take ATPN from park to tennis courts via Metro Parks on trail-connect Marine, along Marine to Watson the Senkler alongside camp road then to White Pine. A more scenic park route like Seymour Network.
- Get Metro Parks to actually do some maintenance on multi use trails that actually go from Parking lot to Sasamat Lake. They have done zero maintenance in 20 years to what was a good multi use path. Cyclist are not encouraged or guided to use this path in/out of Belcarra.
- Open the existing gravel trail between Bedwell Bay Road (across from Park entrance) to Marine Avenue to bikes as well as pedestrians. This would create safe, off-main-road travel between the west edge of Belcarra to the Park and from the Park all the way to Watson Road (near the entrance to the Village).
- bike lane and/or dedicated sidewalk
- Since the Jug Island trail has a set of stairs, a dedicated bike lane from the end of the Village to at least Marine Avenue would be great. Marine is a quiet enough street to bike on.
- off road bike path

Bedwell Bay Road and Midden Road

- Trail connection
- Pedestrian controlled flashing light for the crosswalk at the park.
- Speed bump before the parking lot (when westbound) to slow traffic to 30 km/h. Very few cars traveeling westbound on Bedwell Bay Rd slow down at all (usually going 60+ km/h) unless there are pedestrians crossing at the crosswalk.

Bedwell Bay Road and Turtlehead Road

- Sidewalk or separation for pedestrians along Belcarra Bay Rd. Many people walk along here, many with their dogs, and there are parts where there is very little space on the side of the road, and most vehicles travel well above the 30 km/h limit. It's really bad when vehicles are passing in opposite directions and there are pedestrians present.

2 HEAT MAP RESPONSES

2.3 OTHER ROADS

Senkler Road and Bowser Avenue

- The road is wider than necessary between Watson and the Village entrance for traffic leaving the community likely due to a mistake with white line markings on the shoulder. A wider path for pedestrians and bikes could be created by simply moving the white line over a couple of feet.

Main Avenue Unmaintained Recreational Path

- Trailhead signs and guidance
- Explore Main Ave trail extension via ROW
- Trail upgrade a the eastern end of Main Avenue

Tum Tumway Whueton Drive

- to loco & Alderside through BC Hydro Connect to Tum Tumay Wheuton then BC Hydro to loco & Alderside
- Put trail in from Woodhsven swamp to Belcarra park.

Woodhaven Trail and Main Avenue

- Put trail from Main Street to Woodhaven trail .

Bc Hydro Access [Map Top Right]

- Improve ROW trail for Mtn Bikes, etc

Tatlow Trail Near Watson Road

- This is a horrible dangerous trail.should be removed
- Pave trail from Watson Rd to Marine Ave
- The trail between Watson rd and marine. Can you put back the mountain biking calming on the trail.
- A paved connector from Watson Rd to Tatlow Trail to allow active transport to take the much safer and flatter route through Belcarra rather than dealing with the traffic along Bedwell Bay Rd.
- Add a crosswalk with an on-demand flashing light for cyclists and pedestrians to cross here (after using the Marine Ave active path)
- People come over the hill and can't see if someone is crossing in time

3 ALL COMMENTS

Comments were provided in response to the following questions. The comments are unedited.

3.1 WHAT ARE YOUR PRIMARY REASONS FOR TRAVELLING BY ACTIVE MODES?

- Collecting Mail.
- We have a young child and we love to visit the beach, check the mail or walk to white pine beach. He is learning to ride his bike but without sidewalks we don't feel comfortable letting him ride his bike to the beach or park,
- walking to mail box
- Health and fitness
- Dog walking
- Dog walking
- Pet responsibilities
- Walking my dogs
- going to the mall or seeing my friends
- Run/jog
- Other = shopping
- Other = mailbox and electric bicycle and walking
- Mountain bike trails have Been proposed between houses on Bedwell Bay Road and To be Access Road The existing road from the swamp to b Bedwell Bay Road does not allow cycling which is unfair when it is rare to see another person on this trail
- Cheaper and faster, compared to driving in/around a city.
- work
- Walking dod
- Visiting other village residents
- Saves time

3.2 WOULD ROAD, PATH, AND TRAIL (INFRASTRUCTURE) IMPROVEMENTS INSPIRE YOU TO TRAVEL BY ACTIVE MODES MORE OFTEN?

- I'm satisfied with the road for driving a car on Bedwell Bay Road but do not use the road for walking because of the drop off on one side and then narrow shoulders but do not feel safe on walking on the road
- No (because I'm already near 100%), but I'm not satisfied with the current infrastructure
- Selected No, I am satisfied with my current efforts and yes the current infrastructure is not a barrier for me. Comment for other: "Unless it was fully along Marina or Tum Tum Wheuton NOT along Bedwell Bay at all"

3 ALL COMMENTS

3.3 WHAT BARRIERS PREVENT YOU FROM USING ACTIVE MODES (WALKING, CYCLING, ROLLING/SCOOTING)?

- do not chase grants which require bicycle and walking paths in order to qualify How many times to Villagers need to say NO
- Nothing prevents me.
- It just feels too risky ... everyone is in a hurry and more EV vehicles are great but too quiet to hear coming.

3.4 WHICH SAFETY MEASURES AND IMPROVEMENTS DO YOU FEEL ARE MOST IMPORTANT FOR THE BELCARRA COMMUNITY?

- All are okay
- Being forced to choose a min of 3 options... I chose the one I agree with and using this as the third. Speed bumps and limits sho Feels leading in a survey to have to choose 3.
- Better signage to divert the park traffic to the designated roadways for the park which would in turn have fewer vehicles travelling through the village.
- Blind corner signage on narrow roads
- Clear shoulders
- Divert park visitors away from the village
- Enforcement of speed limits
- For me, the trail between Watson road and marine needs calming for mountain bikes that recklessly fly down to Marine
- Have all active trans lanes directed to marine off of Bedwell Bay road much safer
- Having crosswalk warning light further up the road. So vehicles coming over the hill can prepare to stop
- I am very happy with the Watson Road connector to get from one end of the village to the other. It is nice and flat, quiet and easy. Bedwell Bay Road is too steep in places.
- I dont believe anything needs to be done. I selected lights by force of the survey This survey is misleading because 3 must be selected
- I feel the biggest safety problem is chronic speeders. It seems like these individuals travel at 70 km/hr., especially when my wife and I go for a walk at 5:45am. It seems like people are in a big hurry to get somewhere (likely to work) and may not think people will be walking on or beside roads at that time. Having an speed indicator (indicating your speed of travel) may be a deterrent. If we could record and follow up with chronic speeders, that would be ideal (i.e. punish the offenders, not the community in whole, while keeping costs minimizes). This entry box doesn't allow me to review what I wrote, so sorry for typos.... . .
- Improve existing forest paths
- Improve the trails we have

- Improve trail from Main St to woodhaven swamp trail.And from Woodhaven swamp to Belcarra park.
- It is safe right now
- It's safe already
- Leave well enough alone
- More cat eyes on road lines for better night visibility. / more light where appropriate but it seems pretty good.
- NOT speed humps!
- None of the above, the village is very safe right now!
- People shouldn't walk dog off leash anywhere especially on roads
- Perhaps odd speed bumps
- Safer biking between Sasamat Lake and Ioco Road
- Signs for cyclists, to remain one behind the other.
- Speed bumps without lower vehicle speed
- Speed is by far the most troubling aspect. I do NOT want more lighting!
- The pathway should be along Marine and the forest trails away from Bedwell Bay traffic
- Trim back hedges to widen the walking paths. The question asked for UP to 3 yet cannot go forward as it is mandatory to choose 3
- Trim hedges back. Maintenance.
- You need to redesign streets so that people naturally drive slower, rather than just put up lower speed limits on existing roads
- better road maintenance and hedge / tree pruning
- checked only because the webform required checking 3 boxes
- possibly bike lock stands, also entered Excessive vehicle speeds and/or traffic volumes as barriers
- use the roads we have
- widen roads and/or pave shoulders

3.5 DO YOU HAVE CONCERNS ABOUT THE VILLAGE OF BELCARRA IMPROVING THE ACTIVE TRANSPORTATION NETWORK?

- Adding concrete into the forest without thought to drainage, not just culverts, but actually maintaining moisture within the ground itself.
- Too much cost and not needed We have not hit any pedestrians in all my years here There are other priorities that need this money
- Topography not conducive without large expenditures
- This is the smallest Village in the lower mainland - leave it alone, we manage just fine!!!! We certainly don't need outside interference.

3 ALL COMMENTS

- I am all for improvements. As long as we are not adding more of a tax burden onto the villagers. Sidewalks would be amazing for our community but not at the expense of higher taxes.
- Cost. Taxes are awfully high already.
- I think there are more important issues, such as firehall, water, current infrastructure. We a village of 700 persons focus on the basics.
- We live in a steep environment and changes to Bedwell Bay Road would be disruptive to property owners and unaffordable to Belcarra. There are lots of existing trails which can support movement around Belcarra by foot or bike.
- We do not need to do anything.
- We have a park with a parking lot within our community. If people are worried about being active they can go to park.
- Impacts on ALL neighborhoods within Belcarra must be considered. A simple improvement would be to allow the trail between Marine Avenue and Bedwell Bay Road to accommodate bikes as well as pedestrians. This would provide safe, off-the-main road active travel for most of the Village. Metro has turned down this opportunity once, stating that the Ray Creek bridge is “too narrow”. Seems to be a simple fix.
- Yes it seems to be taking a very long time. Lots of talk. Very little action.
- Don’t want natural path/trail corridors changed to asphalt
- A 12-foot wide paved path, such as suggested in the past, is NOT necessary, as walkers can step out of the way of cyclists. Widening the entire road system is not needed, and much too expensive. A separate, unpaved, but cleared of undergrowth, path would be very welcome!
- Financial concerns on building and maintaining infrastructure necessary
- Any Bedwell Bay Road multi use path design is cost prohibitive due to engineering and driveway grade incompatibilities. Potential standardized multiuse path designs would require imminent domain property improvements at driveways as well as substantial slope retaining structures on portions of Bedwell Bay Road (4100-3200 blocks). There may be room for a standard sidewalk on Bedwell Bay Road but a 3.0 m wide path is cost prohibitive.
- Belcarra has done ABSOLUTELY NOTHING regarding active transportation. NOTHING, ever!. It is the only town on the lower mainland that has NO SIDEWALKS or BIKE LANES. When walking or cycling I feel unsafe due to the proximity to speeding vehicles. It is time to get going on this and get the available grants to start this needed infrastructure. Please do not sit on your hands - do something!
- people can use Marine for exercise walking
- Off road pathways
- The survey is biased. #5 does not ask my opinion rather it forces the selection of some form of improvement. This leaves a respondent no choice to select upgrades they may not feel are needed nor as a tax payer do they want. If this council uses this survey to drive spending they will be misled by using the data collected.
- The cost to maneuver around bedrock that is at surface. NO SPEED BUMPS!! They create more noise (revving up) and carbon emissions at location.

3 ALL COMMENTS

- The length of time it takes to make improvements. Signage is good, but there are still many drivers coming into our village that do not read the current signs and ask us where to park.
- While I want improvements made, I'm concerned about the Village spending money it doesn't have. With limited money, I'd like to see the Village priority our fire water system. I'd also like to see us generate revenue by selling some road ends.
- Costs to taxpayers
- Yes, I have major concerns about what the costs would be to tax payers of the village. I also believe we as a village have far greater needs such as a new fire hall and other village infrastructure.
- Need to reduce speed limits & traffic noise in priority. 2. Improvements need to remain within our financial limitations.
- The previous question is biased by forcing you to pick a capital project to advance. No expensive capital projects are required. Just require hedges on BBR to be trimmed back and change speed limit to 30.
- A light was put in supposedly across from the first Bedwell Bay transit stop without consultation with those who would be affected. It is very unpleasant and in the wrong place to light up getting one's mail. I don't want more lighting in my neighborhood, especially lights that stay on 24 hours a day.
- We can do non-vital projects only once we started having positive budget balance, without increasing the taxes.
- This question is not phrased clearly enough. You mean concerns that you're trying to improve it at all? Or concerns about how it is done? Poorly worded question, I suggest you don't use it in your analysis as folks will interpret it differently.
- This question is hard for me to answer...It's a yes and no answer... No — I do not have concerns about improving active transportation. This is something I very much hope we will take on with a focus on long term goals. Yes —I do have concerns about the focus always being finances. Misunderstanding and Misinformation about money grinds projects to a halt in our Village. I want us to take advantage of grant funding. Build the paths as funds allow. Let's at least have a plan. A vision of where we are going. An inclusive community where residents and visitors can leave the car at home and access trails, sidewalks, beaches and bus stops safely.
- There are other prioities that should be the focus of the village. This is not one of them.
- The village is already severely financially challenged. It cannot bear additional costs.
- Install speed bumps and flashers at all crossings on Bedwell and direct foot and bicycle traffic etc to a route along the foreshore on Marine Get pedestrian traffic off of bedwell it is not safe
- We can't afford to spend the money. Much more important things (new firehall) for example
- Cost/financing!?; Tourism to an area already overrun with tourists (i.e., the volume of people already exceeds park infrastructure and recreational capacity); Parking inevitably becomes an issue
- Would love to see it

3 ALL COMMENTS

- I think there are other priorities that the village should focus our money on.
- Mayor & council need to do a better job In my opinion they have no clue on what to do They need to be open to the tax payers
- Costs. Village staff capacity to complete on projects.
- The village definitely should NOT reduce the village speed to 30. For one, people rarely go 30 im the already designated 30 zones which is frustrating enough. But also trying to get out of the village at 30 would be like tourist season year round. No thank you. Anmore has some speed humps in 50 zones in appropriately placed areas and those seem to do sufficient work. We are almost 4km from the 3 way to the end and you would just end up irritating more villagers than not with a reduced speed limit! In terms of trying to incorporate bike lanes or sidewalks, where is the room? We have none, or if we do it's likely taking away much needed embankments for the surrounding nature that grows. Does the cost justify the means? I think the money needs to go to our firehall and services for the Village. Unless metro van can put in more trails that connect marine dr to sasamat lake where you could be almost totally off road - that would be the ideal.
- Costs, increased taxes; the current infrastructure is fine; I'm a cyclist and have not felt unsafe; walking through the village is easy with alternate routes
- All we need is a 4-5 foot sidewalk along the main roads so residents can walk safely without interfering with traffic. This would also reduce the need for some residents to act like traffic patrol, which has recently increased and is making drivers feel uncomfortable.
- added cost to a broke village
- The issues have been recognized and discussed for years, but there has been little/no action.
- Funds should be allocated to more important projects.
- A MUP on Bedwell Bay Road will be dangerous with the steep hills, bad sightlines and its camber. You cannot put a path in that goes in both directions without inviting dangerous situations between cyclists among themselves and then also adding pedestrians into that mix. We already have the solution. Marine Avenue and the Watson connector are great to get from one end of the village to the other. And honestly, only a handful of people are pushing this, seemingly without regard for the public purse...which is beyond empty.
- Our village finances are in a deplorable state. Other major costs are coming up, such as a new fire hall that we do not have the money to build. Where will the money come from? Taxes have already been increased to cover basic services provided by the village like the WARD. We are still paying off the water debt. Voluntarily undertaking a useless project when we are strapped for cash is a terrible idea. There are still many access areas to trails in the village. Villagers could consider walking along Marine Avenue where there is less traffic. Barring that, every villager can park along the roads in Belcarra without fear of incurring a parking ticket due to the residency stickers. Villagers could drive for 2 minutes to the park and walk among the many trails that are available along there. All in all, we simply do not have the funds available to allocate to a project such as this. Moreover, it is not of an essential nature which means that whoever is advocating for this idea is not someo
- Cost concerns

3 ALL COMMENTS

- We do not have the money to throw around at pet projects like this
- Cost.
- Yes, I don't think it's necessary. I'm very concerned about the cost. I find the current infrastructure perfectly good.
- Costs for a small village could be prohibitive. Important we stay within our means
- We very much support improving the ATN in Belcarra. As grandparents, we would very much like to be able to bike safely with our grandchild. Right now, it does not feel safe for us to bike on Belcarra's roads.
- I like the idea of more biking in the village, but the problem is if it results in more bike traffic along Ioco in Port Moody. Port Moody should channel the riders off Ioco and to Inlet park bike paths and Alderside.
- Lack of separation between pedestrians, cyclists, and vehicles was identified as a barrier for active transportation
- Gentrification
- COSTS and disruption
- The devil is always in the details, but Shared sidewalk walking And bike path along Bedwell Bay Road would be wonderful, but technically difficult because of the hillside and drop off on the other side of the road.(and very expensive)
- The costs involved for improvements and maintenance would be a financial burden for residents.
- I am concerned that the process will be too slow. I feel we need safe places to walk on Bedwell Bay Road now.
- Currently nothing is required. If you are going for a walk you can easily use Marine Avenue, less pollution in your lungs & lovely water views & head up Watson Trail to Sasamat Lake & beyond.
- My concern is that a small handful of people might ignore data and push back against the the network.
- No, I support those who wish improvements, even though I am basically a driver only. I value their safety, which will always be a challenge, especially along Bedwell Bay Road. A lower speed limit would be welcome, but difficult to monitor ... perhaps the illuminated signs that tell you you're going too fast would help... no idea of the cost... there are several along Gatensbury by Como Lake Park.
- Cost over runs.this survey could easily have been facilitated thru survey lonkey.not hiring exoensive company you get no results
- It needs to be done!
- small number of aggressive people pushing for major changes

3 ALL COMMENTS

3.6 WHAT ARE YOUR PRIMARY CONCERNS ABOUT ACTIVE TRANSPORTATION IMPROVEMENTS IN BELCARRA?

- Are there more important projects we should be focusing on?
- Concrete/Asphalt and runoff
- Don't need it
- I see the benefits far outweigh any concerns
- It is unnecessary. We have Marine Avenue and we have beautiful walking and hiking trails in our own park.
- Most "improvements" I've seen for bike lanes in other communities I feel have made it less safe for me as a cyclist by creating separated paths that are not suitable to be ridden at 30-40 km/h and also reducing space on the road where I would normally ride.
- My concern is that it needs to be done sooner and faster and that this might not happen.
- My primary concerns is the lack of safe separated bike lanes and walking path alone the roads.
- NOT PRACTICAL. We have lived in Belcarra over 35 years & never experienced any issues.
- Net benefit of a multiuse path would be for non residents of Belcarra
- No more bikes!
- No need for residents. Visitors do not pay taxes with no means of supporting Belcarra via business
- Practicality of active transportation improvements
- Too costly & not needed

APPENDIX B
Engagement Summary Report #2

UPLIFTco.

BELCARRA

Belcarra Active Transportation Network Plan
What We Heard
Public Open House & Survey 2

JUNE 12, 2025

CONTENTS

1 OVERVIEW

BELCARRA'S ACTIVE TRANSPORTATION NETWORK PLAN

The Village of Belcarra boasts a beautiful network of trails and pathways. However, local roads lack the infrastructure to safely connect people to key destinations by walking, cycling, or rolling. Developing an Active Transportation Network Plan (ATNP) can help the Village of Belcarra access funding opportunities for active transportation improvements.

The ATNP aims to enhance active travel accessibility and safety in a fiscal, social, and environmentally responsible way. It will focus on closing network gaps, improving connections to parks, beaches, and trail systems, and expanding transportation options. The project looks at ways to make active travel safer, more convenient, and more accessible.

Community Engagement

Round 2 engagement for the ATNP included both a survey and an Open House held at Municipal Hall.

The Village updated the project page on its website with new details about the plan and upcoming opportunities for community input. The Village also promoted engagement activities through posters near the community mailbox and Municipal Hall, along with a direct mailout to residents. Promotional materials included the date, time, and location of the Open House and a QR code linking to the survey. Printed copies of the survey were also available at Municipal Hall.

Open House Summary

An Open House was held at Municipal Hall on Wednesday, April 2, 2025 from 5:30 to 8:00 PM. Approximately 25 residents attended the event.

Feedback from residents at the Open House revealed several recurring themes, with both supportive and opposing feedback to the preliminary design options presented.

Areas of support included:

- Creating packed gravel paths along road shoulders.
- Re-routing cyclists from Bedwell Bay Road to Marine Avenue where traffic is lighter.
- Adding speed humps and raised crosswalks provided that the designs can effectively accommodate emergency vehicle access.
- Improving safety along Bedwell Bay Road by increasing enforcement and implementing traffic calming measures, such as signage, radar signs, and pavement markings.
- Improving safety at the Main Avenue and Bedwell Bay Road intersection.

Areas of concern/opposition included:

- Cost of the proposed projects, emphasizing the importance of a more modest, realistic approach that aligns with Belcarra's small-scale context.
- Accuracy of foreshore access naming.
- Environmental sensitivities at D3 - Scuba Diver Trail foreshore access point, cautioning against development for kayak use.

Survey Summary

166 responses (98 complete and 68 partial) were received for the survey that was open from March 21 to April 13, 2025.

The purpose of the survey was to collect feedback from residents about the preliminary active transportation design concepts and project segments identified for improvement.

Feedback revealed majority opposition to several of the design concepts and improvements. However, there was majority support for low-cost, minimal-impact solutions, including: unpaved trails to improve off-street recreational trails and foreshore accesses, and pavement marking to help reduce speeding along Bedwell Bay Road. The majority of respondents also selected Bedwell Bay Road as the priority segment for on-street improvements. Neutral responses indicate a general lack of full support or opposition, with comments suggesting that another option presented would be preferred or factors, such as cost, are a concern.

Themes that emerged from the comments:

1. Fiscal Responsibility & Budget Concerns

- Existing debt (firehall, water, road maintenance)
- Lack of funding for new projects
- Opposition to raising taxes for “nice-to-have” improvements

2. Traffic Safety & Speeding (Especially on Bedwell Bay Road)

- Speeding vehicles (especially. motorbikes)
- Dangerous blind spots and narrow shoulders
- Calls for speed bumps, photo radar, and better signage

3. Opposition to Urbanization & Tourism Growth

- Becoming a tourist destination
- Increased traffic, noise, litter, and safety issues
- Opposition to infrastructure that could encourage more visitors

4. Lack of Community Benefit from Active Transportation Projects

- Existing trails already serve local needs
- Non-residents would benefit more from upgrades
- Village should focus on services that directly support locals

5. Mixed-to-Negative Views on Cyclist Infrastructure

- Narrow roads unsafe for bike-pedestrian sharing
- Cyclist numbers in Belcarra are low

2 ON-STREET IMPROVEMENTS BEDWELL BAY ROAD

Sidewalks	Shared Pathways	Buffered Lanes	
69%	**69%**	41%	14%
Oppose	Oppose	Support	Neutral



The majority of survey respondents opposed sidewalks (69%) and shared pathways (69%). There was marginal support (41%) with some expressing neutrality (14%) for buffered lanes.

Sentiment

50 open-ended responses were received.

The comments revealed **consensus concerning the feasibility of the proposed designs due to geotechnical challenges with widening the road, drainage issues, and potential encroachment on private property.** Survey respondents suggested alternative approaches, such as gravel sidewalks.

Opposing comments primarily questioned the need for the improvements on Bedwell Bay Road.

Supporting comments expressed caution, often emphasizing the importance of selecting flexible, low-cost designs that require minimal maintenance.

Segment Priorities

73 respondents provided feedback on the segments they would like to see prioritized, and 44 respondents skipped the question.

The top three segments that the respondents would like to see prioritized for improvement were:

- Marine Avenue – Main Avenue (48%)
- Main Avenue – Kelly Road (47%)
- Kelly Road – Watson Road (38%)

3 ON-STREET IMPROVEMENTS LOCAL STREETS

Advisory Shoulders	Walkable Shoulders	
63%	40%	17%
Oppose	Support	Neutral

A majority of survey respondents (63%) opposed the use of advisory shoulders. There was marginal support (40%) with some expressing neutrality (17%) toward walkable shoulders.

Sentiment

32 open-ended comments were received.

The comments revealed **consensus regarding the concern for people's safety.**

Many felt the proposed designs do not adequately address the core issue—driver speed—and offer insufficient protection for people walking, biking, or rolling, particularly given that users would face one direction of traffic with their backs to the other. Sightline challenges due to overgrown vegetation on private property were also cited by respondents.

Some individuals questioned the necessity for improvements, noting limited pedestrian-vehicle conflict and suggested that the highlighted routes and trails throughout Belcarra are already sufficiently walkable.

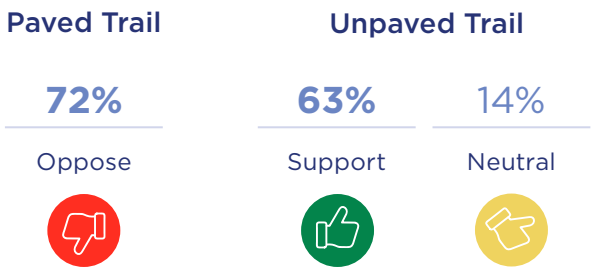
Segment Priorities

When asked to prioritize future improvement segments, 56 respondents selected their top three routes, while 59 skipped the question.

The top three segments that the respondents would like to see prioritized for improvement were:

- Belcarra Bay Road (57%)
- Marine Avenue East (41%)
- Marine Avenue West (30%)

4 OFF-STREET IMPROVEMENTS RECREATIONAL TRAILS



Survey results revealed that the majority of respondents (72%) opposed paved trails. A good majority (63%) expressed support or neutrality (14%) toward unpaved trail improvements, highlighting the clear preference for low-impact, natural trail treatments.

Sentiment

55 open-ended responses were received.

The comments revealed **consensus that paved trails are not appropriate across all of Belcarra's trail network due to aesthetic and cost concerns. The importance of regular trail maintenance was emphasized**.

Some supporters suggested that selective paving, particularly along routes C1, C2, C3, and C4, could improve accessibility for more users. Respondents differed on their views on the current state of trail maintenance. Some respondents believed that trail maintenance is insufficient and are concerned that the trail improvements proposed would not be properly maintained without additional staff. Alternately, many respondents are satisfied with the current state of trail maintenance.

Segment Priorities

When asked to prioritize trail improvements, 85 respondents participated while 30 skipped the question. **Of those who responded, 45% selected "None of the Above," preferring not to prioritize any trails for improvement**.

The top three trails identified for improvement were:

- Tatlow Trail (27%)
- Marine Trail (26%)
- Watson Trail (26%)

5 OFF-STREET IMPROVEMENTS FORESHORE ACCESSES

Paved Trail	Unpaved Trail	
69%	**61%**	11%
Oppose	Support	Neutral

The majority of respondents (69%) opposed paved trails for foreshore access. In contrast, unpaved trails received broader acceptance, with the majority of respondents (61%) supporting or feeling neutral to the option (11%).

Sentiment

37 open-ended comments were received.

The comments revealed **consensus that Belcarra's shoreline is currently not accessible to all.**

Some respondents acknowledged the instability of the rocks between the trail and the water as a significant barrier and argued that improving the trail would not resolve accessibility challenges due to the inherently rocky shoreline.

Supporters highlighted that the steepness of existing trails and the presence of stairs limit accessibility, which could be addressed by this project.

There were differing opinions on whether additional access points were needed. Some in favour of improvements noted that enhanced access would benefit upland residents using kayaks or canoes. In contrast, others felt the existing network of access points—along with public entry at White Pine Beach and Belcarra Park—was already sufficient and well-known among residents. Several respondents were concerned that improvements would draw more non-residents to the foreshore and exacerbate non-resident parking issues in the Village.

Segment Priorities

A total of 86 respondents provided input on where they would like to see foreshore access improvements prioritized, while 25 skipped the question. **Of those who responded, 42% selected "None of the Above," indicating no preference for further access improvements**.

The top three priority locations for improvement were:

- Marine Avenue West (38%)
- Marine Avenue East (33%)
- Scuba Divers Trail (29%)

6 CROSSING IMPROVEMENTS

Pedestrian Flashers		Decorative Sidewalks		Raised Crosswalks	
50%	13%	32%	27%	40%	12%
Support	Neutral	Support	Neutral	Support	Neutral

The moderate number of respondents supported or felt neutral toward some form of crosswalk improvement, with pedestrian flashers receiving the highest level of overall support (50%).

Sentiment

47 open-ended comments were received.

There was **consensus that crosswalk safety is important with limited sightlines and vehicle speed identified as major concerns.**

The divergence in opinion stemmed less from whether crosswalks should be improved and more from preferences about which solutions are best suited to Belcarra's context.

Respondents who opposed the proposed crosswalk improvements often emphasized the need for complementary measures—such as stricter speed limit enforcement or the installation of speed humps to effectively address these safety issues.

Those who supported pedestrian flashers emphasized their high visibility for drivers, while opponents viewed them as intrusive or unnecessary in low-traffic areas. Supporters of raised crosswalks valued their traffic-calming function as a visual and physical cue for drivers, while those opposed felt they lacked the impact needed to meaningfully slow speeding vehicles.

Improvement Priorities

A total of 88 respondents provided input on where they would like to see crosswalk improvements prioritized, while 21 skipped the question.

The top locations prioritized for improvement were:

- Intersection of Bedwell Bay Road and Kelly Road (44%)
- Bedwell Bay Road and Jug Island Beach Trail (33%)

7 BEDWELL BAY ROAD SPEED REDUCTION

Pavement Markings		Speed Radar Signs		Reduced Speed Limits	
51%	16%	50%	13%	49%	3%
Support	Neutral	Support	Neutral	Support	Neutral

Respondents expressed moderate support for speed reduction measures on Bedwell Bay Road.

Sentiment

39 open-ended comments were received.

There was **consensus that speeding occurs within the village.** Both supporters and opponents of the proposed measures agreed that greater enforcement of existing speed limits is necessary.

Those opposed to the proposed interventions emphasized enforcement as the primary solution, while supporters viewed enforcement as a key complement to the physical speed-reduction measures.

Many respondents noted that current speed limits are frequently ignored, contributing to skepticism about the effectiveness and value of any of the interventions.

8 SUPPORTIVE AMENITIES

Wayfinding Signage		Benches & Bike Parking	Pedestrian Scaled Lighting
33%	28%	**52%**	**61%**
Support	Neutral	Oppose	Oppose

Respondent support for supportive amenities was low. Wayfinding signage was accepted by a third (33%) with a fair amount feeling neutral (28%).

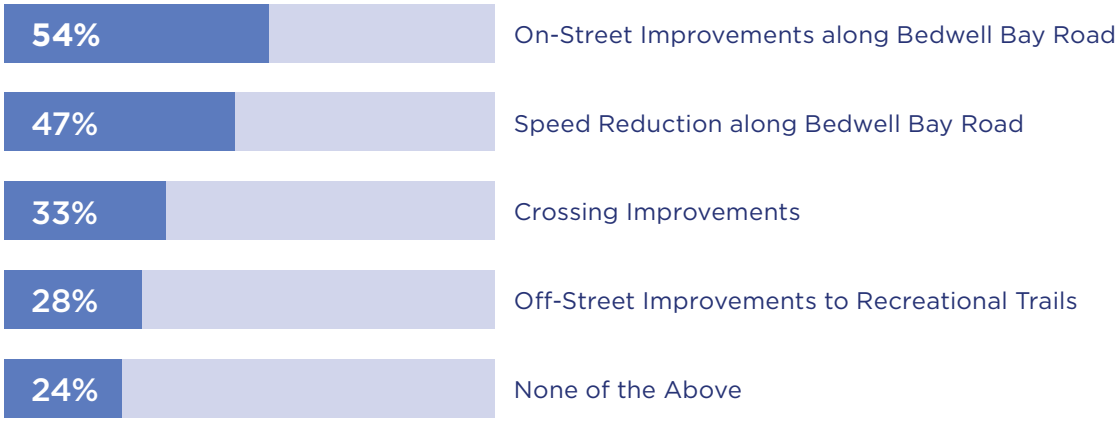
Sentiment

33 comments were received.

There was **consensus about the lack of necessity and the concern about cost with adding supportive amenities in residential areas, arguing that similar infrastructure already exists in higher-use locations such as White Pine Beach, Belcarra Park, and Jug Island Trail.**

While some comments support pedestrian scaled lighting and improving signage to trails, some also expressed concern that lighting and additional signage could compromise the rural character of the village, and that the amenities only benefit non-residents.

9 PROJECT PRIORITIZATION



93 respondents answered the question regarding which potential improvements they would like to see prioritized, while seven skipped the question.

The top priority identified by respondents was on-street improvements along Bedwell Bay Road, selected by 54% of respondents. This was followed by safety and traffic calming measures focused on speed reduction on Bedwell Bay Road (47%), crossing improvements (33%), and off-street improvements to recreational trails (28%). Notably, 24% of respondents selected "None of the Above."

23 comments were received.

The comments expressed similar feedback provided in previous questions, including cost concerns, maintain what exists, and that amenities, such as bike parking already exists in neighbouring parks. Safety should be prioritized using low-cost measures.

10 ADDITIONAL FEEDBACK

Belcarra residents were provided an opportunity to convey additional thoughts to the project team. 44 comments were received. The sentiment echoed much of what was heard in other comment fields, stating a general lack of value or need for improvements. Some individuals relayed support for increasing safety for pedestrians and the need to address speeding along Bedwell Bay Road.

"Thank you for the great information and options your team is suggesting for Belcarra. It's my hope that all of these improvements will greatly enhance the safety of people walking, cycling, and rolling in our village."

"We are a small community of 250ish households. We are having issues paying for our existing infrastructure as it stands now. There is no need to add these features especially when we already have several perfectly safe low traffic walking corridors (i.e., Marine and Maine). Council's priorities should be focused on revenue raising activities like selling surplus land instead of spending dollars we don't have."

"I love where I live and part of the reason I enjoy living in Belcarra is because it is decidedly different from other urban areas. Upgrades are necessary especially where safety is concerned. But I don't want to see Belcarra morph into a mini metropolis."

Appendix A: Full Survey Report

Belcarra Active Transportation Network Plan
What We Heard
Public Open House & Survey 2

Report for Belcarra ATNP Survey 2

Response Counts

Completion Rate:	**59%**		
	Complete		98
	Partial		68

Totals: 166

1. What is your level of support for the potential conceptual designs for improving Bedwell Bay Road?

	Strongly Support	Support	Neutral	Oppose	Responses
Sidewalks					
Count	12	9	9	66	96
Row %	12.5%	9.4%	9.4%	68.8%	
Shared Pathways					
Count	14	7	8	63	92
Row %	15.2%	7.6%	8.7%	68.5%	
Buffered Lanes					
Count	21	17	13	42	93
Row %	22.6%	18.3%	14.0%	45.2%	
Totals					
Total Responses					96

2. What is your level of support for the potential conceptual designs for improving Bedwell Bay Road? - comments

ResponseID	Response
	Very supportive, of improvements as long as private property hillsides are destabilized as a result of road widening. Anywhere widening happens there needs to be accommodation for possible retaining walls and proper drainage. Also Belcarra planning should take a very good look at the shared pathway around Central Park in Burnaby.
	Road repairs amazing in front of our 3944 location.Like more parking:such as a couple of doors east of the location have large shoulders where fire hydrant is.Easier for shoulder pressure and future costs.Gravel there ,clean.
	For the few people that use these road ways I don't see anything wrong with the status-quo. And yes I walk Bedwell bay road with no concerns.
	Bedwell Rd is cracking due to subsidence in several places. This was mainly caused by filling the drainage ditch many years ago, causing seepage under the road , and slow erosion. Before any paths are done the drainage problem needs to be fixed, then the road. All this is obviously very expensive.
	Bedwell Bay ROW will not support shared path width due to geotechnical improvements needed, waterline improvements needed and current encroachments. Too expensive and disruptive to actually construct. The addition of more VoB storm drainage infrastructure is a future maintenance challenge. The current stormwater infrastructure maintenance schedule is challenge enough.
	The village cannot afford this project. The net benefits would be for people who do not live here. Five or six cyclists who live in the village seem to be pushing this idea. Vehicle traffic would be impeded.
	This plan appears to benefit people who do not live in our Village. We have far greater pressing improvements that need to be completed (ie: a new fire hall) prior to any of this being considered.
	The cyclists that use the village have no regard for road markings and can take their chances sharing the road with vehicles. Our villagers are the pedestrians that need protection from anything with wheels.
	All 3 options are severely challenged because lateral space is highly constrained especially for segments A3 & A4 where current provisions for pedestrians is unsafe.
	Buffered lanes would be best option if financially sustainable for the limited size of our community.
	The least expensive solution has more chance to be built and there is more pathway for our budget. There is not enough usage for sidewalks or shared pathways - buffered lanes work fine for the amount of pedestrian & bike traffic. Anything to get the bikes and pedestrians off Bedwell Bay Road.

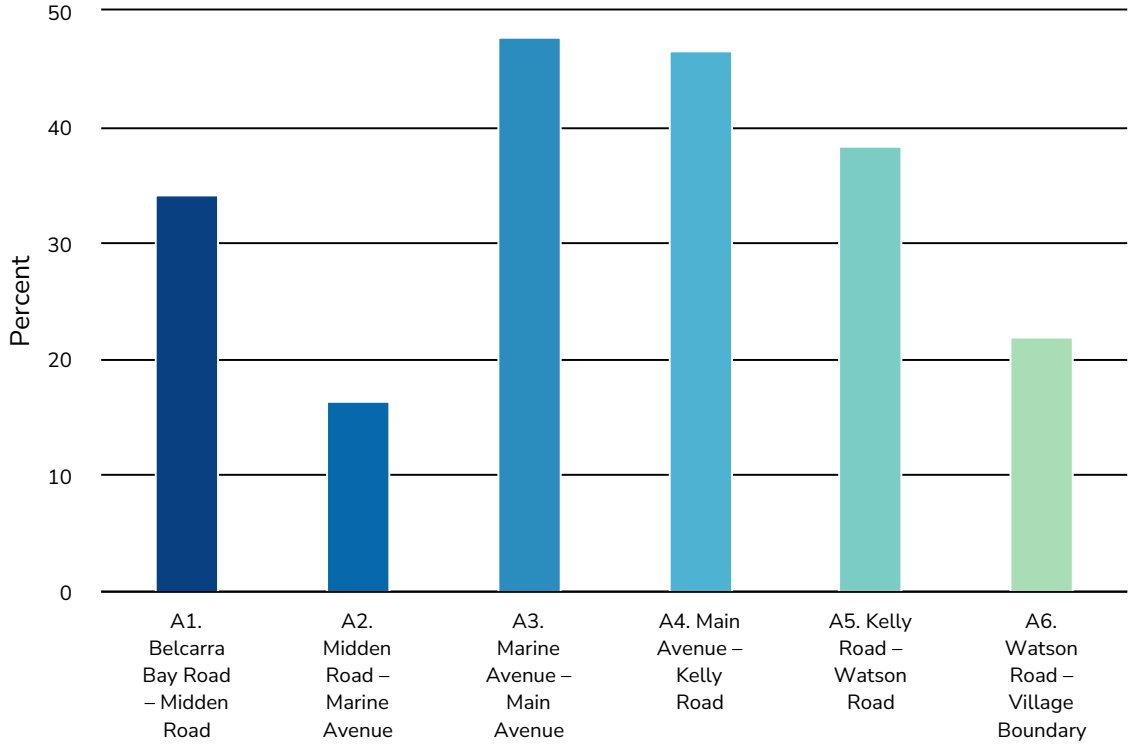
ResponseID	Response
	Sudewalks will increase run off and cover ditches. The most economical and eco friendly choice is compacted gravel for walking.
	We do not have the money to ANYTHING in Belcarra. Who is this "network" for? Is it to increase traffic into our very small, non-commercial community - at MY expense!?
	Far more important issues for the Village to attend to with this level of estimated cost
	We have no money for this. We need roads repaired. We need a firehall and we need to pay down debt. Additionally, I see zero advantage to taxpayers and residents in adding traffic, fire and safety concerns and additional usage to our residential neighborhoods. And we have a volunteer fire department that cannot be expected to attend the additional issues created by multi paths. Vehicle, bike and pedestrian interactions/incidents will increase as they always do when these users are put together. e.g.. Stanley Park. The initial capital cost is only one consideration. Then there are the ongoing operational costs that particularly concern me, especially since we seem to have quite a hard time staying on top of drainage along Bedwell Bay Rd. as it is. Ultimately, I honestly do not see how we need these kinds of "improvements". Most residents already know how they can cut down to Marine Ave to by-pass the narrower shoulder from Marine Ave. to Watson Rd. I struggle to see what the
	We need to stop wasting money with useless consultants that do not live here. Cut out expensive consulting costs and lower property taxes to keep people wanting to live in this beautiful place. I agree with traffic calming and a safe walking path along roads. Spend our budget wiser. Fix our tennis court! Make that a multipurpose space for locals.
	There are certain sections between Main and Marine where there is very little verge, but I do not support widening the pathway between Kelly and Main. The real issue in Belcarra is speed, and unless traffic calming is in place, the road is not safe. The speed limit between Main and Kelly is 30 km, most vehicles are doing 70 or 80km. That is the problem.
	We have a funding gap. How are we taking on a project we cannot afford? Moreover, the village will have to pay for firehalls in the near future. We already lack the necessary funds to pay for that. We should be focusing on essentials, not luxuries. There are plenty of walking paths in Belcarra park and along marine avenue.
	Not necessary. We cannot afford to throw money around on vanity projects right now
	It's too narrow as it is!
	Sounds very expensive; buffered lanes that are wider is preferable
	Would favour flexible approach. Implementing whichever infrastructure improvement fits specific area
	Get it done! Belcarra is the only city with no sidewalks in lower mainland

ResponseID	Response
	I will ride my bike on a sidewalk, but would prefer a shared option.
	Hard NO
	The main reason we love Belcarra is the rural aspect and unencumbered movement throughout the village..it is not like we have had some huge population increase that would necessitate these kind of upgrades...we would live Port Moody if we wanted street lights, bike paths etc..the whole beauty of Belcarra is the basic rural aspect of it...People that live here that are asking for this should move to an area that already has this type of city development. Please don't make the residents of Belcarra succumb to this type of urban development. It will ruin the natural state that Belcarra has always offered to residents.
	We do not have room for any substantial type of sidewalks.
	Financial limitations and requirements suggest that low cost options which improve walking access should be favoured.
	We walk regularly on the existing shoulders just fine. Maybe trim the hedges back a foot or two. Note- Question 2 is biased as it presupposes approval.
	there are other priorities to spend money on
	We should have a gravel sidewalk along Bedwell Bay Road... we do not need it to be paved with a curb. regarding shared pathways and buffered lanes, these would be nice to have but not necessary. If we had a gravel sidewalk that is all we need. there is not enough traffic to justify these other improvements.
	Cost and tax
	Remove all footpath traffic from bed Bay Road, which will be if the village is interested in safety the safest approach
	Need to keep within an accepted budget
	This infrastructure will incentivize more people coming in and it's already jam packed in the spring and summer. People dump their garbage everywhere and overflow and it's honestly a fire hazard. Had some drunk teenagers come into the neighborhood last summer and they vandalized the little take a book leave a book thing and started burning the books. Don't want more people like this coming into the area. It's also really expensive and we should focus more on protecting the environment... not bringing in people who destroy it and have zero respect.
	Sidewalks and shared pathway require too much space and road widths too limited. Buffered lanes would be supported BUT without bollards or concrete curbs as winter maintenance becomes costly. Best is to just paint lines for pedestrians on the shoulder. Least costly, easy to maintain.

ResponseID	Response
	Not needed!
	Your focus on costs is distracting as the bulk of the costs are likely available from grants and other levels of government. The survey will likely skew the results.
	Ensure there is only one response per household on this survey. We want to preserve the rural nature of Belcarra and the trails through Belcarra provide existing recreational opportunities for pedestrians and cyclists
	I don't oppose Sidewalks and Buffered Lanes. I strongly oppose cycling with vehicles. I think that would be too scary for me as a cyclist and a driver.
	Village cannot afford these expenses. We are rural village not a city. Maintain existing trails in better condition. Add gravel along shoulders of roadways where possible to make it possible to walk along without mud and water pools.
	Could the Village consider a combination of shared pathways and buffered lanes?
	Concern re loss of hedges, garden, sound buffering and privacy on properties abutting proposed segment A4. Concern re cost to village of these improvements. Do not want a concrete path.
	Village can't afford and is a rural Village with limited resident use requirement. None of the street segments for improvement.
	We are a village not a metropolis. Safety is important but maintaining high cost somewhat Imposing road additions(that take away from our wooded tranquility) to our current "country-like " rural "roads" will alter the natural, wooded ambiance we currently enjoy. The more infrastructure and concrete additions the more we become urban and lose our rural status. Safety yes, "concrete jungle-no) We are 80 plus seniors who can maneuver walkways that are not sidewalk perfect--but perhaps we are in the minority. Having said that the actual roads need to be kept in good condition--which in itself is expensive but necessary. The recent resurfacing of Parts of Marine Avenue were done expertly. No so of the repairs made to Bedwell Bay road over the last several years. With costs rising in every aspect of community living, at some point, thought must be given to ways of reducing them. Or a time will come when ordinary citizens will not be able to afford living in any community. Our
	There are very few areas where formal sidewalks or pathways could be created without encroachment on private property
	Very few areas where sidewalks can be created without encroaching on private property.
	Pragmatically, with granite rock intrusions do not easily make space for cost effective widening.

ResponseID	Response
	None of the options overall would protect pedestrians from vehicles that lose control around that bend. I believe buffered lanes offer the best option to keep pedestrians and dog walkers from conflicting with cyclists while also enabling the cyclists to use this lane when no pedestrians are around to create more distance with vehicles.
	I am an elderly person who walks along Bedwell Bay Road daily without any issues. The only upgrade to consider is to require property owners to trim their hedges. Some folks may feel safer using other routes.

3. Which segments would you like to see prioritized for improvement? Please select up to three



Value	Percent	Responses
A1. Belcarra Bay Road – Midden Road	34.2%	25
A2. Midden Road – Marine Avenue	16.4%	12
A3. Marine Avenue – Main Avenue	47.9%	35
A4. Main Avenue – Kelly Road	46.6%	34
A5. Kelly Road – Watson Road	38.4%	28
A6. Watson Road – Village Boundary	21.9%	16

Statistics

Skipped	44
Total Responses	73

4. What is your level of support for the potential conceptual designs for improving local streets?

	Strongly Support	Support	Neutral	Oppose	Responses
Advisory Shoulders					
Count	7	13	14	59	93
Row %	7.5%	14.0%	15.1%	63.4%	
Walkable Shoulders					
Count	26	12	17	41	96
Row %	27.1%	12.5%	17.7%	42.7%	
Totals					
Total Responses					96

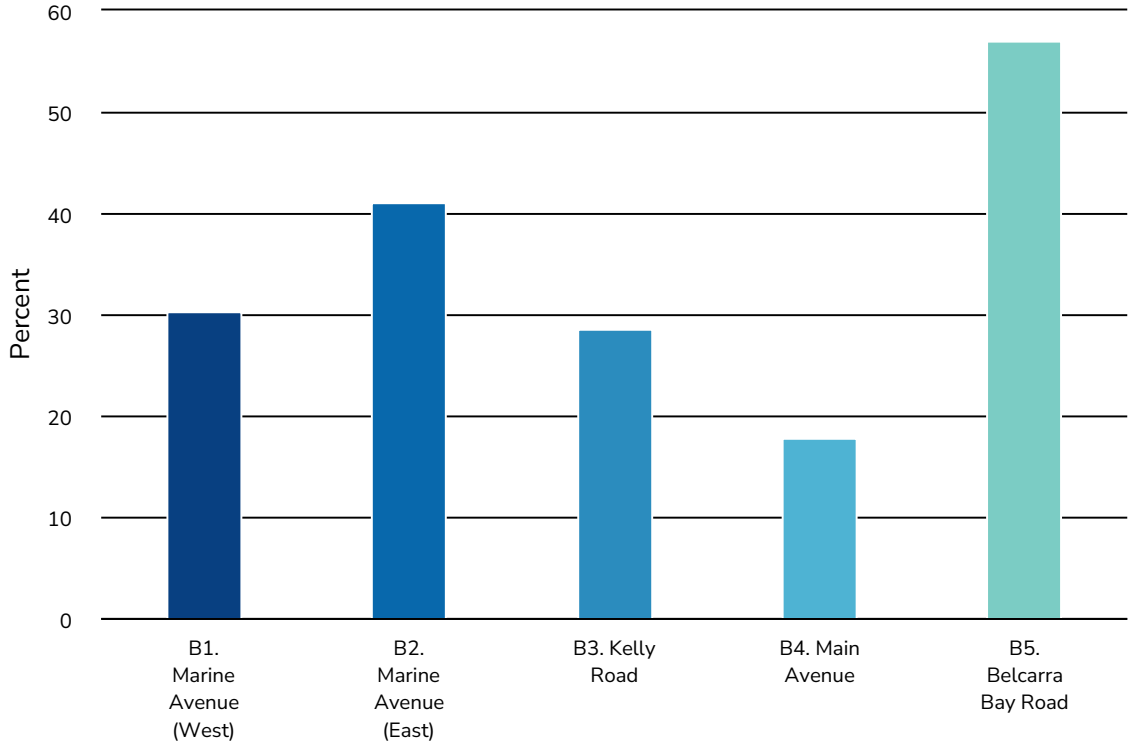
5. What is your level of support for the potential conceptual designs for improving local streets? - comments

ResponseID	Response
	We need speed bumps to slow vehicles, cars, some buses and trucks going over the speed limits by quite an amount.
	Off street parking will have to be eliminated for these concepts
	Paved or unpaved shoulders are necessary for vehicle breakdowns or accidents.
	Shoulders are necessary for cars to pull off we have many trails for bikes or walking so we do not need shoulders for that purpose.
	Many of our villagers ignore or can't understand road signs and markings. To add more to be ignored would be a waste. Case in point...many residents on Marine still turn right against a no right turn sign.
	Advisory & buffered shoulders are unsafe because hilly terrain obstructs vision for car/bus/truck. On cresting a hill when the shoulder is occupied there will not be sufficient time to correct vehicle path and, when an oncoming vehicle occupies the road, no opportunity to correct vehicle path.
	There are speeders presently living in Belcarra which will make Walkable Shoulders a very dangerous option. Single lane and pullout into pedestrian and lanes is a bad idea!
	Can not afford Cyclists use road regardless Cycle traffic should be diverted to Tum Tum or Marine.
	There is already a pathway (trail) from Belcarra Regional Park to Marine Avenue - Marine Avenue goes all the way to Watson Road. It is relatively safe and flat. All that needs to be done is for Metro Van to approve bicycles on the trail segment between Marine Ave and the park. This request was formally made several years ago. Metro Van denied the request because they said the bridge over Ray Creek was not wide enough. This is simply untrue. North Van., Squamish, Whistler, etc. ALL have multi-use trails with bridges that are more narrow than Ray Creek. This connection between the west side of Belcarra and Watson Road would be FREE - and would provide an "active transportation network". Belcarra doesn't have the funds to properly attend to basic road maintenance issues (cleaning up debris in drainage swales, shoring up erosion on road shoulders, etc.), where would the money come from!? We do not have one nickel to spare for a project of this nature in Belcarra. You are already raising re
	Not needed. We can already walk along the wide shoulder or trail network from Marine Ave. to Midden. There is absolutely no need for separation on Marine Ave. and the segment from Marine Ave to Main Ave. is safe to walk along the drainage area on the upper side of the road.
	Again, the real issue is speed.

ResponseID	Response
	If walkable shoulders can only be walked on one side of the road, it seems unsafe because in one direction your back will be to oncoming traffic
	Advisory shoulder seem less safe, because in one of the two directions that you walk, your back will be towards traffic
	I feel that the traffic is too fast and heavy for advisory shoulders. These may work on a quiet country road with little traffic. A walkable shoulder on one side of the road would be preferred, but at this point I feel that both options would not be safe for a person walking, rolling or biking.
	Another HARD NO
	Hopefully common sense still rules in Belcarra...if people are concerned about their safety when walking about the Village, especially at night they should wear reflective clothing and look both ways before crossing the road...the problem these days is common sense is not all that common...
	Improvements at reasonable costs. The volume of traffic on the suggested routes is so limited that significant expenditures here are not likely to be a priority
	Not warranted for these streets
	We don't need a capital project. Just trimming some hedges would suffice and could be done under operations. Note - 4 is a biased survey question.
	I am sticking with my gravel shoulders wide enough for two people to comfortably walk beside each other and having space from traffic... suggest 5' wide.
	Safest alternative would be to have all foot traffic Traverse to Marine Avenue only local traffic exists
	Keep within an acceptable budget
	I don't want to incentivize people walking there. They shouldn't be. It makes it hard to drive through and the people who come into these neighborhoods have zero respect, throw their trash everywhere, drop their cigs on the ground, and blast their music so nobody else can enjoy the peace.
	advisory shoulders take up to much room from cars and will create their own safety risk. A single walkable shoulder is easily shared by pedestrians and cyclists and is a big improvement over today
	Which small minority group wants to take away the rural Belcarra that attracted us to come here in the first place?

ResponseID	Response
	Cost estimates here are likely not helpful. On non-MRN roads, the costs may have to be entirely borne by the 260 Belcarra households. This could amount to approx.$1000 per household based, on your estimates. Not reasonable.
	There are sufficient areas for pedestrians to walk now. There have been no accidents involving pedestrians and cyclists in this area that we are aware of in over 50 years living in Belcarra
	Not necessary.
	Not necessary. No support. This is a Village not a City.
	Walkable shoulders are less visually overbearing--Fit in better with a rural environment. Advisory shoulders are not visually appealing and I agree would potentially cause conflict with oncoming traffic. I have lived in Belcarra for 45 years, commuting to work for almost 40 years. Other than summer congestion at White Pine Beach, I have not been made aware of problems with vehicle traffic and individuals who walk the roadway. Our population is small and although "tourists" do inhabit our roads for hiking etc, I have always found them to be careful and observant of oncoming traffic and drivers are also careful and drive in a safe manner.
	The current roads already offer these features with those who understand the laws of the road here and through observation of others in the community.
	All of the following routes are walkable to develop roads for traffic will then require speed bumps. Leave well enough alone.

6. Which local streets would you like to see prioritized for improvement? Please select up to three.



Value	Percent	Responses
B1. Marine Avenue (West)	30.4%	17
B2. Marine Avenue (East)	41.1%	23
B3. Kelly Road	28.6%	16
B4. Main Avenue	17.9%	10
B5. Belcarra Bay Road	57.1%	32

Statistics

Skipped	59
Total Responses	56

7. What is your level of support for the potential designs to improve recreational trails?

	Strongly Support	Support	Neutral	Oppose	Responses
Paved Trail					
Count	6	9	11	69	95
Row %	6.3%	9.5%	11.6%	72.6%	
Unpaved Trail					
Count	34	28	13	23	98
Row %	34.7%	28.6%	13.3%	23.5%	
Totals					
Total Responses					98

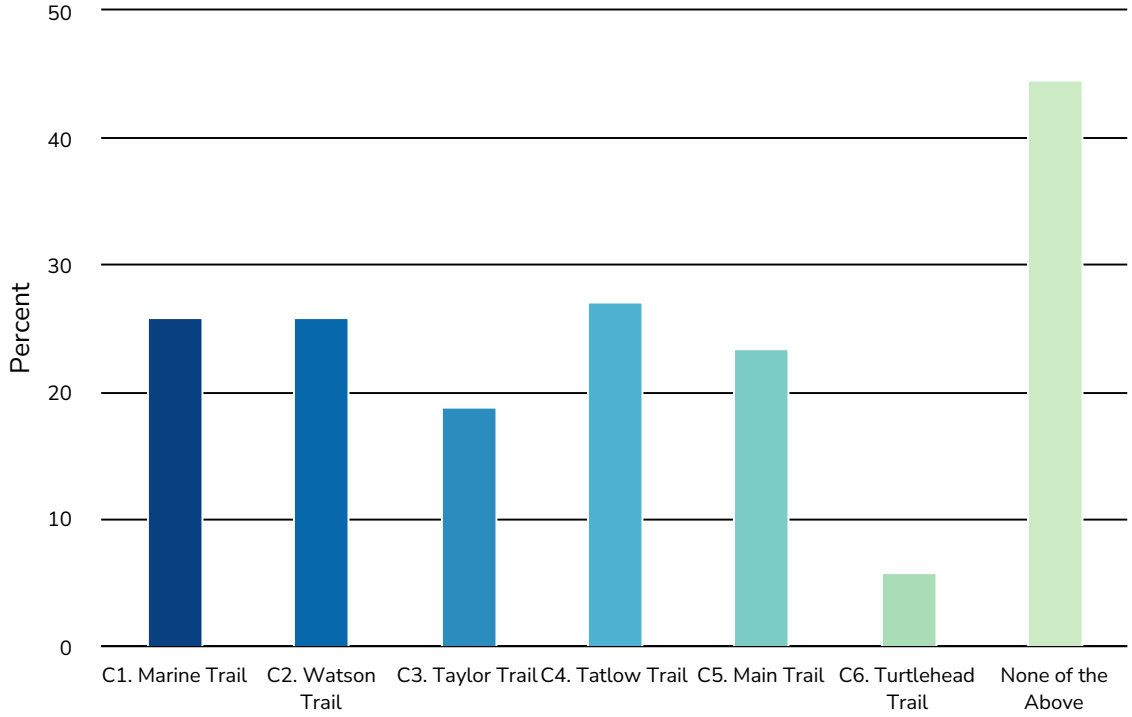
8. What is your level of support for the potential designs to improve recreational trails? - comments

ResponseID	Response
	where is trail on map from C4 to marine.use this trail but no mention of it on map
	Both are good.Unpaved easier for seniors.Paved for park setting.
	We should have the trail from Belcarra park past Ray Creek around the tennis court, down onto Marine end, and through to Bedwell bay to Senkler, onto Sassamat Lake This should be made for bikes and pedestrians, Bedwell Bay Rd is not safe, plus is far to costly to install paths on. The village has more important needs.
	Very important to link Marine Ave. Why is the old Tatlow Trail to Marine not included. The old Tatlow should not be taken out of the trail network. This an existing BCH RoW that should not be utilized for walking.
	The trail system must be complimentary to the Metro Parks trails. Not paved for the benefit of a few cyclists.
	Trails are mainly part of Metro and paving is not necessary.
	I regularly (4-5 times/week) walk gravel/limestone trails between Sasamat Lake & Belcarra Park. These are 99/100 times easy to walk & require hardly any maintenance except for fallen trees/large branches.
	Physical improvements & signage on Marine and Main Ave and to C1 to C5 should be considered as a viable alternative to extensive and expensive work on Bedwell Bay Rd.
	Widen unpaved trails and allow bikes on them with rules - bell mandatory when approaching pedestrians - ride single file - rules of the road followed always on the right.
	Again costs. Our trails are ok.
	As already stated, we have a complete, safe continuous network of side streets and gravel trails that extend all the way from Coombe and Turtlehead through to Watson Road via the park gravel trails and Marine Avenue. Any additional funds spent on an "active transportation network" is wasteful and unnecessary. Belcarra is a very small community with a very small tax base - including ZERO commercial tax opportunities. I do not believe it is in the interest of Belcarra residents to attract additional visitors into our community beyond what we already do. There is a large regional park with a beautiful new access road with bike and walking trails that extend all the way to Sasamat and Port Moody. It has as much parking as the park size and infrastructure will support. Attracting more people into this community is a recipe for problems - traffic, general summer rowdyism (see problems at White Pine Beach that the Port Moody Police cannot even keep up with - and we have an almost-zero police
	ensure existing unpaved trails remain clear but could do this with a call for resident volunteer committees

ResponseID	Response
	Paving the trails is a waste of money. Smarten up!
	Pavement would be better for steep slopes (C3 & C4)
	Unpaved works now
	I agree that some trails would be more accessible if paved C2 would be my first choice as we have found that the village has not been able to keep up with the constant erosion on the gravel surface. A person in a wheelchair or adaptive bike would not be able to use this trail at the current time. I would like to see C5 built as an emergency egress and paving would be preferred for vehicular use in an emergency. C1 has been used for emergency egress and paving would be a good plan as the path has narrowed due to vegetation encroachment.
	NO
	Providing trails for larger public access is beyond our financial capabilities and not in the interests of a small quiet neighbourhood.
	Paved trails will divert significant park traffic through our village. Adding more maintained trails in general will increase park visitor foot traffic through our village. We need to be very careful.
	The more we can get walking, jogging, biking off the shoulders of the main road... Bedwell Bay Road... the better!
	Leave it natural
	As all trails are unmaintained, why would we want to add when only the villagers would be using? There is no economic gain to anyone from outside, using at the cost of the village.
	There's nothing wrong with the current trails. We don't need to spend that much money fixing something that's not broken. I don't think the local wildlife will appreciate all the construction either. The whole point of going outside is to enjoy nature and get away from grey industrial eye sores.
	paved trails too costly to create and maintain everywhere.
	Why are bikes highlighted in all of these categories???
	Current trails are likely adequate for local users. Trail improvements for supporting more non-local users requires funding support support from regional program providers.
	Why would we pave trails in our natural setting when the trails now are very useable

ResponseID	Response
	Maintain the existing trails in much better condition than their current conditions.. Pave C1 and C2 Watson trail to allow bicycle travel down to Marine Ave. corridor to access Belcarra Regional Park
	Many of the trails around Belcarra are currently unpaved. They fit better into the natural feel of the environment in the Village and most are quite accessible.
	We are a rural community and we are not growing. We like Belcarra rural aspects including its natural trails.
	Maintain existing trails in much better condition. Why is the Tatlow lower Trail Site 6 between Marine Ave. & Belcarra Bay Road not listed? "Current public use reported in Road Ends 2014 "Public access to the water ". Follow through with the upper Tatlow (C4)Trail.
	Again, I admit I am not a frequent Hiker, but I have hiked most of the trails surrounding my area, and I have never found them to be overcrowded or difficult to do. In fact, very rarely do I encounter other hikers on my journey. I think folks only hike areas they feel comfortable with. Too much pavement destroys the natural ambience.
	Undeveloped trails are important to our natural environment for walking.
	Unpaved trails offer the best option for pet owners and pedestrians in the area. I don't think people with extreme accessibility issues would find Belcarra to be very accessible due to the terrain so constructing pathways for a handful of people in an area where the very terrain is inaccessible sounds like a huge waste of money.

9. Which trails would you like to see prioritized for improvement? Please select up to three.



Value	Percent	Responses
C1. Marine Trail	25.9%	22
C2. Watson Trail	25.9%	22
C3. Taylor Trail	18.8%	16
C4. Tatlow Trail	27.1%	23
C5. Main Trail	23.5%	20
C6. Turtlehead Trail	5.9%	5
None of the Above	44.7%	38

Statistics

Skipped	30
Total Responses	85

10. Which trails would you like to see prioritized for improvement? Please select up to three. - comments

ResponseID	Response
	I would like the C5 trail extended and paved all the way to the Sasamat Lake side of Bedwell Bay Road. Work with Metro Parks. This would safe out half the dangerous Bedwell Bay Road sections by having a multi use path direct cyclists onto Main Ave to bypass the A4, A5, and A6 sections
	The village trails need improvements and need to be taken back from private homeowners.
	We as a village need to take back trails that are being used by personal homes.
	I regularly (3-4 times/week) walk all trails except C6. Trail C3 is frequently used by Main Ave residents, especially school aged children, to access the bus stop. Trail C4 would require minimal improvement. Improving trail C5 would provide much safer access to Woodhaven trail for a wide array of residents.
	Spend the $ on widening Bedwell Bay road for pedestrians and bike traffic. Maybe start with bike lane for steep grades only.
	As already stated, we have a complete, safe continuous network of side streets and gravel trails that extend all the way from Coombe and Turtlehead through to Watson Road via the park gravel trails and Marine Avenue. Any additional funds spent on an "active transportation network" is wasteful and unnecessary. Belcarra is a very small community with a very small tax base - including ZERO commercial tax opportunities. I do not believe it is in the interest of Belcarra residents to attract additional visitors into our community beyond what we already do. There is a large regional park with a beautiful new access road with bike and walking trails that extend all the way to Sasamat and Port Moody. It has as much parking as the park size and infrastructure will support. Attracting more people into this community is a recipe for problems - traffic, general summer rowdyism (see problems at White Pine Beach that the Port Moody Police cannot even keep up with - and we have an almost-zero police
	This makes no sense. These are already unpaved areas that are functioning very well in terms of allowing people to move through the paths without going so fast that they create accident hazards.
	Not necessary trails are in good shape as is.
	We need speed, bumps or speed humps between midden road and Bedwell bay Road and the Firehall. This has become a race course in the summer and in the evenings. The same could be said for the stretch of Belcarra Bay Road between whiskey Cove and the park
	C4 could be used as a primary route for bikes if Bedwell Bay Road hill next to Kelly is too problematic to widen. Main Avenue is a good biking route already.

ResponseID	Response
	In order of priority, C2, C5, C1 This is a great idea, especially for emergency egress, something we need to be aware of for wildfire safety.
	these trails are all fine and are kept in good condition
	Any improvement would be a waste of money without continued maintenance
	Trails are great the way they are. It's getting harder and harder to find anything that actually feels like nature anymore. Will be so sad if this ends up industrial looking too.
	Upkeep on these trails by village staff is suboptimal and, in places, unsafe (see washouts on Watson). Consistent maintenance needs commitment from the Village. Without additional staff commitments, expansion seems unreasonable.
	Add gravel to all other existing trails so they are good in our wet weather.
	I find the trails in quite good shape and quite accessible.
	Where is the Lower Tatlow trail? Why not listed in this Survey as it was in the Road End report of 2014. Upper Tatlow trail residents would cross Bedwell Bay Road and travel down Lower Tatlow trail to access the water. Please provide an answer.
	As I am not an ardent hiker, I almost feel I should be leaving this decision to the folks who are hikers and know which trails are used most. But also considering cost .
	Natural trails are more desirable than developed trails.
	Not all of the trails need to be equal. These paths are walkable to most folks. Rural areas are not expected to be wheelchair accessible.

11. What is your level of support for the potential designs to improve foreshore access points?

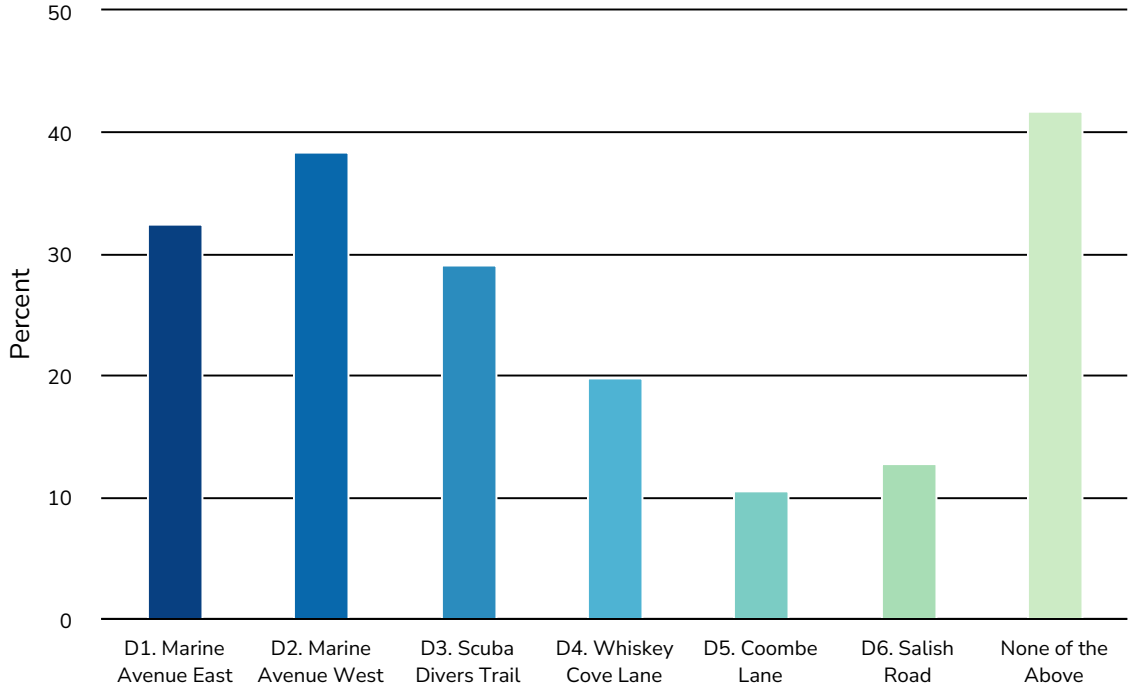
	Strongly Support	Support	Neutral	Oppose	Responses
Paved Trail					
Count	2	9	17	63	91
Row %	2.2%	9.9%	18.7%	69.2%	
Unpaved Trail					
Count	28	31	11	27	97
Row %	28.9%	32.0%	11.3%	27.8%	
Totals					
Total Responses					97

12. What is your level of support for the potential designs to improve foreshore access points? - comments

ResponseID	Response
	No brainer. Take down the idiotic signs that say "No Shore Access"
	This access does improve water access for upland homeowners with kayaks and canoes.
	Unpaved trails are entirely sufficient.
	Unpaved trails with stairs as shown in pictures.
	Costs How much is this survey costing. We need to be generating revenue
	To whom are we providing "foreshore access" to!? There is already access that residents of Belcarra can and do utilize. Are we inviting the general public to come into Belcarra and party on the foreshore!? We saw a measure of this during COVID - replete with the garbage (diapers, COVID masks, picnic debris, cigarette butts, abandoned BBQs, etc.). This is, quite simply a bad idea that I do not consent to as a resident with a huge annual tax bill! The "D1" is zoned as "environmentally sensitive". Ports Canada is working to have it designated as a Vessel Operating Restricted Area or "VORA" - a no-go area. Inviting people into this area simply doesn't make sense. We have had "NO SHORE ACCESS" signs up in this area for longer than I have lived here.
	We are finally resolving the parking issues that resulted from folks wanting to access the foreshore and avoid the paid Park parking. This does not seem to be a pressing issue for most residents I have met with.
	Absolutely against this. We already deal with so much garbage and fire risk associated with outside users coming to these foreshore access points. Residents know how to access these points, so why would we pay to increase traffic, garbage and safety problems for non residents. For whose benefit? All I see is more disturbance to local residents, more fire risk, more garbage and more operational costs to service this. Again, this makes absolutely no sense, especially at the south end of Bedwell Bay which is a Marine Protected Area that has recently been closed to anchoring. This is an extremely sensitive habitat that we have fought for decades to protect. It is already receiving massive spillover from park areas and DFO is routinely called out to arrest clam and crab poachers. Please do not open this area up when it has only just received the protection it deserves. All of these foreshore "improvements" would be massively disruptive to the taxpayers and residents who live in thes
	This will bring too many non residents to the foreshore. Again smarten up
	Most of these trails are steep and have stairs. I am not sure how accessible they could be, but by all means let's look at making them accessible if at all possible.
	NO, NO, NO

ResponseID	Response
	Providing trails for larger public access is beyond our financial capabilities and not in the interests of a small quiet neighbourhood.
	Where would residents or visitors park their vehicles to take advantage of foreshore access?
	This would encourage and support non village residents but not improve anything for people who live here.
	There is enough foreshore access in place now. If users are concerned about any one access, there is always access at the park.
	Please just leave them alone.
	Again, how secure are your costings ? Will this be work completed by village staff?
	Maintain existing waterfront trail access and improve with gravel and basic stairs if necessary
	As a person with mobility I do understand that folks who are not mobile deserve to enjoy our natural settings. However, I understand that there are areas of forest, etc in the lower mainland, that have made allowances for folks in wheelchairs, etc. We are a small village and as such, our financial base if also limited. The trails that I have used in Belcarra are not particularly wheelchair accessible and I think would be very costly to install. Perhaps I am wrong but I wonder if we did install such trails, how much actual use would they get--and should our Village be covering the expense incurred or should the government be paying for the improvements that would benefit those who need them?
	Paved trails are a waste since the shore is so rocky that accessibility would cause more risk and damage for those who can access the slippery and rocky shore.

13. Which foreshore access points do you want to see prioritized for improvement? Please select up to three.



Value	Percent	Responses
D1. Marine Avenue East	32.6%	28
D2. Marine Avenue West	38.4%	33
D3. Scuba Divers Trail	29.1%	25
D4. Whiskey Cove Lane	19.8%	17
D5. Coombe Lane	10.5%	9
D6. Salish Road	12.8%	11
None of the Above	41.9%	36

Statistics

Skipped	25
Total Responses	86

14. Which foreshore access points do you want to see prioritized for improvement? Please select up to three. - comments

ResponseID	Response
	All of them. Best bang for our buck. Am opposed to making these ramped accesses. Limit access to stair improvements and signage adjustments.
	Access points D1, D2 & D3 are more accessible to a majority of village residents so these should receive primary attention. Improving D4-D6 is desirable and affordable after remediating D1-D3.
	Costs Neighbours directly affected should get first voice. Whiskey Cove Lane is Metros responsibility. Not Village
	Again... To whom are we providing "foreshore access" to!? There is already access that residents of Belcarra can and do utilize. Are we inviting the general public to come into Belcarra and party on the foreshore!? We saw a measure of this during COVID - replete with the garbage (diapers, COVID masks, picnic debris, cigarette butts, abandoned BBQs, etc.). This is, quite simply a bad idea that I do not consent to as a resident with a huge annual tax bill! The "D1" is zoned as "environmentally sensitive". Ports Canada is working to have it designated as a Vessel Operating Restricted Area or "VORA" - a no-go area. Inviting people into this area simply doesn't make sense. We have had "NO SHORE ACCESS" signs up in this area for longer than I have lived here.
	As above. Do not create problems where we least need them. There is absolutely no need to improve access points. You are only inviting more problems both during the day and after hours that have material consequences for our residents, our firefighters and the safety of the Village. Even the RCMP is loath to access these dark and remote areas. So why expect residents to shoulder increased traffic with no support?
	I think your numbering is off. D4 is Salish Road, D6 is either Whiskey Cove or Coombe Lane? All 3 made more accessible would be great.
	Providing trails for larger public access is beyond our financial capabilities and not in the interests of a small quiet neighbourhood.
	As all access points are designated environmentally sensitive there should be no access
	Please just leave them alone.
	There is already enough foreshore access in the area, these additional costs are unneccessary and will create unwanted traffic and interefere in peoples quiet enjoyment of the area
	Combo solution of either methods most suitable for the spots that best save and serve the public use of spaces.

ResponseID	Response
	D2 is usually the scuba access point and not used by local residents. The D3 label is the furthest east drivable point on Marine. The foreshore at that point is at the confluence of 3 village properties and a good site for a small local park with parking sites. Planning for a future maintained little park is enthusiastically supported.
	Whitepine Beach and Belcarra Park provide access to the water in a controlled park setting. This is adequate as water access from the streets of Belcarra are in residential areas.
	Strong support for public access points to the foreshore that at present are not evident and appear to be private.
	Again, I do not personally know some of these areas. I need clarification. I know access to foreshore is limited to certain areas. I also know that non Villagers do access foreshore areas that are supposedly restricted to local villagers. Would improvement be restricted to foreshore areas that allow non residents to access? If not I see a serious problem developing where the improvements might encourage many non residents to access areas that traditionally are not available to folks who do not live or pay taxes in the village. Can we assume that all foreshore access points up for improvement are for all citizens' use and therefore are not contravening any rules about private access to foreshore??
	Primarily at the very least making the rocks that are used to get from the path to the shore as they can be unstable. The current paths do provide a pleasant, natural way to access the shore so keeping the access points as natural as possible would be ideal.
	Development of these areas would enhance access to shoreline for upland residents.

15. What is your level of support for the potential crossing designs?

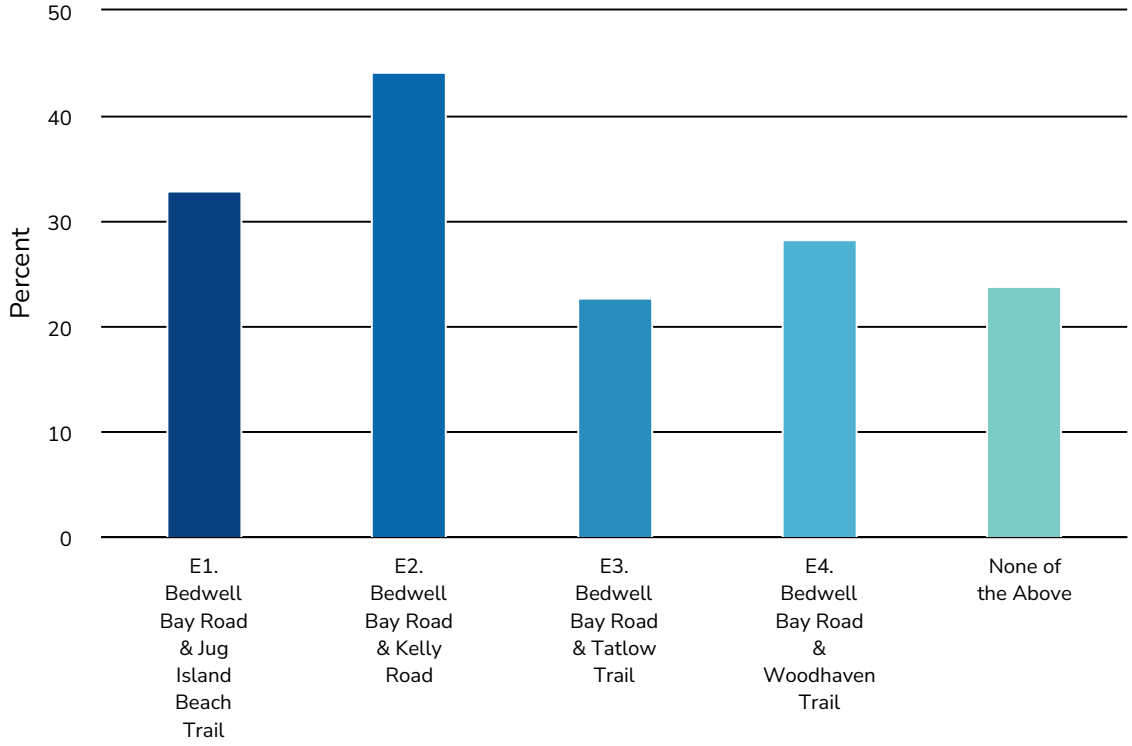
	Strongly Support	Support	Neutral	Oppose	Responses
Raised Crosswalks					
Count	29	8	11	45	93
Row %	31.2%	8.6%	11.8%	48.4%	
Pedestrian Flashers					
Count	23	23	12	34	92
Row %	25.0%	25.0%	13.0%	37.0%	
Decorative Crosswalks					
Count	14	15	24	37	90
Row %	15.6%	16.7%	26.7%	41.1%	
Totals					
Total Responses					93

16. What is your level of support for the potential crossing designs? - comments

ResponseID	Response
	Raised crosswalks needed since there is zero speed enforcement in the Village
	This is an important safety issue.
	Improve safety for all
	Flashers are sufficient to alert drivers if well placed and much less bothersome to drivers. Experience with the flashers on Ioco Road, especially at Old Orchard Hall and the Rec Centre are proof to me drivers honor the signal.
	Methods to slow vehicle speed (with or without the presence of pedestrians) should be considered as highest priority.
	Pedestrian flashers only at blind corner crossings or high # of pedestrians.
	We should have speedometer readers. You know with sad face or slow down if speeding.
	I would support raised crosswalks in order to support road crossings at Kelly Rd., Tatlow Trail and other locations along Bedwell Bay Rd. I would even encourage additional crosswalks at the straight away on Bedwell Bay Rd. at the tennis courts. We have suffered for too long with street racers along Bedwell Bay Rd. and raised sidewalks would provide a dual remedy in terms of pedestrian and road safety. Re. road flashers, I only support them at low visibility areas like Kelly Rd. and I absolutely do not support them anywhere that they will be flashing in someone's house.
	Flashers make more sense from a pedestrian safety standpoint.
	Neither decorative crosswalks or flashers will slow down traffic.
	Vanity project
	Anything that slows traffic in this village is a positive enhancement
	Any of these improvements would be beneficial. I like the idea of raised crosswalks which also add as speed humps. This is an effective means of slowing down traffic.
	NO
	No, No, and heck No!!
	I support gently raised crosswalks which would have a minimal impact on vehicles travelling at the speed limit. These mild impacts will remind drivers they have entered the village and neighbours are likely to be walking in the area

ResponseID	Response
	Trimming back south side hedges to improve driver libe of sight between main and Kelly would help. Crosswalks kill people if not paired with sight lines and calming before the actual crossing.
	the crossings we have in place work as they are. the one by the park can be a little sketchy because of the curve in the road.
	There is not enough foot traffic to justify any cost other than painting on the roadway
	Flashing lights are great because I don't want to hit any pedestrians, but I don't want a decorative crosswalk. So unnecessary and ruins the natural and outdoorsy experience with yucky paint.
	the only real issue is how fast some people are driving in the area and risk to peds and cyclists. A few speed humps wouldnt hurt but how to manage that with a snow plow needs to be understood. Flashers to go along with a spped hump (if feasable for winter maintenance) are a good visual tool at the worst sites. mostly decorative crosswalks should be used otherwise.
	Costing estimates on this item is questionable. On-line costs for available pedestrian flasher units are much lower. Costs to the village, when items are installed on the MRN, are likely much, much lower.
	Pedestrian flashers are accepted safety enhancements
	Mechanisms to slow traffic on Bedwell Bay Road must be a priority. Slightly raised crossings on East Road in Anmore are highly effective in slowing traffic and making crossing safer.
	Raised crosswalks are safe, Pedestrian flashers are somewhat of an eyesore and not always effective. Decorative crosswalks often are not esthetically pleasing to everyone and sometimes are vandalized.
	If raised crosswalks slow traffic on Bedwell Bay Rd. - This would be an important benefit.
	I strongly oppose to decorated crosswalks for any sort of branding, political or societal messages. Keep these crosswalks functional only.
	Raised sidewalks and decorative crosswalks are too [] for a speeding driver to slow down. A flashing light is a warning seen from a distance.

17. Which crossings do you want to see prioritized for improvement? Please select up to two.



Value	Percent	Responses
E1. Bedwell Bay Road & Jug Island Beach Trail	33.0%	29
E2. Bedwell Bay Road & Kelly Road	44.3%	39
E3. Bedwell Bay Road & Tatlow Trail	22.7%	20
E4. Bedwell Bay Road & Woodhaven Trail	28.4%	25
None of the Above	23.9%	21

Statistics

Skipped	21
Total Responses	88

18. Which crossings do you want to see prioritized for improvement? Please select up to two. - comments

ResponseID	Response
	This crossing needs to be moved further along Bedwell Road to the mail boxes. Even though if people follow the 30KM sign, and that's a big if, that hill gets black ice on it quite often, even at 30KM it is hard to stop in those conditions, accident waiting to happen.
	More safety for pedestrians
	E2 is already installed. E1 has good visibility for traffic. Visibility for E1 would be even better if moved to the exit for the park's parking lot.
	Please ease traffic speed on Bedwell Bay Rd.
	Costs
	Painted & signed crosswalks for safety at these locations (don't they already exist?).
	Please also put one along Bedwell Bay Rd. by the tennis courts.
	Main and Bedwell bay should also be prioritized to slow traffic down before the hill.
	Again cannot afford these vanity projects. Should prioritize eliminating water debt and building new firehall
	All four deserve to be prioritized.
	Visibility and speeds here are a risk
	I would not prioritize any location unless the design was decided upon.
	Safety at what cost the village does not have any portion of funds without 100%
	Speed control urgently needed
	Sight lines at Kelly are problematic for pedestrian/motor vehicle conflicts. This crosswalk may be best moved to a better location. All crosswalks on an MRN road are ideally lit and marked with flashers. Consider cost sharing with Translink et al.
	We only support the flashing light safety enhancement
	I feel the crossings are already adequate. There is no need to spend money on these.
	As a long time resident, I realize that this intersection is often used to get to the other side of the road, and has no official markings. A potential hazardous situation . A formal crossing might avoid problems.

ResponseID	Response
	With the slope at the E3 location I believe that having pedestrians yield more to vehicles as a courtesy would be better since manual vehicles and trucks with heavy loads will likely have a harder time starting up again and potentially rolling back.

19. What is your level of support for the potential designs to reduce speed on Bedwell Bay Road?

	Strongly Support	Support	Neutral	Oppose	Responses
Reduced Speed Limits					
Count	23	23	10	34	90
Row %	25.6%	25.6%	11.1%	37.8%	
Speed Radar Signs					
Count	28	16	12	33	89
Row %	31.5%	18.0%	13.5%	37.1%	
Pavement Markings					
Count	21	23	16	29	89
Row %	23.6%	25.8%	18.0%	32.6%	
Totals					
Total Responses					90

20. What is your level of support for the potential designs to reduce speed on Bedwell Bay Road? - comments

ResponseID	Response
	Who will enforce these rules?
	Speed bumps work, and are cost effective to install. Works well in many lower mainland places.
	Will be a failure without an enforcement component.
	Speed bumps should be installed
	Enforcement is necessary
	I estimate drivers will drive their chosen speed limit regardless of speed limit signs UNLESS traffic enforcement is obvious and regular. Radar signs, in my judgment, are just glorified speed limit signs – same effect, i.e., none. Markings help frequent travelers and possibly infrequent travelers (should be researched) to know where crossings are but do nothing to improve behavior.
	Speed radar sign should be on Bedwell Bay Road at top of hill before Kelly Ave. Pulling off Kelly onto Bedwell Bay very dangerous with speeders coming down hill on Bedwell.
	Speed limit is already posted at 30km just before Midden. Has been that way for a long time. Still most people do 50km
	Should be a reduced speed limit in many areas. BUT, these are only good if there is enforcement action associated with the signage. "Laws without an enforcement mechanism are impotent". We have an almost-zero police presence in Belcarra. Speeding is a HUGE issue - particularly along the stretch from Main Avenue to the curve towards the park. We're talking excessive speeding by cars and motorcycles. We have had 3 rollover crashes in front of Marine Avenue and there have been other over-the-embankment crashes along Bedwell Bay Road (cars and motorcycles). This is another reason that I oppose inviting greater public access into the community. It adds dangers that we cannot/do not police and we cannot afford. This is why Tum-Tumay-Whueton was put in - to keep excessive, non-resident traffic out of the small Village roads - it adds significant danger to the people who foot the bill for this community.
	The speeders will not be deterred by more signage. They speed because they can without getting ticketed, not because they don't know the speed limit (which most vehicles now remind you of anyway). This is the wrong solution to the problem. Sadly the persistent speeders will continue until there are direct repercussions for them regarding their speeding.

ResponseID	Response
	And how about some policing and enforcement? None of these things is going to stop the street racers who love Bedwell Bay Rd. in the evenings. It is only a matter of time before someone dies in a fiery crash on Bedwell Bay Rd. because of street racers. Put in some raised sidewalks or speed bumps or put some policing in place. But all of these things designed to "encourage" drivers to slow down are not even deterrents to the street racers.
	If there is no enforcement than what is the use of speed limits
	This is a must. I have been almost hit several times with speeders. This is a must on Bedwell bay.
	Photo radar would be excellent. While I support radar signs, is there any evidence that they reduce speed? We already have lowered speed signs, yet very few pay attention.
	Ridiculous. Current speed limits are sufficient
	No one will pay attention to the reduced speed limit don't waste $ on new signs or markings.
	None of the offerings above will slow traffic. Speed bumps will!
	Would advocate for moderate speed bumps that affect traffic above speed limit.
	All of these improvements will greatly help communicate the need for traffic awareness and speed calming.
	What part of NO DO YOU NOT UNDERSTAND
	This would be a total waste of our tax dollars!
	I believe raised crosswalks would most improve safety.
	+ introduce photo radar & fines for speeding.
	People drive too fast in the village!
	No more signs too many already
	I think that more is needed to slow traffic. The corridor from Main to Kelly, although signs are posted and the crosswalk has flashing lights, is still a speed zone. My experience is that people more often swerve, rather than slow, to avoid pedestrians. Please consider stop signs installed at the Main Ave / Bedwell Bay corner. Bring everyone to a stop... slow them down.
	Markings are less effective than other potential designs

ResponseID	Response
	No. It's already slow enough. Some people don't even drive the current speed limit (slower) and then it makes people angry and they unsafely and illegally pass over the double yellow. It already takes forever to get out of the neighborhood if you live out here. Nobody actually cares about those signs and will still either speed, or go way too slow if that's what they want to do. It would be great to enforce the laws though, but people already know the speed limit and no amount of signs will make people care to follow to rules. It would be a waste of money and an eyesore.
	I worry that the people who speed regardless of signs will use the radar sign as encouragement to speed. Alterantive is occasional temporary radar sign rental
	There are many more options for traffic calming. Consider also intersection narrowing, mid-road bollards (especially on corners), stop signs where there are congestion and pedestrian risks (Main and Bedwell Bay Road, Kelly and Bedwell Bay Road), traffic circles, raised speed "humps", etc. This is a very important subject for pedestrian and cycle safety and needs elevation to a much higher level of priority at the planning and Council levels.
	No speed bumps or similar traffic calming changes and pavement markings ruin the natural aesthetic values that Belcarra represents
	Too expensive. not required
	All of these suggestions should be implemented. However, not certain of the effectiveness since there does not appear to be anyone who enforces these rules. Residents are good, it's the visitors to our Village that create the problem and they receive no consequences for their actions.
	Plus more enforcement - even a cardboard RCMP officer holding a radar gun - random in time and date. Photo radar should be considered.
	I believe the current speed limits are viable. The problem is many drivers ignore the speed limit. And my experience is most drivers absolutely ignore speed radar signs--unless law enforcement is there. So basically an expensive "ornament". Belcarra roads are not on the whole, "congested", in fact we are lucky to live in an area that in my opinion has for the most part very light traffic.
	Flashing speeds on signs showing actual speeds supported by regular visits by police could do something for speeding by residents leaving or returning to their homes and passing through neighbourhoods where they do not live or walk their dogs and kids!!
	People become desensitized to signs if reinforcement with speeding tickets is not in place frequently.
	Reduced to 40-45kph would provide better inclination to slow down and drive safely without the nuisance of the speed radar sign for residents.

ResponseID	Response
	Although I appreciate the opportunity for democratic feedback from residents, it is disappointing the consultants propose topics that would alter if not destroy the culture of our quaint village. There are alternate routes through the village that include paths and paved roads. Marine Ave is the grand expanse of Belcarra with the most scenic route in the village. The tennis courts is a more rustic trail. Not all paths in a rural rainforest should be expected to be wheelchair or baby-buggy accessible.

21. What is your level of support for the supporting amenities?

	Strongly Support	Support	Neutral	Oppose	Responses
Wayfinding Signage					
Count	18	13	26	36	93
Row %	19.4%	14.0%	28.0%	38.7%	
Benches & Bike Parking					
Count	8	16	21	49	94
Row %	8.5%	17.0%	22.3%	52.1%	
Pedestrian Scaled Lighting					
Count	7	8	22	58	95
Row %	7.4%	8.4%	23.2%	61.1%	
Totals					
Total Responses					95

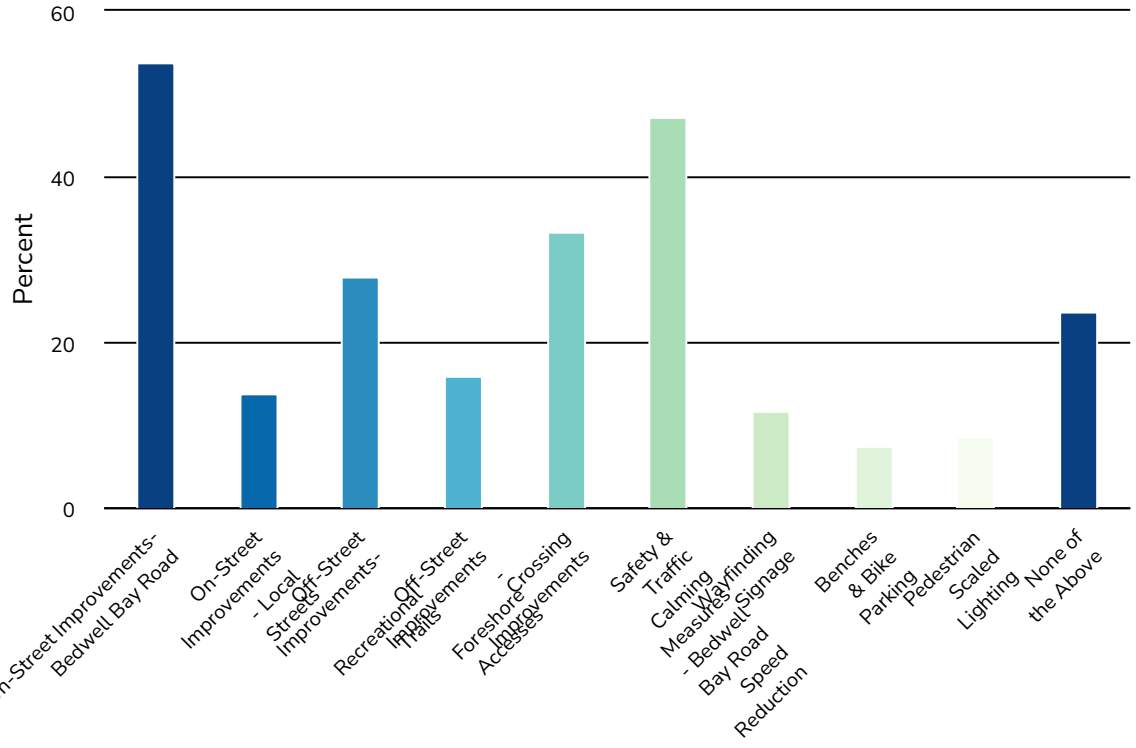
22. What is your level of support for the supporting amenities? - comments

ResponseID	Response
	How many people are lost annually that we need to spend money on this?
	I assume the Parks would pay for this, not Belcarra
	Is this necessary for residents? Or are we doing this for visitors transiting the Village while they are using Belcarra Park?
	Safety as opposed to comfort for a few cyclists
	Better signage from Metro for directions to get to the parking lot for Belcarra park parking is extremely necessary. The signage at the 3 way stop needs to include Belcarra Park/Picnic parking and the park gate at Bedwell Bay Rd and Midden needs direction signage to get to the park parking lot. A sign is also needed to direct traffic right at the three way stop after park visitors have found they cannot get into the park parking.
	None of these are necessary. Funding for safety is the first concern.
	Already good signage however some trails not marked, no need for lights and couple of strategic benches ok however not need for bike parking.
	Yeesh. Who is trying to break us???
	All unnecessary and an unacceptable expense. Wayfinding!? with the ubiquitous cel phone and the hundreds of GPS, trail & map APPs available this is completely unnecessary.
	Pedestrian lighting would be great but again the associated projected costs are prohibitive given the financial situation Belcarra is in and the many more core safety issues (e.g. ensuring support for shared fire services) that need to be addressed. Unless 100% of the funding for any of these proposed enhancements can be obtained through outside of tax funds, these enhancements become nice to have but not required to have. Water and fire safety are requirements.
	I keep looking up to see if this survey is for Belcarra or for Metro Parks? This boggles the mind. We are not in the business of creating a park. We are a tiny, economically-stretched municipality that has no commercial base. None of these items do anything for residents who already know their way around. So why would be pay for these non-essential things for outsiders? Throughout this survey, I keep asking myself who would benefit from this? Certainly not Belcarra residents who live here specifically for a quiet life. It's just so weird. None of these items is needed or suitable for a rural area with no commercial base.
	A few benches would be nice. Especially at some of the view points

ResponseID	Response
	Waste of money.
	No more lighting!! Light pollution is a terrible problem in most urban areas. We like the dark!
	Vanity project nonsense
	There are already too many signs in the village. We don't need more.
	All great ideas. Strongly support signage and support the others.
	NO
	Not necessary outside the parks
	Again NO! NO! NO!
	Providing amenities for larger public access is beyond our financial capabilities and not in the interests of a small quiet neighbourhood.
	These would extend the park into our village.
	the park trails are well marked by the parks people already. I would like to see some more lighting around the village but sadly it comes under the heading of it would be nice to have.
	Frivolous expenditure
	costs of installing and maintaining lighting too much. A bench or bike rack at destination locations ok, but limit these to higher volume sites.
	This needs context. If the plans are on MRN roads, enjoin Metro and Translink. If the plans are about trails, talk to Metro Parks. This item seems a distraction from the village safety needs, at this time.
	This exists at White Pine Beach and Belcarra Park and is not wanted in the village residential areas. Any improvements should be in these areas.
	Belcarra Regional Park should have bicycle parking racks in both of the Belcarra area parks.
	In my opinion, these would be cosmetic upgrades and not essential to safety.

ResponseID	Response
	None of this is necessary in our small rural community. Save us the expense. Opposed to any and all street lighting. Lighting already installed should be removed or at the very least minimized in height and scope of beam. The light on Bedwell Bay Road at the community mail boxes and bus stop near Kelly should be moved to the other side of the road to serve only the bus stop and not cast such a wide, high beam. The light that was installed on the bend of Kelly Avenue should be removed (as promised) and never replaced with any light. It is not needed and is disturbingly visible to nearby homes at night.
	Belcarra Regional Park next to the Village provides these amenities.
	I'm sure I'm beginning to sound like a Neanderthal , fighting progress at every turn. We are a beautiful Village--Between Land and Sea. We I believe have about 800 inhabitants. Most folks came to Belcarra for it's natural beauty, its distinctiveness from most urban settings. Amenities can be useful for larger areas that support much larger populations. Our uniqueness is our natural setting. The more amenities we add to our setting the less unique we become. I think some wayfinding signage might be helpful but not at "every corner"!!
	Belcarra Regional Park and Jug island trail already have all of the benches, bike parking, and signage required to access them for residents and visitors from outside Belcarra. The only place I would recommend lighting is the pier to deter people from crabbing after dark as I have seen some people there outside of park hours and after dark to do so. Unfortunately this would also look inviting so I'm not sure if there is a way to accomplish that.

23. From the potential improvements identified in the proceeding questions, what are your top active transportation improvement priorities? Please select up to five.



Value	Percent	Responses
On-Street Improvements- Bedwell Bay Road	53.8%	50
On-Street Improvements - Local Streets	14.0%	13
Off-Street Improvements- Recreational Trails	28.0%	26
Off-Street Improvements - Foreshore Accesses	16.1%	15
Crossing Improvements	33.3%	31
Safety & Traffic Calming Measures - Bedwell Bay Road Speed Reduction	47.3%	44
Wayfinding Signage	11.8%	11
Benches & Bike Parking	7.5%	7
Pedestrian Scaled Lighting	8.6%	8
None of the Above	23.7%	22

Statistics

Skipped	7
Total Responses	93

24. From the potential improvements identified in the proceeding questions, what are your top active transportation improvement priorities? Please select up to five. - comments

ResponseID	Response
	Again speed bumps, cost effective.
	Do you not realize that these bike paths / shared use paths will attract powered cyclists, powered skateboards, and wheelies from all over the region. Those wanting a safe walk, away from cars should use one of the two metro Vancouver maintained trails that are provided at no direct cost to the village. We are not Anmore or Lions Bay. Keep Belcarra the way it is. Use this money for fire protection and the so called debt crisis that some people are obsessed with. Gordon Sadler, 4950 Robson Road.
	Prioritize safety.
	Rationales are provided in my comments on each previous section.
	Only make compact gravel walking paths along road.
	We have an easy all-Belcarra safe, fairly flat access network (side streets and park trail - from Coombe to Watson. Additional spending is not something we need or can afford.
	Belcarra needs to focus on how to support the critical infrastructure issues we have such as those related to fire and water security and how to develop a sustainable financial plan that does not rely solely on increasing taxes in perpetuity. All of the estimated costs for the above projects will of course be higher than stated once realized and unless someone can ensure 100% external funding for them I do not think our Village employees should spend much more time exploring this any further (at this juncture).
	The only thing we need -- and the only thing we can afford -- is raised side walks or speed bumps to slow down drivers and deter street racers. I am so philosophically and practically opposed to all of the other suggested "improvements." With the exception of the traffic calming measures, I see all of the above as serious detriments to residents' quiet enjoyment of their homes and neighborhoods. Furthermore, I see serious concerns for fire and safety hazards. And, finally, we can't afford this. I don't care if we got a 99% grant. We still can't afford this on an ongoing maintenance and operations basis. What are we going to do, add more staff to maintain these improvements? Not realistic. Let's be prudent in a very unstable time. Let's take care of basics and let residents live their lives in peace.
	We have no money and a sizeable debt. And on top of this scenario we need to finance a new fire hall for which we have saved very, very little. It is galling that we don't seem to have our priorities straight. There are needs and wants. A fire hall is a need and we don't even have money for that. Why on earth are we thinking that the ATNP is not just a want (for which we have no money) when we have millions in debt and many more millions in principal and interest payments coming on a fire hall debt? With 322 households to pay for it. This is just asinine!

ResponseID	Response
	Everything is fine in Belcarra except for the excessive speed problem, and it is huge.
	One of the things that hasn't been mentioned is narrowing traffic lanes to help with traffic calming. There are a variety of traffic lane widths in the village from 9.5' to 14' and it is my experience that speeding occurs when a lane is flat and wide.
	Widen the narrow roads on Belcarra Bay rd. and Turtlehead to street standards
	Providing amenities for larger public access is beyond our financial capabilities and not in the interests of a small quiet neighbourhood.
	Hedge trimming is not offered as an option to widen existing shoulders
	We are rural as the argument is used for many other topics. Why all of a sudden are we looking at these frivolous expenditures?
	Taylor Rd trail should be prioritized to provide safe access to bus stop and postal boxes on Bedwell Bay Rd.
	Start where there are needs for identified safety improvements. See the 2022 report from the ICBC to the Village of Belcarra. Implementation of the ICBC recommendations has been delayed without clear justifications. Further distractions, additional study and survey will not satisfy alter those recommendations.
	We think the residential areas of Belcarra should remain as they are with improvements only in public access areas like White Pine Beach and Belcarra Regional Park
	Bike parking in Belcarra Regional Parks nearby.
	Maintain the trails on a regular basis. Provide gravel, clean off leaves and provide safe wood stairs and rails.
	As a 45 year resident, I would like to see our main and side roads paved in a safe and consistent manner when necessary. For many years, our winter conditions have been hard on the roads. Paving companies do repairs, redo the repairs that were poorly done and most of our roadways still have potholes,- bumps and our roads are probably not that safe and are certainly unsightly. Having said that, portions of Marine Avenue were repaved recently and the work was excellent-to the point where I sent a letter to the paving company thanking them for a job well done. Snow clearing the last several years has been excellent in our area. To summarize, In my opinion our village needs safe roads for driving, and walking, but needs to be cognizant of the costs involved. We taxpayers must pay those costs. and if they become too exorbitant , many folks will be unable to pay the increased taxes etc. Again we are a beautiful small village, with some amenities, we are not a city nor do we want t

ResponseID	Response
	Changes that will actually lower speeds through the Village on Bedwell Bay Rd by both residents leaving and returning to the Village, and visitors testing their motorcycles and loud cars, should be the priority for increasing safety and lowering impacts on roadside residents!
	I would like Belcarra to prioritize maintaining the natural and secluded aspects of the village, avoiding pavement and lights outside of the main and local roads as much as possible.

25. Please use the comment box to share any further questions or thoughts about Belcarra's Active Transportation Network Plan with the project team.

ResponseID	Response
33	In my view money and effort should be invested in maintain the current infrastructure that we have today like water system, road maintenance.
37	We have things that have more priorities, that require our tax money. New Fire Hall, More fire fighting water capacity.
39	The costs of improving sections A3, A4, A5 and A6 will be extremely high for many reasons. I think routing Village recreational traffic up/down to Marine Ave and up/down to Main Ave should be priorities. We will have an extremely high cost associated with potential safety improvements for non-Villagers that transit Bedwell Bay Road in the above mentioned segments.
42	Given the limitations on funds, risk management should be a priority, not the needs of a half dozen cyclists.
43	We should just be considering is safety and directional signage to reduce traffic coming into the village.
44	Where is the money coming from?
46	Pedestrian safety is primary. A survey might be conducted to determine village residents' interest in recreational cycling. My choices and rationales for them prioritize safety for pedestrians. I recommend large & clear signage (maybe at the 3-stop sign corner, south end of Sasamat Lake) alerting "road racing" cyclists about highly unsafe conditions beyond that point. Cyclists' speed, sometimes difficult to distinguish jersey colors plus narrow roadways make their use of roadways VERY unsafe for pedestrians, them, and vehicles. If pathways for pedestrians are shared with "racers" that creates unsafe conditions for both groups.
51	Physical improvements & signage on Marine and Main Ave and to C1 to C5 should be considered as viable alternatives for extensive work on Bedwell Bay Rd. Speed and noise control on Bedwell Bay Rd are urgently needed.
54	All the funding should go to widening as much of Bedwell Bay Rd as possible for bike and pedestrians. Secondary widen well used paths for bike access, third speed reduction on hill on Bedwell Bay Rd at Kelly access.
58	Please curb fast and loud motorbikes screaming down bedwell bay road doing a loop around midden rd then screaming back up. Dangerous and disturbing!

ResponseID	Response
60	Residents already spoke up. Too bad we are having to respond to even glossier presentation. Hope sound minds prevail. We have potable and fire fighting water issues We have new firehalls to pay for We have expensive staff and sadly no means to continually generate revenue so... Please be wise Do right and smart things Allow subdivision smaller lots Allow small commercial Listen to smart residents. Very disappointing when we already said NO we are doing another survey.
62	Perhaps I should know more about how this is to be funded? If even one nickel is required from the Village of Belcarra residents (even Council and Admin time on this "project" means we are spending money that we do not have!?), I cannot understate how opposed I am to this. We have a firehall in need of replacement, we have water infrastructure problems, we cannot get basic road maintenance taken care of without significant pressure. We have virtually no services (other than self-serve garbage and snow removal) for our tax money. We have NO MONEY available for this type of thing - save perhaps for critical safety issues like speed limits and crosswalks). We also do not have a CRITICAL NEED for any of this. We have a viable, safe, flat connection of trails and side roads that get you through and around all of Belcarra (park trails - Springboard goes all the way to Port Moody/Sasamat; Marine Ave. trails go all the way from the park to Watson). To suggest we need paved, marked, signed, lit pathways in and around the Village is not consistent with our ability to pay, or our needs (and wants). Inviting additional traffic into Belcarra to access the foreshore is astonishing. These are sensitive areas adjacent to quiet residential neighbourhoods. NO ONE wants this in their neighbourhood. There may be folks who muse about this philosophically - "wouldn't it be nice" - usually they do not live in the affected areas. The costs to the community would range from nuisance (noise, trash, confrontations) to serious issues around safety, crime, fires, etc. We are not Venice Beach, California. We are a modest, non-commercial, very small Village, absent the means to support tourism beyond what is already generously offered with the park and the hiking trails - for which there is already great access and available parking beyond what our little section of nature will support.
64	Thank you for looking into this and presenting various possible options. It is abundantly clear to me that there may be some good ideas for consideration at a later time, once the more critical items of concern for Village residents are fully addressed. Even with external funding, such projects will take up staff time and in many cases create both anticipated and unanticipated downstream problems that will also draw on staff and other resources. Appreciate the thinking, just not the time for most of the proposals brought forth.

ResponseID	Response
66	It's pretty easy to see how absolutely opposed I am to almost all of these "improvements." Why does this issue keep coming back when it is repeatedly voted down? I keep looking up to see if this survey is for Metro Parks or Belcarra residents? I keep going back to the question of whom would these "improvements" be serving? They certainly would not serve me or my family. From my point of view, the traffic calming measures are the only viable option at this time. I hope the VOB will pursue those measures and leave the rest on the cutting room floor. All of these other options would be destructive to our family's experience of the Village. Our greatest pain points in the Village are street racers on Bedwell Bay Rd. and noise, garbage and fire issues associated with non-residents accessing the foreshore. We feel under threat by daylight and after hours visitors to the foreshore access points. We feel underprotected by the RCMP who are loath to come out this far for noise complaints and even more hesitant to enter paths to the foreshore in the dark without backup. We feel the Bedwell Bay Marine Protected Area is only just now getting the protection it deserves with a no anchor zone, so why would anyone reimpose threats to this fragile area? And we feel our current walking routes are perfectly safe and in keeping with a simple Village with no commercial base. It is our strong sentiment that almost all of these "improvements" would be destructive to residents' quiet enjoyment of their homes and neighborhoods and invite usage for which we have a) no ability to police or maintain and b) have no money to support. Put in the raised cross walks and other traffic calming measures. Then stop.
73	Comments have been made.
82	Photo radar would make our streets safe and could provide needed funds to the village. There are a few areas along Bedwell Bay where the verges are very narrow particularly between Main and Marine and an improvement there might be helpful. But speed is the issue!!
86	We are a small community of 250ish households. We are having issues paying for our existing infrastructure as it stands now. There is no need to add these features especially when we already have several perfectly safe low traffic walking corridors (ie Marine and Maine). Council's priorities should be focused on revenue raising activities like selling surplus land instead of spending dollars we don't have
87	Re surface Bedwell Bay Road and save the rest of the $ for tax future tax reduction and pay down village debt. It's like the village has $ burning a hole in their pocket.
93	What about a connecting trail from Bedwell Bay Road to the Tum-tumah-Wheaton Road Trail?
98	Thank you for the great information and options your team is suggesting for Belcarra. It's my hope that all of these improvements will greatly enhance the safety of people walking, cycling, and rolling in our village.
105	All of these ideas/plans would absolutely destroy the natural beauty and exclusivity that Belcarra has always been known for.

ResponseID	Response
106	This appears to be a push towards making Belcarra Village residents bear the financial burden of providing all the amenities and safety regulations of a Provincial Park rather than looking towards meeting the needs of a small neighbourhood community.
114	This ATNP is a nice-to-have plan. Who will pay for it - the property owners, of course, less available govt grants. There are other outstanding improvement/repair projects the Village MUST funf and complete before addressing the ATNP
116	If we don't exercise great care, we risk becoming a tourist destination for the ever increasing population that is surrounding us. Pave paradise.. put a parking lot. You don't know what you got till it's gone.
119	none required and no money to pay for
122	I do not find these investments necessary. With little detours, it is not difficult to navigate your way through the village safely. As a cyclist, mixing pedestrians with cyclists along Bedwell Bay Road is a terrible idea given the blind spots, gradient and off-camber sections. Given the village's financial situation, there are more important priorities to focus on, particularly when there are ways to get around the village and avoid parts of Bedwell Bay Road.
124	I like a lot of what is being suggested but once again I put most of these improvements in the nice to have bucket. We have existing debt that we are wrestling with, a huge expenditure coming our way with the new firehalls and I believe the chlorination system for our water system is a band aid regarding getting enough water for firefighting. Most of what is suggested in this plan is not necessary or a priority. Not sure why we are even spending any time or money on this plan at this time. we should be focusing on our priorities. In addition to what I have mentioned already, what about the dilapidated tennis courts, no real work being done on fireproofing our village, drainage... and why isn't council spending more time on selling road ends so we can pay for our existing debt, paying off the new firehalls and giving us a break on our property taxes which keep going up and up at a much higher rate than inflation.
125	Missing traditional trail alignment as per Belcarra OCP document. Tsleil-Waututh summer camp in park along the shore and Marine Avenue over to the lake and then to loco town centre to church.
128	There is no economic benefit to Belcarra for the justifications used by major municipalities to remove people from their cars and support local business. We should not be a part of active transportation, just because metro has funding available.
131	we don't have the money to spend on the above. we would be digging ourselves into a deeper financial hole. sick of property taxes going up to pay for things like this.

ResponseID	Response
146	I think Belcarra is great the way it is, and I think the only real issue with living here is hoards of people coming in during spring and summer and treating the place with total disrespect. I wish the laws about not parking illegally on bedwell bay would be enforced and public intoxication would be taken more seriously... and even better.. enforcing the bylaws against littering so my husband doesn't have to be the one telling people off. I don't want to incentivize more people coming here. It's already too packed to enjoy and too small to accommodate the amount of people who flood in. If this place ever ends up on fire, it will be a tragedy because nobody will be able to escape in time and we'll all be packed like sardines.
150	No further increases to our property taxes. We are still paying for our water supply. None of these "enhancements" are needed.
151	These surveys, from your comments, are susceptible to "gaming". That is, there are no controls on responder duplications and it would be unwise to use volume of response as a measure for going forward. This does not always sit well with a political (populist) approach. Maintaining a transparent approach seems safer..
154	See above
156	We do not need any more expense in Belcarra. We need to focus on our water system repairs and maintenance, a new firehall, selling/leasing road ends and other surplus Belcarra property. We need to keep taxes, water and garbage down not going up 10-15 percent every year.
157	Number one priority should be safety of those of us who live in the Village. We should be able to walk on all roads, with our children, with our pets, and not fear being run down.
158	It would have been helpful to have had more information about how some of these potential improvements might impact private properties. Traffic noise (racing motorcycles and cars especially late at night) has not been addressed and is an associated issue. Traffic calming could improve this but removing hedges could make it worse for some homes.
159	Survey required to be completed should be set up to receive "one" survey report for each property owned.
160	Thanks for all the work preparing this survey. I love where I live and part of the reason I enjoy living in Belcarra is because it is decidedly different from other urban areas. Upgrades are necessary especially where safety is concerned. But I don't want to see Belcarra morph into a mini metropolis. Thanks for allowing Belcarra's residents to express their opinions. Good Luck with your deliberations..
162	Lights that have been installed without interaction with the residents who are most affected should be removed or redirected to reduce the intrusion and annoyance immediately. Planning should include direct discussion with the property owners who would be most affected by some of the potential roadway changes, e.g. development of sidewalks, raised crosswalks, etc. THANK YOU FOR THE OPPORTUNITY TO COMMENT.

ResponseID	Response
163	Belcarra is a safe place when people obey the present Belcarra signage and drive defensively instead of the fast and aggressive driving so often witnessed especially around blind hills and corners. Share the road!
166	Thanks for the concept and opportunity to comment. Mixed feelings .... need for opportunities to be in nature, but concern about safety of the community, especially when it's dry.
167	My biggest pain point in the village is parking for visitors. With a narrower driveway having friends and family over is a logistics nightmare with areas for permit parking being spread out and sparse it is not very accommodating. Our only feasible options are to take the spots other residents often use or to shuttle people from their cars to our home if they park at the village hall since that is a mile away from our home.
171	There are very few cyclists in the village. Sometimes riders have to dismount and walk their bikes. Are Belcarrian tax payers expected to build routes for tourists?

APPENDIX C
Active Transportation
Design Toolkit

TABLE OF CONTENTS

1 DESIGNING FOR DIFFERENT USERS

A core component of design is prioritizing safety for the wide range of users that will be using the facilities. Though traditionally active transportation facilities have primarily focused on pedestrians and cyclists, an increasingly diverse set of users are enjoying these amenities including people on skateboards and scooters (both electric and human-powered). Each of these users have unique needs and interact with each other differently.

1.1 COMPARING STREET USERS

Different street users occupy different amounts of space and travel at varying speeds. Hence, speed, space, and travel distance are important considerations when mixing different users. Typical street user characteristics are illustrated below.

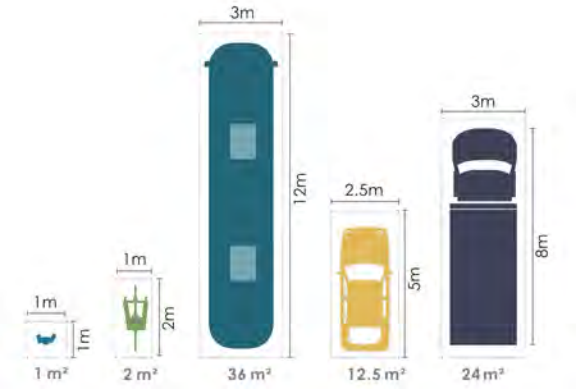


Figure 1.1 Typical Envelopes for Different Users
Source: Content by Global Designing Cities Initiative Global Street Design Guide

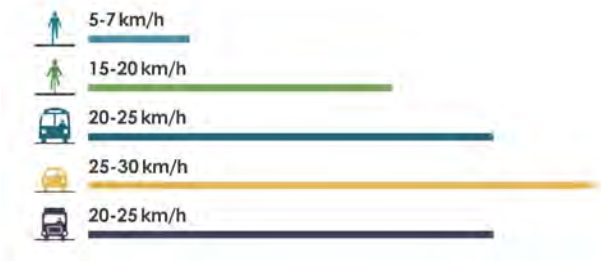


Figure 1.2 Typical Speeds for Different Users
Source: Content by Global Designing Cities Initiative Global Street Design Guide

1.2 SPEED

At a basic level, speed is the primary consideration when mixing different users on the same path or trail.

Typical Speeds for Different Users

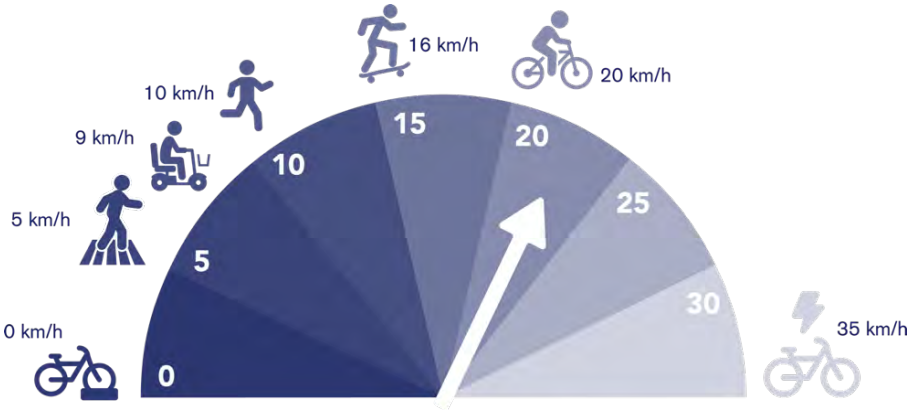


Figure 1.3 Typical Speeds for Different Users
Source: Content by BC Active Transportation Design Guide

1.3 SHARED SPACE FACILITY DESIGN CONSIDERATIONS

Maximize safety and enjoyment where a variety of users share space by:

- Considering all potential users when designing a facility
- Separating cyclists and pedestrians when possible
- Mixing micro-mobilities such as skateboarders or scooters with cyclists rather than pedestrians
- Increasing shared facility widths where separate pedestrian facilities are not feasible or desired
- Maintaining a consistent set of rules for all users while understanding diverse needs

1.4 KEY DESIGN PRINCIPLES

Universal Design principles should be applied to the design of all infrastructure and programs to create an equitable environment for all users. These principles ensure that all levels of ability are considered in shaping the Belcarra's built environment and help reduce the barriers in navigating the community.

PRINCIPLE	GUIDELINES
1 **Equitable Use** Design is useful and marketable to people with diverse abilities	• Provide the same means of use for all users: identical whenever possible; equivalent when not • Avoid segregating or stigmatizing users • Provisions for privacy, security, and safety equally available to all users • Make the design appealing to all users
2 **Flexibility in Use** Design accommodates a wide range of individual preferences and abilities	• Provide choice in methods of use • Accommodate right- or left-handed access and use • Facilitate the user's accuracy and precision • Provide adaptability to the user's pace
3 **Simple and Intuitive Use** Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level	• Eliminate unnecessary complexity • Be consistent with user expectations and intuition • Accommodate a wide range of literacy and language skills • Arrange information consistent with it's importance • Provide effective prompting and feedback during and after task completion
4 **Perceptible Information** Design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities	• Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information • Provide adequate contrast between essential information and it's surroundings • Maximize "legibility" of essential information • Differentiate elements in ways that can be described (e.g. make it easy to give instructions or directions) • Provide compatibility with a variety of techniques of devices used by people with sensory limitations
5 **Tolerance For Error** Design minimizes hazards and the adverse consequences of accidental or unintended actions	• Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded • Provide warnings of hazards and errors • Provide fail safe features • Discourage unconscious action in tasks that require vigilance
6 **Low Physical Effort** Design can be used efficiently and comfortably and with a minimum of fatigue	• Allow user to maintain a neutral body position • Use reasonable operating forces • Minimize repetitive actions • Minimize sustained physical effort
7 **Size and Space for Approach and Use** Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility	• Provide a clear line of sight to important elements to seated of standing users • Make reach to all components comfortable for any seated or standing user • Accommodate variations in hand and grip size • Provide adequate space for the use of assistive devices or personal assistance

Figure 1.4 Key Design Principles
Source: Content by BC Active Transportation Design Guide

2 EMERGING TRENDS

2.1 SHARED MICRO-MOBILITY

Micro-mobility refers to several small, one-person vehicles. The term is used primarily for electric scooters and shared bicycles. Many companies have begun providing shared dockless electric scooters in cities worldwide. The introduction of dedicated cycling facilities has been shown to reduce e-scooter collisions by 90%.

2.2 ELECTRIC BICYCLES

The market share of electric bicycles has grown significantly in the last five years. This growth is due both to new users and some adaptation of non-electric bicycles. Electric bicycles increase distances that riders are willing to cycle and attract users that would not be typically interested in cycling.

2.3 EVOLVED BICYCLES

A wide range of bicycles are available to accommodate varied needs. These include:

RECUMBENT

A recumbent cycling position may put less strain on the rider's back and joints.

LONG-TAIL

An elongated tail is provided which is commonly used to seat one to three children and/or cargo. Long-tails are longer and heavier than standard bicycles.

CARGO

Used by businesses to deliver goods and parents to transport children. They range in size and weight but are always wider than standard bicycles.

TRAILER

A trailer is typically fitted to a standard bicycle and are often used by parents to transport their children but can also be used to move goods.

HANDCYCLE

Handcycles can come as one piece or as a 'clip-on' attachment for a wheelchair.

TANDEM

Tandems are designed for two people to ride together.

TRICYCLE

Has three wheels and offers good stability. They also exist in tandem and recumbent versions.

3 PEDESTRIAN FACILITIES

The design of sidewalks, pathways, and pedestrian crossings has a significant impact on the safety, accessibility, and overall quality of experience. Flexible and inexpensive strategies can be implemented in rural contexts; however, it is essential that pedestrian facility design considers the needs of those who may have visual or mobility impairments wherever possible.

3.1 TYPES OF PEDESTRIAN FACILITIES

Pedestrian facilities can be broadly divided into facilities designed for all ages and abilities and supporting facilities.

All Ages and Abilities Facilities

Facilities for all ages and abilities (AAA) are safe and accessible for all users. Pedestrian age is a major factor that can impact a pedestrian's walking characteristics such as walking speed and environmental perception. Pedestrians with disabilities may also require assistive mobility devices that call for special design considerations. The following facilities can be designed to AAA standards.

- **Off-Street Pathways:** Pathways that are physically separated from the road
- **Separated Sidewalks:** Sidewalks that are separated from the roadway by a furnishing zone
- **Enhanced Separated Sidewalks:** Wide separated sidewalks with ample space for pedestrians

Supporting Facilities

Supporting facilities can be provided in rural contexts where AAA facilities are not feasible. Special consideration should be given to providing speed reduction measures to reduce motor vehicle speeds where separated sidewalk facilities cannot be maintained.

- **Non-Separated Sidewalks:** Sidewalks with a curb that are located directly next to the roadway
- **Walkable Shoulders:** Roadway shoulders that can accommodate people walking

Figure 3.1: Types of Pedestrian Facilities
Source: Content by BC Active Transportation Design Guide

Belcarra's ATNP proposes walkable shoulders along Bedwell Bay Road as an immediate improvement. While walkable shoulders are better than the current condition, sidewalks would offer a safer and more comfortable experience for pedestrians. As funding becomes available, sidewalks could replace walkable shoulders. Enhancements such as lighting, speed reduction measures, signage, pavement markings, and physical buffers (e.g., curbs, bollards, planters) can be considered to help make the walkable shoulders safer.

3.2 SIDEWALK DESIGN PRINCIPLES

- Provide separated sidewalks where possible by adding elements between vehicles and pedestrians such as bollards, street furniture, detectable warning strips, or textured pavers
- Provide non-visual cues for users who are blind through consistent use of detectable surfaces such as tactile warning strips, detectable edges, and detectable changes in surface texture
- Provide firm, stable, and slip resistant surfaces with minimal discontinuities and horizontal openings that could trap wheelchair wheels
- Ensure that changes in pavements feature distinct differences in texture, color, and tonal contrast for individuals with low vision

3.3 CROSSING DESIGN PRINCIPLES

Safe and accessible pedestrian crossings are crucial to ensuring all ages and abilities can navigate the transportation network.

- Provide curb/wheelchair ramps at all intersection corners to allow access for all users
- Provide tactile mats and brightly colored bollards at intersection corners to indicate where crossing is safe to users with visual impairments
- Enhance crosswalk markings at key locations like schools and Downtown, through use of zebra or decorative crosswalk markings
- Provide curb extensions at intersections to shorten crossing distances and improve visibility. Curb extensions can also help reduce vehicle speeds
- Consider raised crosswalks at key crossings near trail connections or bus stops

3.4 CROSSWALK TREATMENTS

Belcarra's ATNP identifies crosswalk upgrades as improvement projects to help increase drier awareness and pedestrian visibility at crosswalks along Bedwell Bay Road. Several crosswalk treatments can be considered.

DECORATIVE CROSSWALKS

Decorative crosswalks enhance the visibility of a crosswalk using colors, patterns, or symbols beyond standard white stripes. The bright and unique designs draw driver attention and can also be used as branding and wayfinding along an active transportation route, adding character and helping users identify key crossing points or trail connections.

RAISED CROSSWALKS

Raised crosswalks enhance pedestrian safety by elevating the crossing above the roadway, making pedestrians more visible to drivers. They also act as speed reduction measures by forcing vehicles to slow down and improve accessibility by providing a level surface for users crossing the street. Raised crosswalks are most effective when pedestrian facilities on either side are also elevated, ensuring a continuous path.

RECTANGULAR RAPID FLASHING BEACONS (RRFB)

Rectangular Rapid Flashing Beacons (RRFBs) or side-mounted flashing beacons are traffic safety devices used to increase driver awareness at pedestrian crossings, especially in areas without traffic signals. RRFBs typically consist of two rectangular LED lights that flash in a rapid, alternating pattern when activated by a pedestrian push-button.

OVERHEAD PEDESTRIAN FLASHERS

Overhead pedestrian flashers are elevated traffic safety devices designed to improve visibility and alert drivers to pedestrian crossings, especially in areas with limited lighting or high vehicle speeds. They operate similarly to RRFBs and other side mounted flashing beacons, except that these are typically mounted above the roadway on mast arms or overhead structures

3.5 PEDESTRIAN FACILITIES IN A RURAL CONTEXT

Sidewalks may not always be feasible or desirable in a rural context such as the Village of Belcarra. Flexible, alternative design strategies can be implemented in rural contexts to provide appropriate pedestrian facilities while maintaining pedestrian comfort, accessibility, and safety. These facilities offer cost-effective solutions that maintain the community's quiet, rural character.

DESIGN PRINCIPLES

Rural contexts present a different set of constraints to consider, such as available road rights-of-way and limited budget. These should be factored in when considering pedestrian facilities in a rural context.

1. DEDICATED SPACE OVER MIXED CONDITIONS: Dedicated pedestrian facilities are recommended over mixed spaces where pedestrians, cyclists, and vehicles share the travelled way. While the mixed condition tends to be the default facility in most rural contexts, these facilities are generally only recommended where motor vehicle volumes do not exceed 30km/hr.

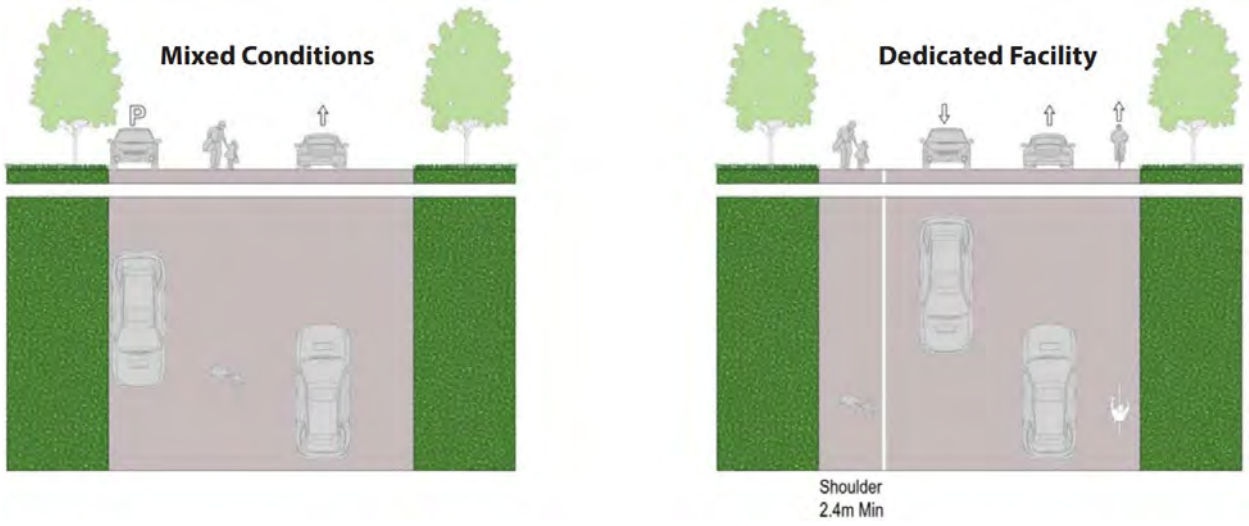


Figure 3.2 Dedicated Facility vs. Mixed Conditions
Source: BC Active Transportation Design Guide

2. PHYSICAL SEPARATION OVER PAVEMENT MARKING: Providing physical separation using curbs, bollards, wheel stops, or other physical barriers is preferred over walkable shoulders with a painted line. Physical barriers raise both perceived and actual safety, making facilities more comfortable for different user groups.

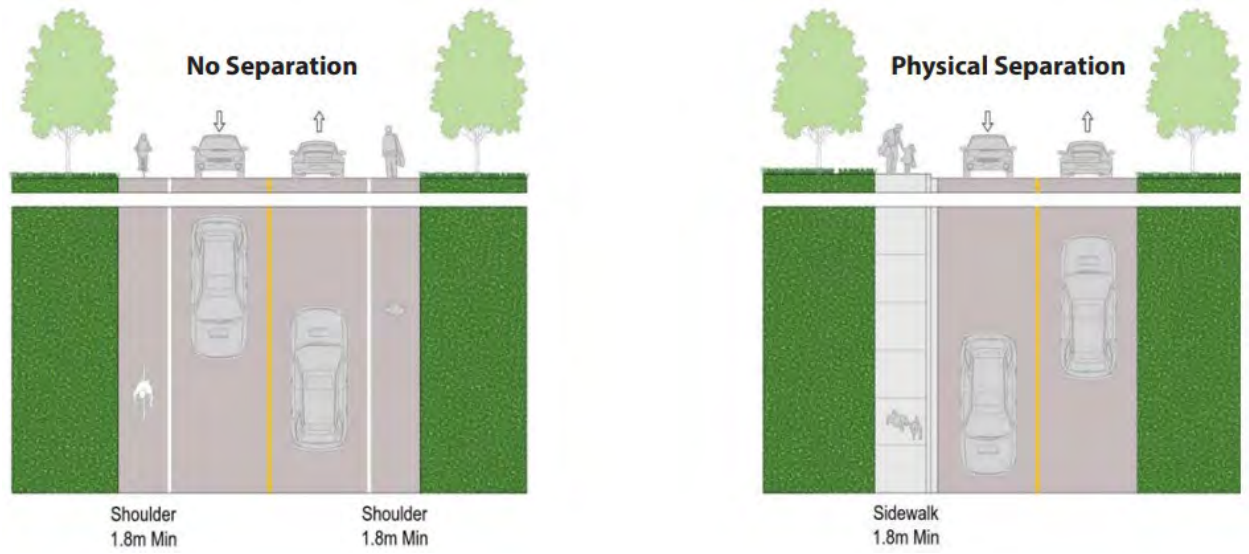


Figure 3.3 Physical Separation vs. No Separation
Source: BC Active Transportation Design Guide

3. OFF-STREET PATHWAYS OVER WALKABLE SHOULDERS: Off-street pathways are preferred over walkable shoulders, particularly in locations with high vehicles speeds and volumes. Removing pedestrians from the roadway and providing a buffer space creates a safer environment for road users.

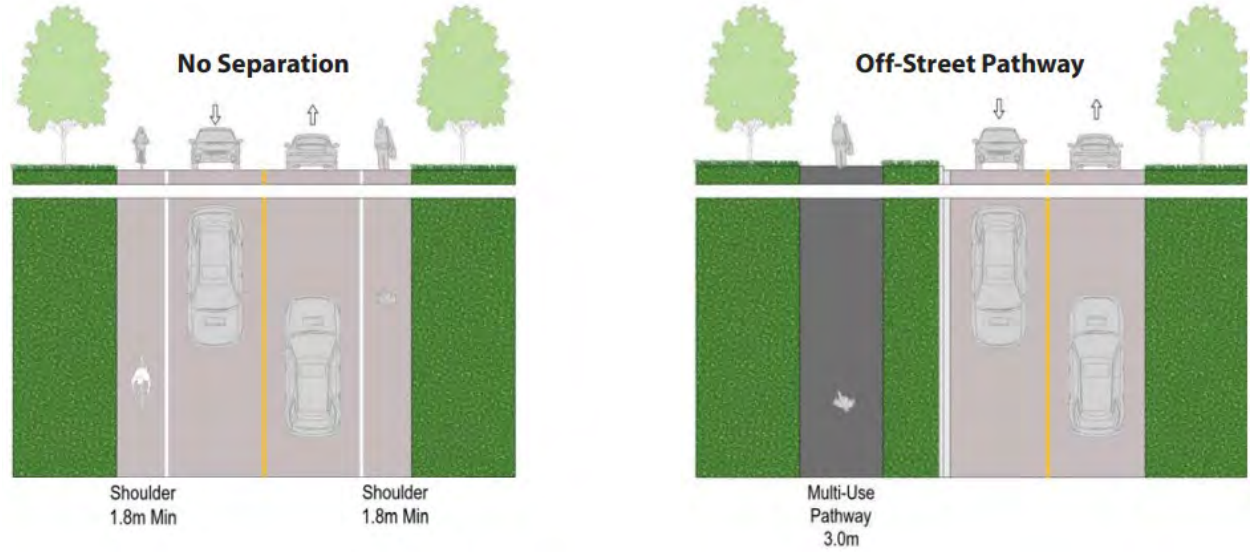


Figure 3.4 Off-Street Pathway vs. No Separation
Source: BC Active Transportation Design Guide

3.6 FLEXIBLE DESIGN STRATEGIES

Flexible design strategies offer cost-effective solutions that may be implemented where limited space, environmental considerations, and budget constraints present challenges in rural contexts.

Buffered Pedestrian Lanes

Pedestrian lanes are an effective strategy for creating dedicated pedestrian space along rural roads without the need for full sidewalks.

Buffered Pedestrian Lanes: Dedicated lanes that are separated from the roadway using paint or flexible bollards to create a buffer between people and cars.

Painted Pedestrian Lanes: Dedicated lanes that are located directly next to the roadway and marked using a painted line. Painted lanes may be considered on rural roadways with low vehicle volumes and speeds

Off-Street Trails and Pathways

Off-street trails and pathways are ideal for providing safe and enjoyable walking and biking experiences away from vehicular traffic. These facilities can follow natural features, such as creeks or greenbelts, and provide direct connections to key destinations.

Paved Trails: Paved trails provide a smooth, accessible surface that can accommodate a wider variety of users including strollers, wheelchairs, and bikes.

Unpaved Trails: Unpaved trails provide a lower cost alternative to paved facilities while maintaining separation from the road network and blending into the surrounding environment with a more natural look.

Road Shoulders

Road shoulders alongside rural roads can be designed with sufficient width to accommodate active modes. These shoulders shoulder be enhanced with physical buffers, lighting, pavement markings, signage, and vehicle speed reduction measures using vertical deflection and lane narrowing wherever possible.

Walkable Shoulders: Walkable shoulders are paved spaces on the side of the roadway which may be used by pedestrians and cyclists.

Bike Accessible Shoulders: Bicycle accessible shoulders are paved shoulders on the right side of rural roads that are designed with sufficient width to accommodate cyclists.

4 CYCLING FACILITIES

Creating a network of cycling facilities that accommodates users of all ages and abilities requires a breadth of options that reflect the surrounding environment. Cycling facilities can be designed for a variety of users including skateboarders, longboarders, in-line skaters, roller skaters, scooters, and e-bike operators.

4.1 BIKEWAY PLANNING AND DESIGN PRINCIPLES

The following five principles of good bikeway planning and design (CROW 2016) reflect the unique challenges and needs of those riding:

1. SAFETY: Perceived and real, road users should feel that they have enough space to ride, conflicts are minimized, and outcomes of crashes are not severe

2. COMFORT: Surfaces should be smooth and turn angles and gradients should be gentle with minimal obstructions

3. DIRECTNESS: Alignments should be comparable to the driving network, have as few turns as possible, and minimal stops

4. COHERENCE: Facilities and routes should be intuitive in their design and direction and should also integrate seamlessly with other transportation systems

5. ATTRACTIVENESS: Routes should be enjoyable, relatively quiet, and connected to points of attraction

While many people enjoy cycling, it has been found that a large part of the population would enjoy riding a bicycle more often if a safe and convenient network was readily available. Understanding what types of facilities those on bikes find comfortable is important to encourage increased ridership.

4.2 TYPES OF BIKEWAY FACILITIES

Cycling facilities can be broadly categorized into separated and shared facilities.

Separated Facilities

AAA quality routes with physical cycling separation from vehicles. These routes provide the highest quality active transportation network. Due to their higher capital and operating costs, these routes are typically provided on roadways with the highest vehicle volume or speeds and where separation provides the highest benefit. Separated routes are encouraged in areas with higher vehicle and pedestrian volumes such as in village centers or urbanized areas. They are also encouraged to be the primary choice along rural roadways in the form of an adjacent Off-Street Pathway (i.e., paved trail) when they are determined to be feasible.

Shared Facilities

On-street routes that are signposted but do not have physical separation between cyclists and vehicles. Speed reduction initiatives can be considered on these routes to manage vehicle speeds. Shared routes are typically lower-cost options. In the Belcarra rural area context, these types of facilities are anticipated to be widened roadway shoulders.

4.3 TYPES OF BICYCLE FACILITIES

PATHWAY

Typically located outside the road right-of-way in parks or other green spaces. These facilities are designed to support bi-directional users: pedestrians, cyclists, runners, in-line skaters, and skateboarders, etc. Users are expected to share the space on the path and follow organizational markings.

PROTECTED BICYCLE LANE

Dedicated cycling facility separated from motor vehicle traffic by a physical vertical barrier (curb, planter boxes, etc.). This facility can be designed for one-way or two-way travel. Users are expected to share the space on the path and follow organizational markings.

LOCAL STREET BIKEWAY

Facility where cyclists share the road with motorists on a street with low traffic volumes and speeds. Bikeways often have speed reduction measures to reduce speed and volume (30km/hr, ≤ 1,000 average daily traffic volume). Where bikeways meet collector or arterial roads, signals or other design measures provide for safe crossing.

PAINTED BUFFERED BICYCLE LANE

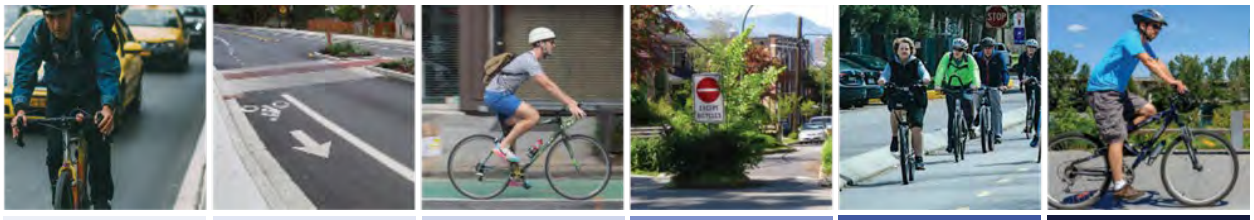
Facility where a portion of the roadway is designated for exclusive use by cyclists with pavement markings designating a buffer zone between the bicycle lane and the roadway. Motorists are typically not permitted to enter the bicycle lane to park, stand, or drive; however, they are permitted to mix when performing a turn at an intersection.

PAINTED BICYCLE LANE

Facility where a portion of the roadway is designated for exclusive use by cyclists with pavement markings and regulatory signage. Motorists are typically not permitted to enter the bicycle lane to park, stand, or drive; however, they are permitted to mix when performing a turn at an intersection.

LEVEL OF COMFORT

LESS ⟵ MORE



Major Street Shared Use Lane	Painted Bicycle Lane	Painted Buffered Bicycle Lane	Local Street Bikeway	Protected Bicycle Lane	Off-Street Pathway

Figure 4.1 Types of Bicycle Facilities & Bicycle Facilities Level of Comfort

4.4 RURAL CYCLING DESIGN CONSIDERATIONS

Designing cycling facilities in rural areas requires careful consideration of unique challenges such as limited space, budget constraints, and varied terrain.

DESIGN PRINCIPLES

- Prioritize cyclist safety by reducing vehicle speeds and incorporate measures such as reflective paint, signage, and lighting to improve visibility, especially in low-light conditions.
- Provide buffered lanes, physical barriers, rumble strips, and clear pavement markings to help separate cyclists from motor vehicle traffic, enhancing overall safety.
- Implement quick-build design techniques using low-cost materials such as flexible bollards, curbs, wheel stops, and paint to test infrastructure solutions before committing to permanent installations.

4.5 FLEXIBLE DESIGN SOLUTIONS

The following solutions may be implemented where limited space, environmental considerations, and budget constraints present challenges in rural contexts.

ADVISORY BIKE LANES

Advisory bike lanes are uni-directional bike lanes on either side of a narrow bi-directional vehicle lane. Motorists typically use the centre lane but may temporarily enter the advisory lanes to pass oncoming traffic, always yielding to cyclists. Where no sidewalk exists, advisory bike lanes may be used for both walking and cycling, in which case the facility would be called 'advisory shoulders'.

Vehicles travel in centre lane and merge into advisory bike lane when oncoming vehicle approaches

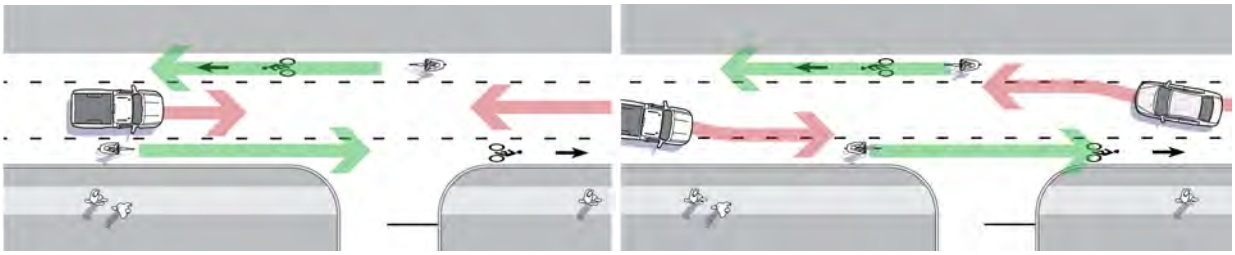


Figure 4.2 Advisory Bike Lane Operations
Source: Alta Planning + Design Advisory Bike Lanes in North America

BICYCLE ACCESSIBLE SHOULDERS

As described earlier, bicycle accessible shoulders are paved shoulders on the right side of rural roads that are designed with sufficient width to accommodate cyclists Bicycle accessible shoulders are typically acceptable on roads with posted speed limits of 50 km/hr or less and with fewer than 5,000 motor vehicles per day.

4.6 BICYCLE PARKING CLASSIFICATION

There are two categories of off-street bicycle parking.

Short-term

A parking space for bicycles parked for a short period (i.e., less than 4 hours) in locations that are easily accessible.

Long-term

A parking space for bicycles parked for longer periods (i.e., more than 4 hours), typically requiring more secure parking.

4.7 BICYCLE PARKING LOCATION & ACCESS

Increased uptake in cycling as a viable travel mode may not reach its full potential if bicycle parking security is not considered at the planning and design stages. Bicycle parking should consider all types of bicycles. To that end, there are several fundamental guiding principles that influence how both bicycle parking is located and accessed:

WELL-LOCATED: Convenient, accessible, as close as possible to the destination, and weather protected.

STAIR-FREE ACCESS: Provision of ramps or elevators large enough to accommodate all types of bicycles. Slopes should be limited.

MINIMUM WIDTHS: Appropriate widths shall be provided along all routes required to access bicycle parking facilities, including ramp accesses, at doorways, and aisle widths in bicycle parking rooms.

SIGNAGE: Integrated, high-quality, and simple bicycle parking signage should be provided to indicate the availability and location of an off-street bicycle parking area.

VISIBILITY: The location selected for bicycle parking shall be easily identifiable by cyclists as they are riding. It will also help to reduce theft and vandalism.

BARRIER-FREE: Access to bicycle parking facilities should be direct and free from obstacles to accommodate all users. Provide breaks in long spans of bicycle racks for more convenient access.

DETECTABILITY: Design should be cognisant of users with physical, sensory, or cognitive impairments and should ensure the facilities are both easily detectable for these users and do not create obstacles.

LIGHTING: Quality lighting should be provided to ensure facilities are well-lit to improve the overall security of all bicycle parking facilities. Tamper-proof features should be considered to prevent vandalism.

SECURITY: Racks in visible, well-lit places that have high levels of natural surveillance.

Table 4.1: Design Principles Specific to Short- and Long-Term Bicycle Parking

Principles	Short-Term	Long-Term
General Location	▪ Provide at-grade ▪ Locate within 15.0m of pedestrian building access points	▪ Locate in a private parking area, private garage or bicycle room ▪ Provide at-grade or located no lower than the first complete parking level below grade, where possible
Access & Clearance	▪ Provide stair-free level access ▪ Where a grade change is inevitable, a slope of 6% or less is preferred by cyclists ▪ Access routes with a minimum clear width of 2.0m ▪ Additional buffer space (min., 0.5 m) shall be considered if the access route is next to a wall or railing ▪ Provide sufficient minimum overhead clearance (2.1m) ▪ Aisle widths within bicycle parking rooms should have a minimum width of 1.5m, except for aisles adjacent to stacked bicycle racks where the minimum width shall be increased to 2.1m	
Visibility & Signage	▪ Locate near active entries and public amenity spaces ▪ Provide signage as needed for usage ▪ Well lit at all times	▪ Both the room and the access route shall be well-lit ▪ Place in clear visible locations ▪ 'Tamper-proof' lighting should be considered ▪ Directional signage should be provided along the route
Weather Protection	▪ Provide for all bicycle parking (either incorporate into the building design or a standalone structure)	
Other	▪ N/A	▪ Equipped with electrical outlets ▪ If approved, bicycle parking at Level P2 or below should have a designated bicycle parking elevator (with at least one interior dimension of 1.8m) ▪ If access is shared with vehicles, delineators should be provided to separate bicycles from vehicular traffic where space permits

4.8 BICYCLE PARKING SPACE DESIGN PRINCIPLES

Design principles are similarly important in terms of making bicycle parking attractive to the user, not only from an aesthetic perspective but also regarding the security and safety that is offered as part of the facility.

SUPPORT: The rack should provide two points of contact with the bicycle frame and keep it upright without putting stress on the wheels.

INTUITIVE RACK USE: The rack should be recognizable as bicycle parking and should be easy to use without the need for written instructions.

EFFICIENT USE OF SPACE: Available space is often a constraint, but the choice of bicycle parking should not be dictated by space alone. Racks should allow a good number of bicycles to be parked in a small area while providing adequate space between bicycles to facilitate parking and locking.

LONGEVITY: Weather- and corrosion-resistant materials should be used in the construction of the bicycle parking racks, while appropriate maintenance should be completed regularly to ensure the longevity and attractiveness of facilities.

SECURITY: Racks shall be in secured private or indoor spaces, or in visible, well-lit places that have high levels of natural surveillance.

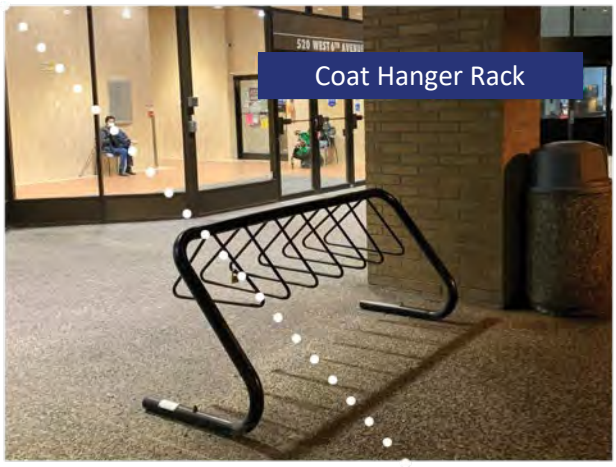
LARGER SPACES: Ensuring the availability of spaces for larger models and reserving allocated spaces for users with accessibility requirements.

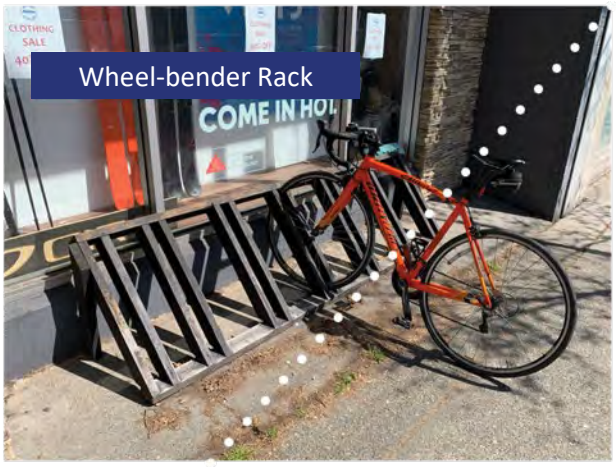
VARIETY: Long-term parking facilities should anticipate the presence of a variety of bicycles and accessories.

DESIGN & ATTRACTIVENESS: The design and aesthetic quality of bicycle parking facilities should reflect the surrounding neighbourhood and environment to attract users without compromising their functionality.

Examples of Poor Bicycle Parking Design

There are several types of bicycle racks that do not meet the design principles. These should be avoided as they do not meet the above design principles. For example, most do not allow for two points of contact, nor would they accommodate different types of bicycles.





- May not provide two points of contact per bicycle
- May not allow bicycles to be secured using a
- U-lock
- Bicycles may fall over when parked
- Spaces are very close together, reducing capacity
- Mostly constructed of thin tubing which is vulnerable to cutting

Figure 4.3: Examples of Poor Bicycle Rack Design

5 FACILITY SELECTION + DESIGN

The appropriate pedestrian or cycling facility for a given location is largely dependent on the traffic environment. The following section provides a framework for identifying the appropriate facility type and the corresponding design considerations.

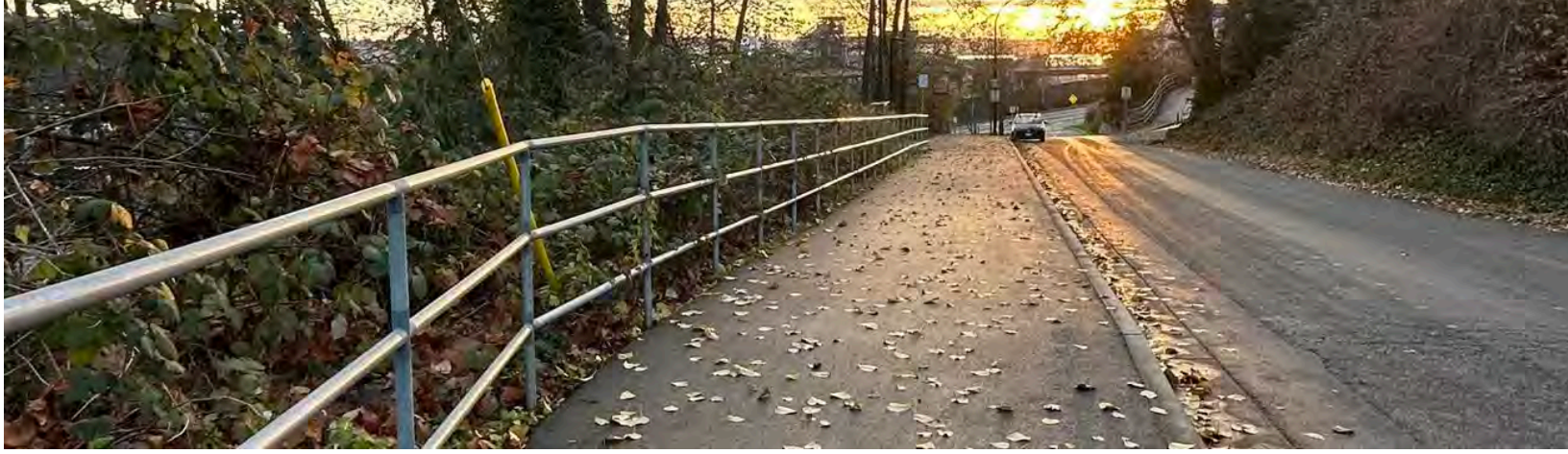
5.1 BICYCLE AND PEDESTRIAN FACILITY SELECTION

Bicycle and pedestrian facility selection depends on vehicle speeds, volumes, and the number of vehicle lanes. Facilities need to provide higher levels of separation as the risk of conflict with motor vehicles rises. The following facility selection framework is based on the TAC Geometric Design Guide and the BC Active Transportation Design Guide.

Table 5.1: Bicycle and Pedestrian Facility Selection

Source: Adapted from the BC Active Transportation Design Guide and TAC Geometric Design Standards

<table>
<tr><th colspan="3">Roadway or Area Context</th><th colspan="3">Facility Type</th></tr>
<tr><th>Target Vehicle Speed</th><th>Daily Vehicle Volume</th><th>Vehicle Lanes Per Direction*</th><th>Bicycle Facility</th><th colspan="2">Pedestrian Facility</th></tr>
<tr><td>Greenways, Parks, or other Open Spaces</td><td>N/A</td><td>N/A</td><td colspan="3">Off-Street Pathways</td></tr>
<tr><td>≤ 15 km/hr</td><td>Low</td><td rowspan="2">-</td><td colspan="3">Shared Street</td></tr>
<tr><td>≤ 30 km/hr</td><td>≤ 1,000</td><td colspan="3">Bicycle Boulevard</td></tr>
<tr><td rowspan="6">≤ 40 km/hr</td><td>500 - 1,500</td><td rowspan="4">Single</td><td>Local Street Bikeway</td><td colspan="2">Sidewalk</td></tr>
<tr><td>1,500 - 3,000</td><td>Painted, Buffered, or Protected Bicycle Lanes</td><td colspan="2">Sidewalk</td></tr>
<tr><td>3,000 - 6,000</td><td>Painted, Buffered, or Protected Bicycle Lanes</td><td rowspan="4">Off-Street Pathway (Separate Pedestrian and Cyclist Paths where:
▪ User Volumes > 33 persons per hour per metre of path width and
▪ Pedestrian Volumes > 20% of User Volumes
Or
▪ User Volumes > 50 persons per hour per metre of path width and
▪ Pedestrian Volumes < (20% of User Volumes)</td><td rowspan="3">Sidewalk</td></tr>
<tr><td>> 6,000</td><td rowspan="2">Buffered or Protected Bicycle Lanes</td></tr>
<tr><td>Any</td><td>2 +</td><td>Protected Bicycle Lane</td></tr>
<tr><td rowspan="3">≤ 50 km/hr</td><td rowspan="2">≤ 6,000</td><td>Single</td><td rowspan="2">Protected Bicycle Lane (or Reduced Speed)</td><td rowspan="2">Sidewalk (> 1.0m Separation from Roadway)</td></tr>
<tr><td>2 +</td></tr>
<tr><td>> 6,000</td><td>Any</td><td>Protected Bicycle Lane</td></tr>
</table>



5.2 SIDEWALK DESIGN CRITERIA

A notable requirement for sidewalk design in terms of accessibility, as well as comfort and usability for all pedestrians is the overall clearway width. Design of sidewalks that allow people to walk side-by-side and easily pass oncoming walkers (including parents with strollers and people in wheelchairs or with other mobility aids), is important to create a safe and welcoming pedestrian environment.

DESIGN CONSIDERATIONS FOR SIDEWALKS

The guidelines below set out the recommended minimum sidewalk type and widths.

Table 5.2: Sidewalk Clearway Width Contextual Selection
Source: TAC Geometric Design Guide

Land Use	Road Type	Separation (Boulevard)	Widths	
			Desirable (m)	Minimum (m)
Residential	Local	Non-Separated or Separated	1.8	1.5
	Collector/Arterial	Separated	2.1	1.8

5.3 BUFFERED PEDESTRIAN LANES

Buffered pedestrian lanes are at-grade, low-cost pedestrian facilities that serve as an alternative or interim solution where sidewalks are unavailable or impractical. They are designed to provide a safe, designated space for pedestrians within the roadway, functioning similarly to sidewalks.

DESIGN CONSIDERATIONS FOR BUFFERED PEDESTRIAN LANES

- Ensure the pedestrian through zone is at least 1.8 metres wide to allow safe and comfortable pedestrian passage, or an absolute minimum of 1.5 metres in constrained locations
- Where possible, provide a width of 2.0 metres in areas without vertical separation
- Provide double longitudinal pavement markings to clearly define the pedestrian space and visually separate it from vehicle traffic
- Install elements such as flexible bollards, rigid bollards, or concrete wheel stops to physically discourage motor vehicle intrusion into the pedestrian lane
- Implement additional speed reduction measures (e.g., narrowed lanes, speed humps) where buffered pedestrian lanes are provided to reduce vehicle speeds and improve pedestrian safety

5.4 SEPARATED BIKEWAYS

Separated bikeways are roadside facilities that are designed for the exclusive use of cyclists. They are separate from both motorists and pedestrians, but require design based on bicycles operating in parallel with motor vehicles and pedestrians, especially at intersections. These facilities can include unbuffered bike lanes, buffered bike lanes, protected bike lanes, and bike paths. The table below presents the recommended minimum bikeway widths based on the TAC Geometric Design Guide.

Table 5.3: Recommended Separated Bikeway Widths
Source: TAC Geometric Design Guide

Bikeway	Type	Parameter	Widths	
			Desirable (m)	Minimum (m)
Unbuffered Bike Lane	Uni-directional	Width (m), bike lane	1.8 - 2.1	1.5
Buffered Bike Lane	Uni-directional	Width (m), bike lane, including buffer	2.1 – 3.0	1.8
		Width (m), bike lane component	1.8 – 2.1	1.5
		Width (m), buffer pavement marking component	0.3* - 0.9	0.3*
Protected Bike Lane	Uni-directional	Width (m), bike lane, including delineator	2.1 – 3.5	1.8
		Width (m), bike lane component	1.8 – 2.5	1.5
		Width (m), delineator component	0.3* - 1.0	0.3*
	Bi-directional	Width (m), bike lane, including delineator	3.3 – 4.6	2.7*
		Width (m), bike lane component	3.0 – 3.6	2.4
		Width (m), delineator component	0.3* - 1.0	0.3*
Bike Path	Uni-directional	Width (m), bike path	1.8 – 2.5	1.5
	Bi-directional	Width (m), bike path	3.0 – 3.6	2.4

*A minimum buffer/delineator width of 0.6 m is required when bike lanes are adjacent to motor vehicle parking.

5.5 PATHWAYS

Pathways are paved trails that have the potential to play an important role in a multimodal transportation system. Generally, pathways are wide enough trails to accommodate two-way travel of both pedestrians and rollers. They are the preferred active mode infrastructure typology as they separate pedestrians and rollers from the noise and dangers of vehicle traffic.

Design Considerations for a Roadside Pathway

Key characteristics of a roadside pathway include the travelled way, a horizontal buffer from any obstructions such as bollards or trees, and a buffer between the edge of the travelled way and any motor vehicle lanes, as shown in the diagram below. The TAC Geometric Design Guide recommends a minimum path width of 3.0 metres to accommodate one cyclist in each direction or one cyclist and two pedestrians walking side by side.

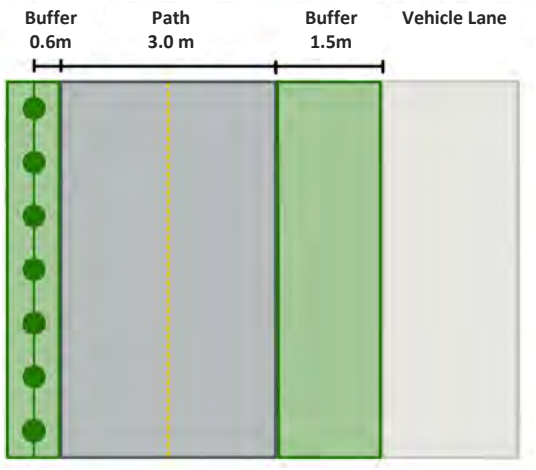


Figure 5.1: Pathway Design

*A constrained limit of a 0.6m buffer from the vehicle lane may be acceptable on lower volume local roads

DESIGN PRINCIPLES

Pathway design plays an important role in the safety and satisfaction of users. To continue to capture the inherent comfort and enjoyment of pathways while improving safety, the following measures are recommended:

- Avoid circuitous routing and maintain clear sightlines, particularly at corners, by clearing vegetation or physical obstructions
- Apply centre line along the path to delineate travel directions and improve visibility for users at night
- Consider delineating space for pedestrians and cyclists where high volumes of users are expected
- Use pavement markings to indicate the intended road user and travel direction where pathways experience high bidirectional volumes or operational challenges such as sight distance constraints

5.6 SHARED STREETS

Shared streets offer unseparated bikeways in spaces that are shared with motor vehicles. These can include shared roadways, bicycle boulevards, and shared lanes. Shared roadways are roadways where cyclists and vehicles share the travelled way under low-speed conditions. Bicycle boulevards are shared roadways that limit exposure to motor vehicle traffic through speed reduction measures. Shared lanes are general purpose lanes with sufficient width to facilitate a small range of experienced cyclists amongst other motor vehicles.

Shared streets should be designed with additional safety features wherever feasible, including cyclist scaled lighting, signage, pavement markings, and vehicle speed reduction measures.

DESIGN CONSIDERATIONS FOR SHARED STREETS

The table below presents the recommended shared street widths based on the TAC Geometric Design Guide, including requirements for:

- **Shared Roadways:** Cyclists and vehicles share the travelled way under low-speed conditions
- **Shared Lanes:** General purpose lanes that can facilitate a small range of experienced cyclists

Table 5.4: Recommended Shared Street Widths
Source: TAC Geometric Design Guide

Shared Street	Parameter	Widths	
		Desirable (m)	Minimum (m)
Shared Roadway	Width (m), shared roadway with parking both sides	8.0 – 9.0	8.0
	Width (m), shared roadway with parking on one side	5.5 – 7.0	5.5
Shared Lane	Width (m), shared lane, side-by-side operation	4.3 – 4.9	4.3
	Width (m), shared lane, single file operation	Lane width – 4.0	Lane width

5.7 RURAL ROADWAY SHOULDERS

Rural roadway shoulders are often used for active transportation. Many rural roadways have shoulders that are well below width guidance and/or have shoulders delineated with a white fog line. Many others have no shoulders or fog lines at all, therefore active mode participants must share the roadway with vehicles.

Walkable Shoulders

Walkable shoulders may be considered on rural roadways where vehicle speeds are less than 60km/hr and only occasional pedestrians are present. Walkable shoulder design should consider lighting, signage, and the provision of through zones to mitigate risks for pedestrians. A minimum width of 1.2m is required for pedestrians, with additional width requirements where shoulders are to be shared with cyclists.

Bicycle Accessible Shoulders

Rural roadway shoulders may be considered as "bicycle acceptable" if they provide sufficient width and a smooth surface that is clear of snow and debris. Bicycle acceptable shoulders are generally not considered where vehicle speeds are greater than 100 km/hr or where there are more than 10 heavy vehicles during the peak hour.

Recommended minimum and desired widths for pedestrian and bicycle acceptable rural roadway shoulders depend on vehicle speeds (i.e., posted speed) and vehicle volumes (i.e., average daily traffic).

Table 5.5: Pedestrian and Bicycle Accessible Shoulder Widths

Sources: TAC Geometric Design Guide and BC Active Transportation Design Guide

Suitable Conditions	Widths	
	Desirable (m)	Minimum (m)
Posted Speed: 0 – 30 km/hr Vehicle Volume: <2,500 veh/day	1.8	1.5
Posted Speed: 30 – 50 km/hr Vehicle Volume: <4,000 veh/day	1.8	1.5
Posted Speed: 50 - 80 km/hr Vehicle Volume: <10,000 veh/day	2.0	1.8
Posted Speed: 80 - 100 km/hr Vehicle Volume: <10,000 veh/day	3.0	2.0

Enhanced Shoulders

Enhancements to shoulders can include buffer zones between the road and the travelled way, which can be further improved with physical separation using bollards, concrete curbs, or other forms of vertical separation. These help designate the pedestrian and/or cyclist zone and improve visibility. Pedestrian and cyclist scaled lighting, signage, and pavement markings are also recommended wherever possible.

5.8 TRAILS

A trail is a defined type of infrastructure that is purposefully designed and used for one or more user groups. This section focuses on unpaved trails, which are typically more recreational in nature and are often located within parks or other open spaces.

Design Considerations for a Trail

Trail design parameters have significant implications on the quality of the trail experience, the degree of challenge, and the type of user that the trail can accommodate. The design parameters provided below are intended for developed trails that can accommodate users with all skill levels (easy). Multi-use trails should be designed to meet critical parameters, which are the most demanding parameters based on the user.

The sections below describe the different design criteria for trails, while **Table 5.6** summarizes the recommended parameters for a trail with an easy degree of challenge and assuming pedestrian and off-road cyclists are the desired users.

CLEARING LIMITS

The minimum area over and beside the trail tread that is cleared of any obstructions.

- **Clearing Height:** Vertical distance between the trail tread and the lowest obstacle above the trail tread
- **Clearing Width:** Horizontal distance across the narrowest point along the trail corridor

TREAD & STRUCTURE WIDTHS

The minimum width of the portion of the trail that is directly travelled on and the required structure width to support the minimum width.

- **Tread Width:** Width of the portion of the trail that is directly travelled on
- **Structure Width:** Width of any structures over which the trail passes

TREAD SURFACING

Characteristics of the surface of the trail.

- **Surface Type:** Material used to surface the trail tread
- **Protrusions:** Trail tread imperfections (e.g., rocks, roots, holes, stumps, steps, etc.)
- **Obstacles:** Natural obstructions that add challenge to a difficulty rating

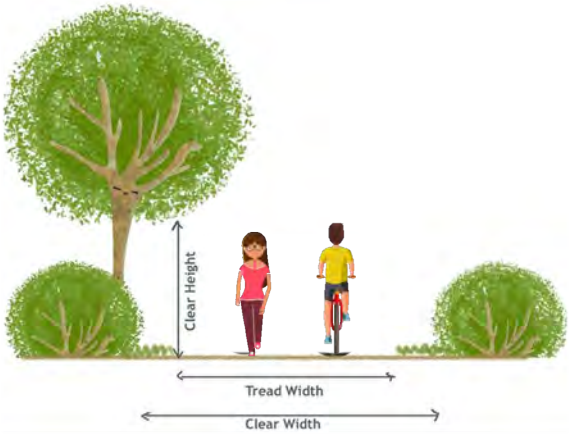


Figure 5.2 Trail Clearance Design Parameters

GRADES

The vertical distance of ascent or descent of the trail, measured as a ratio or percentage of rise to length.

- **Target Grade:** Average vertical steepness of the trail (or segment of the trail) over its entire length
- **Maximum Grade:** Steepest acceptable vertical grade permitted along a short portion of the trail
- **Maximum Grade Proportion:** Proportion of a trail with grades that exceed the Target Grade but are less than or equal to the Maximum Grade

CROSS SLOPE

The percentage grade of the trail tread measured perpendicular to the direction of travel.

- **Target Cross Slope:** Average horizontal grade of the trail tread, measured perpendicular to the centreline, over the entire length of the trail (or segment of the trail)
- **Maximum Cross Slope:** Steepest acceptable horizontal grade of the trail tread, measured perpendicular to the centreline, over the entire length of the trail (or segment of the trail)

TURNING RADIUS

The horizontal radius the trail activity requires to negotiate a curve in a single maneuver.

- **Target Turning Radius:** Horizontal radius of the trail curve

Table 5.6: Trail (Unpaved) Design Parameters - Easy Degree of Challenge

Source: Adapted from Trail Development Guidelines for Alberta's Public Land

Design Parameter		Pedestrian (Walking, Running, Hiking, Backpacking)	Off-Road Cycling (Self Propelled & Electric)	Critical Parameter
Clearing Limit	Clearing Width	2.0 – 3.0m	>3.5m	>3.5m
	Clearing Height	3.0m	3.5m	3.5m
Tread Width	Tread Width	1.0 – 2.5m	>2.5m	>2.5m
	Structure Width (minimum width)	Tread +0.15m each side	Tread +0.3m each side	Tread +0.3m each side
Surfacing	Surface Type	Compacted granular or paved	Natural, smooth	Compacted granular or paved
	Protrusions	None	Rare, <0.10m	None
	Obstacles (max height)	0.15m max ht, few vertical steps	Rare, <0.10m	Rare, <0.10m
Grades	Target Grade	3%	3 – 8%	3%
	Maximum Grade (short)	7%	10%	7%
	Maximum Grade Proportion	5 – 10%	10 – 20%	5 – 10%
Cross Slope	Target Cross Slope	2 – 3% or crowned	2 – 4%	2 – 3% or crowned
	Maximum Cross Slope	3%	8%	3%
Turning	Target Turning Radius	1.8 – 2.4m	1.5 – 2.5m	1.8 – 2.5m

SIDE SLOPES, RAILINGS & BARRIERS

Side slopes can present safety hazards when located along trails and pathways. Railings or other protective barriers can be provided along walkable surfaces that are adjacent to a change in elevation, these barriers reduce the chances of a fall or serious injury.

Railings or other barriers, which must be at least 1.4 m high, should be provided 0.6m from the edge of the travelled way where 1.5m of clear space cannot be provided from:

- A drop off greater than or equal to 0.3m with a side slope greater than 1:1,
  or
- A drop off greater than or equal to 1.2m with a side slope greater than 2:1,
  or
- A drop off greater than or equal to 1.8m with a side slope greater than 1:8

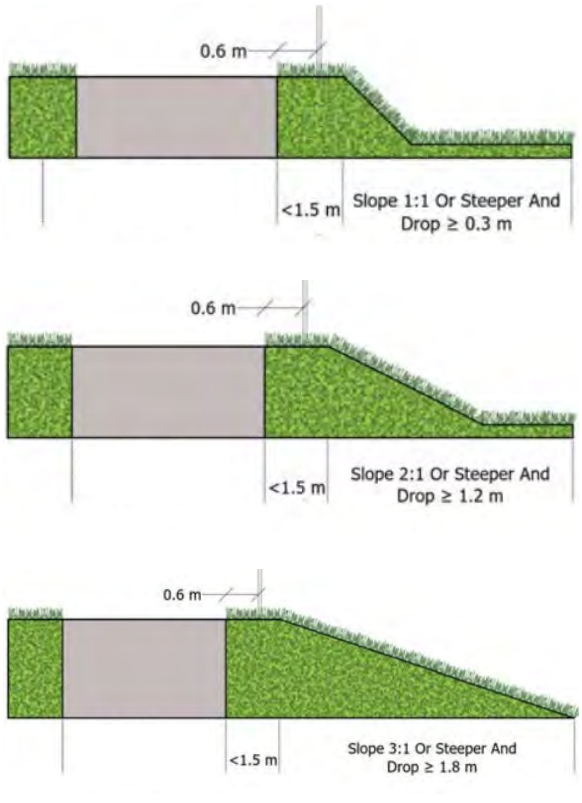


Figure 5.3 Side Slope Railing Requirements
Source: BC Active Transportation Design Guidelines

TRAIL ACCESS POINTS

Where a trail or pathway terminates at a roadway, and where no connecting off-street facility is present, it is important to provide a design treatment that allows for users (particularly cyclists) to transition smoothly to/from the roadway without the need to use an adjacent sidewalk. This ensures that the connection between facilities is obvious and does not require a detour or dismounting of a bike.

Recommended Trail Terminus Features

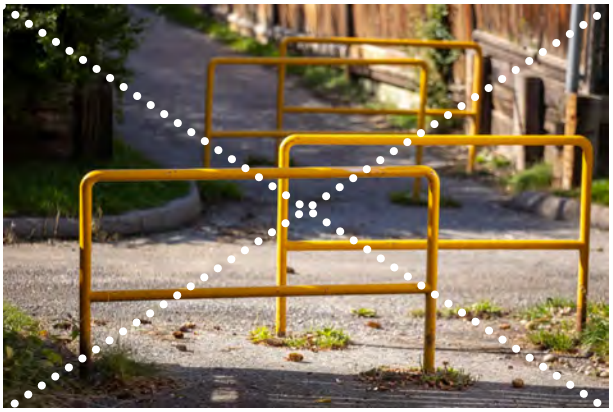
- All trail termini should have an accessible curb ramp to the roadway
- Curb cuts should be as wide or wider than the approaching facility
- Provide cyclist crossings on higher volume collector or arterial roads
- Install a TAC approved trail crossing sign (e.g., WC-32) along the intersecting roadway
- Ensure all transitions are as smooth as possible

Access Restrictions

Access restrictions can include various control devices such as bollards, maze gates, flexible delineators, raised medians, and/or signage. These measures are put in place to prevent vehicles from accessing off-street trails and pathways but can often present safety hazards when implemented incorrectly.

Rigid bollards and maze gates have historically been used to restrict motor vehicle access and reduce bicycle speeds. The use of rigid bollards and maze gates creates a safety hazard to cyclists and is not appropriate unless there is a demonstrated history of motor vehicle encroachment. Bicycle speed control is better implemented through geometric measures, and where physical measures are warranted, flexible bollards should be considered as an alternative to their rigid counterparts.

Safer approaches to restricting vehicle access can be implemented through the physical design of the trail or pathway entry point. A centre median may be used to delineate the entrance into two pathways, along with low landscaping, signage, and solid lane markings leading to and around the median. The pathway on either side of the median should be at least 1.2m wide to accommodate the intended user groups, but no wider than 1.8m to clearly indicate that motor vehicles are not permitted.



Maze Gates

Centre Median

6 SPEED REDUCTION & SUPPORTING AMENITIES

Enhancing the public realm beyond sidewalks and bikeways is an important component in designing for all modes. The measures described below can be applied throughout Belcarra to improve safety, comfort, enjoyment, and navigability around the community.

6.1 SUPPORTING AMENITY DESIGN PRINCIPLES

Supportive amenities such as lighting, bike parking, benches and rest areas, signage and wayfinding, and other active transportation related elements, support safe and enjoyable trips for people of all ages and abilities.

While the design of individual elements may be subject to site-specific context, the following design principles are considered useful:

- Maintain a consistent look and feel, to deliver a sense of continuity throughout the trail system
- Place amenities well outside the clear zone of the pathway to ensure users are engaging with the amenities but do not obstruct other trail users (e.g., place benches ≥1.0 m from edge of the pathway so those sitting are a comfortable distance from passing users) and to reduce the likelihood of users colliding with amenities
- Ensure amenities do not obstruct sightlines of trail users to reduce safety challenges associated with blocked sightlines

Types of Supporting Amenities

Common types of supporting amenities include:

PEDESTRIAN SCALED LIGHTING: Appropriate lighting is important to ensure that the network is safe, accessible, and reliable throughout all seasons and times of day.

BIKE PARKING: Short-term bicycle parking covered by the elements (where possible) provides convenient access to buildings and destinations throughout the Village.

BENCHES & REST AREAS: Rest areas provide a place for people to stop during a long trip or enjoy a scenic view. They are located along a trail or at gathering areas such as parks, plazas, or trail junctions.

SIGNAGE & WAYFINDING: Signage supports safe and enjoyable trips by providing clear and intuitive information to help people navigate unfamiliar environments and understand how to use the trails appropriately.

ACTIVE TRANSPORTATION HUBS: A hub is a concentration of amenities that may include shelter from the elements, seating, bathroom facilities, a bike repair station, a water station, etc. They are best located at junctions or at links to other forms of transportation.

6.2 SIGNAGE & WAYFINDING

Wayfinding signage supports safe and enjoyable trip making by providing simple, clear, and intuitive information to help people navigate unfamiliar environments. Effective wayfinding signage should be strategically located, tailored to provide information about services and infrastructure within the vicinity, and provided in a format that is easy to access and understand for people of all ages and abilities.

Wayfinding Information

INFORMATION KIOSKS: Provide an overview of the area and information to users regarding safety, the environment, etiquette, and wayfinding.

DIRECTIONAL SIGNAGE: Provide directional and distance information to destinations and indicate the difficulty level and user types permitted on a trail (i.e., unpaved) or pathway (i.e., paved trail).

TRAIL DISTANCE MARKERS: Indicate the distance along the trail that a user is located.

ETIQUETTE SIGNAGE: Communicate the appropriate rights-of-way for shared trails or pathways and proper use of the trail or pathway.

Information Kiosk

Directional Signage

Trail Distance Marker

Etiquette Signage

6.3 PEDESTRIAN & CYCLING SCALED LIGHTING

Contextually appropriate lighting is important to ensure that pedestrian and cycling facilities are safe, accessible, and reliable throughout all seasons and times of day. This is especially important for maintaining facilities in communities with periods of low natural light caused by short winter days.

Pedestrian and cycling scaled lighting should be positioned, placed, and angled to illuminate the travelled way, wayfinding signage, conflict and decision points, intersections, and other key features of pedestrian and cycling facilities. Lighting is also designed to minimize cast shadows with appropriate illumination levels, gradual lighting transitions, and suitable colour temperatures.

Type of Pedestrian & Cycling Scaled Lighting

Many active transportation facilities require different mounting styles of lighting than typical road lighting because of the smaller surface. The following examples demonstrate appropriate lighting solutions for Belcarra's active transportation network.

Source: Bunt & Associates – Tyler Thomson

Source: Bunt & Associates – Tyler Thomson

Source: Active Services Group

DESIGN CONSIDERATIONS

- Provide lighting in pedestrian through zones that are over 5.0m from the edge of the travelled way
- Illuminate blocks with 10 or more pedestrians travelling on both sides of the roadway during the evening peak hour
- Place lighting in the furnishing zone to contribute to the effective buffer and help define the bounds of the pedestrian area
- Refer to the TAC Guide for the Design of Roadway Lighting for further details and requirements for pedestrian scaled lighting

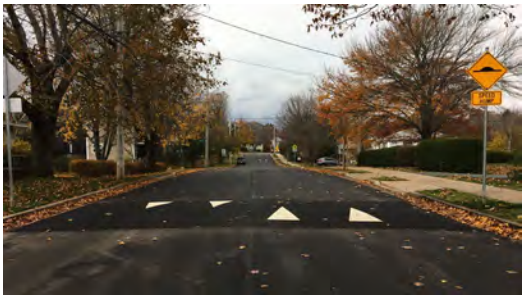
6.4 SPEED REDUCTION MEASURES

Speed reduction measures help manage vehicle speeds to make roads safer for people walking and biking. These measures are quick and easy to implement, offering cost-effective solutions to improve safety.

Reduced Speed Limits

Reduced speed limits encourage drivers to slow down, making roads safer for people walking and biking, and discouraging non-residents from driving along the roadway. Reducing speed limits along Bedwell Bay Road offers a quick, easy to implement, low-cost, and effective solution**.** Reduced speed limits should be enforced with regular monitoring.

Speed Humps



Speed humps are raised humps that improve safety by physically requiring vehicles to slow down when driving over them. Speed humps are designed with more gradual slopes than traditional speed bumps, reducing the impact to emergency vehicle access.

Speed Tables

Speed tables are speed reduction devices with a long, flat top that is wider than a traditional speed hump. This design allows the entire wheelbase of a passenger car to rest on the flat top, enabling drivers to maintain a higher, but still reduced, speed compared to a speed hump. They are designed to slow traffic on residential streets and can be a more comfortable alternative to speed humps.

Speed Cushions

A speed cushion is a speed hump or speed table with wheel cutouts that are designed to allow larger vehicles, such as emergency vehicles and buses, to drive over them without slowing down, while smaller cars must slow down to drive over the humps. This allows traffic to be controlled on busy streets while maintaining accessibility for buses and emergency response.

Raised Crosswalks

A raised crosswalk is a pedestrian crossing where the roadway is elevated to sidewalk level, essentially acting as a speed table to slow down vehicles and increase pedestrian visibility. This design forces drivers to reduce speed at the crossing point, making it safer for both pedestrians and motorists.

Radar Speed Signs

Radar speed signs are pole mounted devices equipped with radar speed detectors that slow drivers down by alerting them of their speed. Providing speed radar signs in strategic locations (i.e., locations where speeding is known to occur) along Bedwell Bay Road is a quick way to encourage drivers to slow down.

Pavement Markings

Pavement markings are road surface markings that guide and regulate traffic to improve safety for all users. Pavement markings include symbols and words indicating speed limits, reminding drivers to slow down, and designating road users in shared spaces. Pavement markings can also be used to visually narrow the roadway or create an illusion to drivers that their speed is increasing.

6.5 SAFETY IMPROVEMENTS IN RURAL CONTEXTS

In Belcarra's rural context typical facilities such as sidewalks, bike lanes, and multi-use pathways may not always be feasible. Road shoulders are often used by people walking and biking along Bedwell Bay Road and other local streets. Low-impact and low-cost solutions can be provided in these locations to help demarcate the pedestrian and/or cyclist zones, improve driver awareness, and reduce vehicle speeds including:

- **Physical buffers** using concrete curbs, bollards, planters, or other forms of vertical separation
- **Pavement markings and signage** demarcating pedestrian and or cyclist zones and indicating to drivers that pedestrians and cyclists are present
- **Pedestrian and cyclist scaled lighting** to increase visibility
- **Convex mirrors and tree/shrub trimming** to improve sightlines around corners
- **Speed reduction measures** including physical treatments such as lane narrowing and vertical deflection (e.g., speed humps, speed tables, speed cushions, etc.)