





Castlegar - Nelson Active Transportation Corridor Vision Plan

August 2024



CASTLEGAR-NELSON ACTIVE TRANSPORTATION CORRIDOR VISION Draft Plan







Prepared For: West Kootenay Cycling Coalition & Regional District of Central Kootenay Date: July 31, 2024 Our File No: 3437.B01

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ACKNOWLEDGMENTS

We would like to acknowledge, with respect, that the Castlegar-Nelson Active Transportation Corridor Vision Plan, has been developed and applied to the land in the traditional, ancestral, unceded territory of the S Ktunaxa, Sinixt, and the Syilx (Okanagan) peoples.

The Project Team would like to acknowledge and express our gratitude to the dedicated individuals who comprised the initial core group formed in June 2021. This group consisted of passionate representatives from organizations such as West Kootenay Climate Hub, West Kootenay Cycling Coalition, Selkirk College, Accessible by Design, Ministry of Transportation and Infrastructure, BC Trails, Regional District of Central Kootenay, City of Nelson, City of Castlegar, and many others. Their collaborative efforts were instrumental in initiating discussions and meticulously preparing the funding application for this project. Their expertise, commitment, and shared vision played a crucial role in laying the foundation for the development of the Castlegar-Nelson Active Transportation Corridor Vision Plan.

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EXECUTIVE SUMMARY

The West Kootenay Cycling Coalition (WKCC), in partnership with the Regional District of Central Kootenay (RDCK), has undertaken the Active Transportation Corridor Vision Plan (ATCVP) to create a year-round, inclusive, and accessible Active Transportation Corridor (AT Corridor) linking Castlegar to Nelson. This 51+ kilometre AT Corridor aims to support local active transportation networks, providing a regional connection that is safe, accessible, and inclusive for commuting and recreational purposes.

Plan Process

The ATCVP was developed through a three-phase process:

- 1. Understanding: Established baseline conditions by reviewing relevant policies, assembling existing data, assessing current active transportation conditions, and identifying opportunities and challenges for the AT Corridor.
- 2. Developing and Refining: Conducted analyses to identify feasible routing options, developed corridor cross-sections, and designed active transportation infrastructure standards. This phase included public engagement through online surveys and open houses to refine the preferred routing.
- 3. Finalizing: Incorporated public feedback to finalize the visioning Plan.

Community Profile

The study area encompasses a diverse range of land uses, from urban centers to rural landscapes. Key destinations along the corridor include educational institutions, commercial areas, and recreational sites. Understanding the demographic and commuting patterns of the region was crucial in developing a preferred route that meets the needs of its users.

Policy and Planning Context

The plan aligns with local, regional, and provincial policies and studies, ensuring a cohesive approach to transportation planning. This includes integration with existing plans and strategies to maximize the impact and efficiency of the proposed corridor.

Overview of Corridor Routing Development

The development of the corridor routing was guided by input from key audiences and groups, thorough review of Geographic Information System (GIS) data (including road and property boundaries), and Strava data to consider existing usage and field assessments. The process involved identifying existing conditions and potential challenges, such as road classifications, speeds, and current active transportation facilities.

Preliminary Routing Options

The Plan presents six segments for the proposed AT Corridor, each evaluated based on criteria such as topography, environmental impact, and connectivity. These segments are:

• Segment 1: Nelson

- Segment 2: Taghum & Bonnington
- Segment 3: Slocan Junction
- Segment 4: Glade & Tarrys
- Segment 5: Thrums
- Segment 6: Castlegar

Preferred Route

The preferred route was then determine through a detailed segment review, taking into consideration public feedback and technical assessments. The route aims to provide the most direct, safe, and enjoyable experience for users.

Amenities & Mobility Hubs

To support the corridor, various amenities and mobility hubs will be developed. These include staging areas, trailheads, and integration with existing transit services. These hubs will serve as critical points for accessing the corridor and enhancing user experience.

Implementation Approach

The AT Corridor will need to be built piecemeal and in a phased approach and also managed using a collaborative governance system. This system involves a governing arrangement where multiple public agencies, advocates, and non-governmental agencies (NGOs) will need to engage in a consensus-oriented, deliberative decision-making process. Preliminary cost estimates have been provided, along with a phased approach for segment prioritization and potential funding sources.

The identified priorities for implementation, stated in order of ranking are:

- Segment 4: Glade & Tarrys
- Segment 1: Nelson
- Segment 6: Castlegar
- Segment 5: Thrums
- Segment 3: Slocan Junction
- Segment 2: Taghum & Bonnington

The estimated cost to realize the proposed AT Corridor detailed in this Plan is approximately **\$66 million**, which includes a 40% contingency. This estimate encompasses the core infrastructure developments but does not cover items like the proposed Taghum Bridge connection or Selkirk College Connection. Additionally, it does not include elements such as bicycle parking, benches, public amenities, enhancements at the proposed mobility hubs, and the ongoing maintenance of the facilities and amenities.

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1.0 INTRODUCTION

The West Kootenay Cycling Coalition (WKCC), in partnership with the Regional District of Central Kootenay (RDCK), undertook an Active Transportation Corridor Vision Plan (ATCVP) to provide a year-round, inclusive, and accessible Active Transportation Corridor (AT Corridor) that would link Castlegar to Nelson and could be used for safe commuting and recreation opportunities.

This 51+ kilometre AT Corridor will support the local active transportation networks and provided a regional active transportation connection that is safe, accessible, and inclusive. The ATCVP established a set of strategies to set the stage for an AT Corridor linking the two anchor cities of Castlegar and Nelson through the electoral areas of E, F, H, and I.

This AT Corridor has the potential to offer a viable alternative for people cycling for both recreational and commuting trips, and also enabled multi-modal travel by integrating other transportation modes, which will serve to strengthen community connections, improve health and wellbeing, and open the door to active transportation tourism along the AT Corridor.

1.1 Plan Process

The ATCVP was developed in a three-phase process, as shown below:



The first phase, **Understanding**, established the baseline conditions of the corridor between Castlegar and Nelson. This included reviewing relevant policies and plans from communities and key audiences across the study area, assembling existing data, assessing existing active transportation conditions, and obtaining a preliminary understanding of opportunities and challenges for the realization of the corridor.

The second phase, **Developing and Refining**, included the analysis required to identify feasible routing options for the Active Transportation Corridor and their potential configuration. Highlights included a preliminary evaluation of potential route options, development of the corridor cross-sections, and active transportation infrastructure design standard development. It also featured public engagement in the form of an online survey and open house to help vet

corridor options and the preferred routing. This phase concluded with the development of the Preferred Routing.

The third and final phase, **Finalizing**, involved incorporating feedback from the public the finalizing the ATCVP.

1.2 ACTVP Project Goals

- Provide safe, affordable, convenient options for active transport commuters of All Ages and Abilities (AAA)
- Develop potential options to address active transportation concerns, based on a review of existing transportation systems
- Undertake a public engagement process to gather feedback on active transportation priorities and areas of concern
- Prepare a phased approach for achieving the vision based on feasibility and priority.

1.3 Plan Vision

"A year-round, inclusive, accessible protected pathway that links Castlegar to Nelson for safe commuting and recreation. This is part of a larger vision that encompasses a multi-modal, active transport network connecting all of the West Kootenays."

1.4 Benefits of an Active Transportation Corridor

The ATCVP offers significant benefits for the study area, enhancing various aspects of community life. By building out this Vision, the AT Corridor will:

- Provide Affordable and Convenient Transportation: Offer active transport options for commuters of AAA, particularly benefiting rural residents who cannot afford private vehicles.
- **Ensure Accessible Routes:** Provide a more direct and flatter pathway along the highway, making it accessible to a broader range of users compared to existing trails in mountainous terrain.
- *Support Climate Action:* Help meet emission reduction targets by reducing reliance on motor vehicles, one of the major sources of emissions in the West Kootenays.
- **Promote Health and Well-being:** Encourage regular exercise and improve public health as users enjoy nature through active transportation.
- **Enhance Community Connectivity:** Connect community members to parks, recreational opportunities, community centres, and commercial areas, fostering a sense of community and improving quality of life.

Who Will Benefit

The ATCVP will benefit:

- Communities and Commuters: Improved access and connectivity for daily travel.
- Recreational Users and Families: Enhanced outdoor experiences.
- Businesses and Community Halls: Increased foot traffic and community engagement.
- *Students and Medical Patients:* Easier access to educational institutions and healthcare facilities in the urban areas.
- Tourism Initiatives: Promotion of sustainable tourism.

By realizing the vision of the ATCVP, the study area will become a more connected, healthy, and sustainable region for all its residents and visitors.





2.0 COMMUNITY PROFILE

2.1 Study Area

The study area is located on the traditional and unceded territory of the Ktunaxa, the Kinbasket (Secwepemc), Syilx, and Sinixt People. It includes Castlegar and Nelson, as well as the many smaller communities in between, which are located in the Selkirk Mountains within the West Kootenay region of British Columbia. Some of the notable communities along this route include Robson, Thrums, Tarrys, Glade, Shoreacres, Playmor Junction, South Slocan, Bonnington Falls, Corra Linn, Beasley, Taghum, and Granite. Each of these communities is of varying size, with distinct characteristics in terms of demographics, settlement patterns, and mobility choices. See Map 1 for an overview map of the study area.

Seasonal Fluctuations

Home to over 20,000 year-round residents, the population of the communities along the corridor increases with an influx of visitors enjoying adventure tourism in the Selkirk Mountains in the summer and winter months.



Map 1: Study Area

2.2 Demographic Highlights

According to the latest 2021 census, the population of the study area has increased from 2016 to 2021.¹ As seen in **Table 1**, Nelson and Castlegar had a total of 11,106 and 8,338 residents respectively, with the smaller communities of Shoreacres, Robson/Raspberry, Taghum, and Glade having a few hundred residents each. Both communities experienced a smaller increase than the overall provincial increase of 7.6% increase between 2016 and 2021.

Population data for the other communities along the route, including Thrums, Tarry, Crescent Valley, Playmor Junction, Brilliant, and others are included as part of their respective wider Electoral Areas J, I, and H. It is worth noting that these Electoral Areas experienced overall population increases since 2016 ranging from +2.3% to +10.4%, with the expectation of Shoreacres which experienced a decrease of 2.2%.

	Nelson	Castlegar	Shoreacres	Robson /Raspberry	Taghum	Glade	British Columbia
2016	10,572	8,039	324	404	262	289	4.6m
2021	11,106	8,338	317	451	268	319	5.0m
% Change	+5.1%	+3.7%	-2.2%	+11.6%	+2.3%	+10.4%	+8.7%

Table 1: Population (2016 vs. 2021)

The region's demographic trends as seen in **Table 2** will also shape the future of active transportation planning, emphasizing age-friendly and supportive transportation options. The following are the key insights:

- The percentage of those aged 15 to 64 is between 58% to 66% across the communities. This is the largest age group and is the age segment most likely to make use of dedicated active transportation infrastructure.
- The percentage of seniors aged 65 and over is between 19% to 28% across the communities. This age segment has grown across each of the communities since the last census and is indicative of an aging population who could benefit from high-quality and protected active transportation infrastructure to support healthy aging in place.
- The percentage of youth aged 0 to 14 years is between 14% to 19% across the communities.

¹ Statistics Canada, Canadian Census Profile, 2021. Available online at <u>www.statcan.gc.ca</u>

• Nelson has the lowest median age at 42.4 years and Glade has the highest median age at 53.2 years. Castlegar has a median age of 45.6 years.

	Nelson	Castlegar	Shoreacres	Robson /Raspberry	Taghum	Glade	British Columbia
0-14	1,545 (14%)	1,225 (15%)	45 (14%)	60 (13%)	50 (19%)	45 (14%)	(14%)
15-64	7,275 (66%)	5,040 (60%)	200 (63%)	295 (65%)	170 (63%)	185 (58%)	(65%)
65+	2,285 (21%)	2,070 (25%)	75 (24%)	95 (21%)	50 (19%)	90 (28%)	(20%)
Median Age	42.4	45.6	50.4	48.4	48.4	53.2	42.8

Table 2: Population by Age (2021)

As seen in **Map 2**, the population of the study area is concentrated within Castlegar and Nelson with low-density communities scattered along the corridor.



Map 2: Population Density (2021)

2.3 Commuting Mode Share

Commuting mode share data, obtained from Statistics Canada journey to work data, was reviewed as part of the ATCVP. This dataset only includes individuals who are employed and aged 15 years and over. Thus, this dataset does not capture residents who fall outside of this group, such as retired seniors and youth. Secondly, the census data on "Main mode of commuting" only identifies the primary mode of transportation used by individuals to travel between their homes and places of work. This means that trips made for other purposes, multi-modal trips, or seasonal variations in commuting modes are not reflected in this dataset. Given these limitations, the overall sustainable mode share of the entire community for all trips will likely be higher. See **Figure 1** for the respective 2021 commuting mode share in each community.

Driver/Passenger/Other Transit Walk Bike Castlegar 93% 2%5% Electoral Area E 89% 2% 8% % <u>2%</u> Electoral Area F 95% 1% Electoral Area H 92% 2%5% Electoral Area I 97% 20/ Electoral Area J 97% 2% Nelson 69% 2% 24% 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Figure 1: Commuting Mode Share (2021 Statistics Canada)

As of 2021, Nelson continues to have a high walking mode share representing 24% of all commuting trips, significantly greater than that of the overall province mode share of 8%. The combination of a walkable urban environment, pedestrian-friendly infrastructure, a strong culture of sustainability, topography that makes cycling challenging, limited parking supply downtown, and a beautiful natural setting all contribute to Nelson's high walking commuting mode share. This also translates to the community's relatively high biking mode share of 5% for commuting trips.

Conversely, the rural communities along the corridor do not have the same availability of pedestrian and cycling infrastructure or proximity to amenities and services resulting in a low sustainable mode share with a very high reliance on automobiles.

Castlegar, while currently having a sustainable mode share of 7% for commuting trips, is on an upward trajectory in promoting active modes of transportation. Despite the challenges presented by a dispersed population and many residents living in suburban or rural areas, the City has been proactive. In recent years, active transportation has taken center stage in Castlegar's planning, evidenced by the completion of several active transportation projects.

2.4 Land Use & Key Destinations

There are many key destinations along the proposed AT Corridor between Castlegar and Nelson. The following are some of the important land uses that were considered and linked as part of the planning process.

Commercial Hubs

Most of the commercial land uses are found in downtown Castlegar and downtown Nelson.

- Downtown Castlegar
- Downtown Nelson
- Thrums Market

- Playmor Junction
- Taghum

Employment Hubs

Employment hubs are also a major trip generator for commuters.

- FortisBC Electric
- Nelson Hydro Electric Utility

- Kalesnikoff Lumber Company
- West Kootenay Regional Airport

Civic and Institutional

Civic and institutional facilities generate a significant number of trips and should be prioritized in the active transportation network.

- Tarrys and District Community Hall
- Taghum Hall

- Selkirk College
- Mount Sentinel Secondary School

Recreation

There are diverse recreational opportunities available within the study area. There are several major parks, trails, and recreational facilities including:

- Selkirk College Mountain Bike Area
- Brilliant Suspension Bridge & The Great Trail
- Waldie Island Trail
- Pass Creek Regional Park, Campground, Fairgrounds
- Brilliant Dam viewpoint
- Cable Ferry
- South Slocan Dam and Kootenay Canal Generation Station viewpoint
- Smallwood Creek (Mountain Bike Area)
- Old Taghum Bridge
- Taghum Beach Regional Park

- Slocan Rail Trail
- Highwater Disc Golf
- Lower Bonnington Dam
- Blewett Mountain Bike Area
- Eagle Rock Trailhead (Upper Bonnington Dam)
- Bonnington Regional Park + Pump Track
- Corra Linn Dam
- Morning Mountain (Mountain Bike Area)
- Grohman Narrows Provincial Park
- Granite Road Trail Connector



3.0 POLICY & PLANNING CONTEXT

A summary of the relevant regional and municipal documents relevant to this study is provided below.

3.1 Local Plans/Studies



City of Nelson Active Transportation Plan (2010) & (2019)

The City of Nelson is currently undertaking the implementation of its Active Transportation Plan to provide safe, efficient options for residents to walk and cycle to their destinations in the city. The following key actions relevant to the ATCVP are summarized below:

- Complete key missing segments of the overall active transportation network.
- Initiate discussion with CP Rail for additional crossings.
- Explore options for new active transportation facilities with road improvements and other major infrastructure projects.

Official Community Plan (2008)

Nelson's Official Community Plan (adopted in 2008) contributes towards the policy direction that will frame the preparation of the Active Transportation Plan. Nelson's Official Community Plan provides a community wide policy framework for future growth. Directives for the future include:

- Desirable living conditions for all demographics.
- Build a community based upon the principles of sustainability.
- Retain environmental quality.

Nelson Next (2022)

Nelson Next is a roadmap and action plan for a healthier and safer community. The framework is aimed at reducing community greenhouse gas through an evidence-based approach to prepare for future climate changes (adaptation) while also taking steps to reduce our carbon emissions (mitigation).

In 2018, 59% of the community emissions were derived from vehicle use. As such, the plan's first aspiration is "Nelson's residents and tourists conveniently navigate the city and region using the highest per capita rates of public, active, or electric transportation in the country". Priority tactics to achieve this aspiration include:

- Invest annually in the design and construction of new walking and cycling infrastructure as set out in the City's Active Transportation Plan.
- Require large subdivisions to contribute to an active transportation fund earmarked for active transportation infrastructure, upgrades, and connectivity.
- Collaborate with regional and provincial partners to assess the feasibility of active transportation corridors between Nelson and its commuter cities and towns.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

The ATCVP is in strong alignment with the City of Nelson's community's goals to both improve active transportation infrastructure and to increase mode-share options for residents and support Nelson's Next Climate Action plan.





City of Castlegar Pedestrian and Bicycle Master Plan (2007)

The Pedestrian and Bicycle Master Plan is based on trail planning previously undertaken by the City of Castlegar and Selkirk College, expanding on this work to identify all types of pedestrian and bicycle facilities that the City may wish to develop, such as walkways, bicycle lanes, and multi-use trails. Two primary goals are to:

- Increase bicycle and walking trips.
- Improve safety for cyclists and pedestrians.

A number of trails exist within the area however the predominant trails within the City of Castlegar include Selkirk College, Waldie Island, and the Millennium Walkway and Zuckerberg Island.

Official Community Plan (2011)

The Official Community Plan recognizes that "active transportation choices (i.e. human-powered forms of travel such as walking and cycling) present an affordable, healthy, safe, and environmentally friendly opportunity to combat traffic challenges along Columbia Avenue and the entire community."

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

The City completed its Pedestrian and Cycling Master Plan in 2008 and is planning to undertake a Comprehensive Multi-Model Transportation Plan in 2023. This project supports these efforts and advances the City's objectives to increase opportunities for pedestrian and cycling trips under its partnership commitments under the West Kootenay 100% Renewable Energy Plan. The City is also currently undertaking community engagement to update its Community Plan, Zoning Bylaw and Downtown Design Guidelines.



Electoral Area E *Official Community Plan (2013)*

The key Official Community Plan policies and objectives relevant to the ATCVP are:

- To work toward the development of a trail system which encourages and accommodates a variety of users and uses, which is consistent and complementary to existing trail systems within the ATCVP area, while recognizing the need to protect domestic water sources.
- To develop a safe transportation corridor that would allow for cyclists, pedestrians and alternative means of transportation between communities.
- Supports the establishment of multi-use corridors within and connecting rural community nodes within public right of ways for non-motorized (pedestrian, horses) and designated motorized use (ATV, dirt bikes).
- Supports a voluntary reduction of personal vehicle transportation emissions by promoting use of public transit, more efficient vehicles, use of alternative fuels, providing sufficient pedestrian and cycling facilities and routes, encouraging home-based businesses, and encouraging changes in travel patterns.
- Encourage connectivity between existing walkways and trail systems to schools, parks and commercial areas.
- Supports the enhancement of cycling and pedestrian systems in new and existing developments, and supports the development of a comprehensive network of pedestrian and bicycle routes on public and private lands and along existing and future road networks.
- Supports on-street alternative transportation options with incorporation of sufficient buffering, and accommodation of the movement of agricultural machinery.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

There is support for developing safe active transportation corridors for cyclists and pedestrians to travel between communities including on-street options with sufficient buffering.

Electoral Area F Official Community Plan (2011)

The key Official Community Plan policies and objectives relevant to the ATCVP are:

- Develop a regionally and locally connected network of bikeways, commuter trails, and open spaces for local commuting and public recreational use.
- Encourage connectivity between existing walkways and trail systems to schools, parks and commercial areas.
- Supports the enhancement of cycling and pedestrian systems in new and existing developments, and supports the development of a comprehensive network of pedestrian and bicycle routes along existing and future road networks.

- Supports an integrated, improved, and expanded trail network in new and existing developments, to provide effective and safe trail transportation options for residents and visitors.
- Supports the development of a Bicycle Network Plan in the rural area.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

There is support for both local and regional connectivity for active transportation including the development of a bicycle network in the rural areas.

Electoral Area H *Official Community Plan (2009)*

The key Official Community Plan policies and objectives relevant to the ATCVP are:

- To develop a safe transportation corridor incorporating cyclists and pedestrians to encourage alternative means of transportation between communities in Slocan Lake North.
- Encourage connectivity between existing walkways and trail systems to schools, parks and commercial areas.
- Supports the enhancement of cycling and pedestrian systems in new and existing developments, and supports the development of a comprehensive network of pedestrian and bicycle routes along existing and future road networks.
- Supports an integrated, improved, and expanded trail network in new and existing developments, to provide effective and safe trail transportation options for residents and visitors.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

There is support for both local and regional connectivity for active transportation.

Electoral Area I & J

Official Community Plan (1996)

The key Official Community Plan policies and objectives relevant to the ATCVP are:

- To encourage development of a comprehensive trail system adjacent to the Columbia and Kootenay Rivers.
- A comprehensive trail development system for pedestrians and cyclists shall be considered as a high priority on lands adjacent to the Kootenay and Columbia Rivers as shown on attached Schedule 'C' Trail Development.
- Encourage connectivity between existing walkways and trail systems to schools, parks and commercial areas.

- Promotes pedestrian-friendly development within urban and suburban residential areas, where pedestrian facilities are established and integrated with transit service planning.
- Supports the enhancement of cycling and pedestrian systems in new and existing developments, and supports the development of a comprehensive network of pedestrian and bicycle routes along existing and future road networks.
- Supports an integrated, improved, and expanded trail network in new and existing developments, to provide effective and safe trail transportation options for residents and visitors.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

There is support for developing safe active transportation corridors for cyclists and pedestrians to travel between communities including on-street options with sufficient buffering. Area I is currently in the process of updating their Official Community Plan and the ATCVP will look to leverage some of the outcomes from engagement that happened in late 2022/early 2023.

3.2 Regional & Provincial Local Plans/Studies



Regional District of Central Kootenay Climate Action Report (2020)

In the summer of 2019, the RDCK worked internally to produce a report called the State of Climate Action in the RDCK. In 2018, 70% of the total community emissions were derived from carbon fueled transportation. The report sets a goal of achieving a 50% reduction of greenhouse gas emissions by 2030, under Transportation in the Climate Action Report.

To achieve this goal the plan identified the following actions:

• To work toward innovative low-carbon & active transportation solutions.

In order to achieve this, the plan recommends RDCK to "coordinate across RDCK departments to support low-carbon & active transportation solutions projects and collaborate with regional groups with focus on equity and universal access"

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

The ATCVP aligns with the RDCK's goal of the reduction of greenhouse gas emissions by providing sustainable active transportation and low carbon fuel options.



Transit Future Service Plan: Kootenay Lake West, Castlegar and Area and City of Nelson (2021)

In partnership with the West Kootenay Transit Committee, the RDCK the City of Nelson, the villages of Silverton, New Denver, Nakusp, Kaslo, and Salmo, and the City of Castlegar, BC Transit has undertaken the development of this West Kootenay Transit Future Service Plan (TFSP). The objective of the TFSP is to form a complement to the 2016 Trail and Area Service Review and update the transit priorities identified in the following documents:

- Central Kootenay Service Review (2011)
- West Kootenay Master Plan (2012)
- Nelson and Area Transit Recommendations (2012)

The primary focus of this TFSP is on the scheduled conventional and paratransit portions of the City of Nelson, Kootenay Lake West, and City of Castlegar transit service, but custom handyDART service will also be considered.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

The TFSP recognizes the importance of integrating and complementing active transportation through the provision of bicycle rack amenities to broaden the catchment area of transit stops and enable strategic active transportation connections. Two primary investments in active transportation infrastructure were identified:

- Encouragement for the creation of highway pedestrian crossings in designated communities flanking the highway to support safe access to and from transit stops and community destinations (e.g., crossing opportunities on Highway 31 at Ainsworth and Highway 3A at Frank Beinder Way).
- Encouragement for the creation of accessible and direct active transportation linkages to the Frank Beinder Campus of Selkirk College.



Regional District of Central Kootenay Community Heritage Register (2020)

The Community Heritage Register has identified resources selected as a balanced representation of heritage resource types, geographical location in the region, and for their alignment with multiple and diverse community heritage values and regional themes. The Slocan Valley Rail Trail is an approximately 52 km long recreational trail that runs from the trailhead at the confluence of the Slocan and Kootenay Rivers in South Slocan, to the south end of Slocan Lake in Slocan City. The trail is recommended for initial inclusion on the RDCK Community Heritage Register.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

The AT Corridor provides a seamless connection to the regionally significant Slocan Valley Rail Trail.



BC Active Transportation Design Guide (2019)

The BC Active Transportation Design Guide (BCATDG) was released in June 2019. The guide is a comprehensive set of planning and engineering guidelines offering recommendations for the planning, selection, design, implementation, and maintenance of active transportation facilities across the province. It contains engineering principles and best practices from the municipal, provincial, national, and international levels. These two efforts call for more protected cycling facilities generally using motor vehicle speeds and volumes as the primary way to determine what sort of facility should be provided.

Relevance to Castlegar-Nelson Active Transportation Corridor Vision Plan

Infrastructure recommendations and facility selection was guided by the BCATDG.

SHOREACRES * ПРЕКРАСНОЕ



4.0 OVERVIEW OF CORRIDOR ROUTING DEVELOPMENT

4.1 Key Audience Involvement

The following groups were identified as key audiences to be engaged to help shape the final outcomes of the ATCVP.

Transportation Specialist Groups

- Ministry of Transportation and Infrastructure
- BC Transit
- Canadian Pacific Railway
- Regional District of Central Kootenay

Non-transportation Specialist Groups

- First Nations
- Community Living BC
- Glade Community Hall
- Pass Creek Community Hall Society
- School District 8 Kootenay Lake
- School District 20 Kootenay Columbia
- Selkirk College
- Interior Health Authority / Emergency
 Services
- Local Businesses
- Nelson & District Chamber of
 Commerce
- Castlegar Chamber of Commerce
- Teck Resources

- RCMP
- City of Nelson staff
- City of Castlegar staff
- ICBC
- BC Trails
- Fortis BC
- BC Hydro
- Columbia Basin Trust
- Agricultural Land Commission
- Community Futures Central Kootenay
- Neighbours United
- Castlegar and District Community Complex & Recreation Commission
- Kootenay Adaptive Sport Association
- Castlegar Friends of Parks and Trails Society
- Nelson & District Recreation
 Commission
- Slocan Valley Heritage Trail Society

The key audience interviews took place over the summer of 2023 and were important inputs that built upon the work completed in Phase 1 – Understanding of the ATCVP. What was heard from the key audience interviews was incorporated into the development of the various routing options that made up the AT Corridor. The transportation and non-transportation specialist group interviews were designed and conducted separately to achieve different objectives. The transportation specialist group interviews aimed to achieve the following objectives and outcomes:

- Assess how each key audience organization engages with active transportation in their professional realm.
- Identify specific challenges and opportunities for active transportation from a professional perspective.

- Understand the current transportation context, including existing plans, policies, and programs.
- Determine the potential for collaboration between various organizations and the ATCVP.
- Uncover specific safety considerations and strategies related to active transportation.
- Gather professional insights into how the ATCVP can best serve a diverse range of users.

Whereas the non-transportation specialist group interviews aimed to:

- Understand how the key audiences are engaged with active transportation in their specific community along the proposed AT Corridor.
- Identify key barriers and opportunities for active transportation users in these communities.
- Gather specific improvements key audiences would like to see along the active transportation corridor in their community.
- Gain a more detailed understanding of key audience priorities and aspirations concerning active transportation in their community.
- Uncover potential policies, programs, partnerships, or collaborations that could promote active transportation.
- Receive key audience's vision for the future of active transportation in their community, and the role their organization plays in this vision
- Get insights into community outreach strategies that could raise awareness and promote the benefits of active transportation in their community.

A total of 13 key audience interviews were completed; Seven interviews were with transportation specialist groups and six interviews were with non-transportation specialist groups. Not every group was able to provide an interview due to availability over the summer months of 2023, or in some cases groups did not feel that the ATCVP fit under their purview. The transportation specialist groups that did not participate included Canadian Pacific Railway and BC Trails. All of the non-transportation specialist groups were reached out to, however, successful touchpoints were only made with eight groups and included the Agricultural Land Commission, Selkirk College, Castlegar Parks and Trails Society, Community Futures Central Kootenay, FortisBC, Kootenay Adaptive Sports Association, Teck Resources, and Columbia Basin Trust. All the aforementioned non-transportation specialist groups completed an interview, except for Teck Resources and Columbian Basin Trust. Summaries of the key audience interviews are included in **Appendix A**.

The interviews were insightful, underlining the community's aspirations, concerns, and suggestions for the corridor. Some of the high-level outcomes from these important discussions are highlighted on the following page.





Key audiences unanimously stressed the importance of designing a corridor that is safe and accessible for everyone. The feedback emphasized creating infrastructure that caters to the diverse needs of all users, including cyclists, pedestrians, and individuals with mobility devices, ensuring a safe, inclusive, and accessible transportation environment for AAA.

Integration with Existing Plans and Networks



There was a strong desire for the active transportation corridor to seamlessly integrate with existing transportation plans, policies, and infrastructure like the transit routes and stops in the area. Key audiences highlighted the importance of aligning the corridor with existing active transportation plans, leveraging existing multi-modal corridors, and ensuring compatibility with current routes and networks to enhance connectivity.

Unlocking Connectivity and Mobility

The discussions revealed significant opportunities to enhance mobility and connectivity between Castlegar and Nelson. Key audiences pointed out the potential of e-bikes to transform transportation dynamics and the necessity of addressing geographical challenges to make active transportation a viable, attractive alternative to traditional vehicle use.

Navigating Geographical and Infrastructure Challenges

The unique geography and existing infrastructure of the region present both obstacles and opportunities for active transportation. Key audiences emphasized the need for creative, innovative solutions to address these challenges, such as the construction of multi-use pathways (MUPs) and the adaptation of infrastructure to support e-bike usage.

The Power of Collaboration

A recurring theme in conversations with key audiences was the critical role of collaboration and partnership across various sectors. Key audiences advocated for a collective approach to overcome budgetary and planning constraints, ensuring that safety considerations are comprehensive and that efforts are aligned towards a shared vision for active transportation.



The insights and outcomes from conversations with key audiences were used in the development of the Preliminary Routing Options, which are outlined in **Section 5.0**. Further, they guided the engagement and survey approach for the project's touchpoint with the public in April 2024 as part of the Phase 2 – Developing & Refining work.

4.2 Data and Input

4.2.1 GIS Data

A significant amount of spatial GIS data was utilized in the analysis and preliminary routing of the AT Corridor. The Project Team worked closely with the RDCK, the City of Castlegar, and the City of Nelson to obtain the most relevant and up-to-date planning information useful for the analysis. The Project Team needed a transparent and thorough understanding of existing site conditions in the project area in order to complete an accurate and realistic level of analysis for routing the ATCVP. The data collected included the following:

- Parcel property lines within the study corridor
- BC Transit stop locations & service routes
- Existing and proposed future active transportation connections
- RDCK Agricultural Reserve Land
- Fortis BC and WK Power utility right of way
- MOTI Highway right of way
- Canada Pacific Rail right of way
- BC crown land parcel data

This data facilitated the rigorous mapping exercises conducted by the Project Team and educated the decision-making process for selecting routing options and alignments for the active transportation corridor. This data also ensured a transparent community engagement process where attendees were able to understand the impacts, benefits, and detriments of the proposed routes and provide educated feedback on the project.

4.2.2 Strava Data

Strava, a widely-used exercise app, offers valuable data on cycling and running activities through heatmaps that reveal route popularity, elevation changes, and informal trails. Although predominantly reflective of recreational trips, Strava data is increasingly representative of the broader cycling population, including higher usage among women and older adults in some BC municipalities.



As a comparison, the table below provides some insight into the directness of the highway routing versus Granite Road between the Taghum Bridge and Mountain Station neighbourhood in Nelson:

	Highway	Granite Rd
Elevation Gain	40 m	150 m
Fravel Distance	7.1 km	10.0 km
Travel Time	20 min	42 min

Strava heatmaps (see **Figure 2**) present a clear picture of the most and least popular routes. By examining

Figure 2: Example of Strava Heatmap Snapshot –West of Nelson

these maps from Castlegar to Nelson, these data inputs give a good insight into current preferences shaped by safety, directness, and topography and were used to shape the routing options.

4.3 Field Visit and Existing Conditions

4.3.1 Field Visit

Representatives of the Project Team and the consulting team cycled the length of the proposed route from Castlegar to Nelson on Thursday, May 4, 2023. The following individuals that took part in the ride included:

- Garry Gawryleyz, Member of Castlegar Rotary
 Club
- Geoff Yule, Member of Castlegar Rotary Club
- Simon Lesiuk, Project Team Member for WATT Consulting Ltd.
- Solita Work, Project team member representing West Kootenay Cycling Coalition
- Trish Dehnel, Project team member representing West Kootenay Cycling Coalition

The field visit was undertaken to document existing conditions, consider alternative alignments, and to hear feedback from local experts concerning recommended and alternate routes.



4.3.2 Existing Active Transportation Network

Dedicated pedestrian infrastructure is limited along the corridor between Castlegar and Nelson, whereas a sidewalk network is present within the cities' downtown cores and throughout some of their residential areas.

Much like other rural landscapes, the Highway 3A stretch linking Castlegar and Nelson lacks dedicated active transportation facilities. Instead, it provides paved shoulders, which pedestrians and cyclists resort to for their travel needs. However, these shoulders vary in width and condition and are generally not perceived as safe or comfortable active transportation options.

The West Kootenay region boasts an array of recreational trails and pathways suitable for walking, cycling, and other forms of active transportation. The Slocan Valley Rail Trail between South Slocan and Slocan City, and the Great Northern Rail Trail between Nelson and Salmo, stand out as favorite multi-use trails for locals and visitors alike.

The following is a summary of the type of existing active transportation facilities are found within the study area today:



Multi-Use Pathway

Off-street trails that are physically separated from motor vehicle traffic and are shared between pedestrians and other active transportation users. These pathways come in varying widths and treatments including the Slocan Rail Trail and Great Northern Rail Trail.



Recreational Trail

Recreational trails that are physically separated from motor vehicle traffic and are typically shared between pedestrians and other active transportation users. These unpaved trails come in varying widths and are utilized by people walking, hiking, or mountain biking. Some recreational trails are for the exclusive use of pedestrians such as the Brilliant Overlook Trail and the Waldie Island Trail.



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Shared Use

A bicycle facility where people cycling have to share the road with motor vehicles. This facility type is best suited for local roads where vehicle speeds and volumes are low and are found in Castlegar and Nelson today.

Walkable and Bicycle Accessible Shoulder

Paved spaces on the side of a roadway, delineated from motor vehicle traffic by a white longitudinal pavement marking. Often found in rural contexts these facilities are not considered suitable for people of AAA. These shoulders are found within the Castlegar-Nelson study area but most notably along Highway 3A.

4.3.3 Existing Active Transportation Facilities That Do Not Meet AAA Standards

The existing walkable and bicycle accessible shoulders may not be comfortable for AAA. People prefer to be separated from faster moving traffic and high volumes of traffic as found along Highway 3A where vehicle speeds can get up to 100km/hr. In addition, this corridor also sees a significant number of heavy trucks. The area's hilly terrain provides an additional challenge for those

e for mose

biking with more frequent stops and more side-to-side movements, the shoulders as shown in **Figure 3** do not provide a comfortable uphill experience for people cycling.



Figure 3: Existing Walkable and Bicycle Accessible Shoulders



Photo Credit: WATT





4.3.4 Road Classification & Speeds

Highway 3A stretches approximately 50 kilometres between the cities of Castlegar and Nelson. The two-lane highway winds its way through the scenic Selkirk Mountains with several viewpoints and pullouts where visitors can stop. Commercial trucks and other large vehicles are present on Highway 3A to transport goods and supplies to communities in the West Kootenay region. There are several curves and switchbacks along the highway, particularly near the communities of Taghum and Bonnington Falls.

Road classification plays a large role in determining a route's suitability and what infrastructure measures will be appropriate for an AAA active transportation route. **Map 3** highlights the road classification between Castlegar and Nelson.



Map 3: Road Classification Map

As seen in Map 4, Highway 3A between Castlegar and Nelson ranges from 60km/hr to 90 km/hr.

Understanding vehicle speed limits is vital as they directly influence the overall experience of active transportation users. While higher speeds do not necessarily lead to collisions, they do intensify the severity of collisions when they occur, especially for vulnerable road users. Conversely, lower speeds provide road users with more reaction time and improved control, which enhances road safety and minimizes the impact if a collision does occur. Hence, recognizing posted speed limits—and their variations across the street network—can help determine the types of active transportation facilities that can be proposed. Notably, apart from the Playmor Junction, the highway's speed limit currently does not reduce when passing through the numerous communities along the route.



Map 4: Posted Speed Limits

While no traffic volume data is available for roads within the study area, the Ministry of Transportation Infrastructure provides average daily traffic data for two locations along Highway 3A shown in **Table 3** below.



Guidance from the BCATDG for rural contexts, as shown in **Figure 4**, indicates that the high vehicle volumes and speeds along Highway 3A require, at a minimum, a bicycle-accessible shoulder with a buffer in any portion of the proposed AT Corridor. Furthermore, in sections where the Average Annual Daily Traffic closely approaches 11,000, consideration should be given to an alternate route or an off-road facility.



Figure 4: Bicycle Facility Selection Decision Support Tool for Rural Context (Source: Figure D-29: <u>BCATDG</u>)

-The two stars on the graphic indicate a typical highway condition and local road condition along the route.

4.4 Design Considerations

The ATCVP and the preferred routing options consider both natural and human environmental constraints. Local, provincial, and federal design guidelines are also referenced. Other considerations for the AT Corridor alignment include providing connection to existing and planned bike routes, trails, sidewalks, and transit stops that are adjacent to the study area limits, right of way constraints, floodplains/floodways, and the environmentally sensitive areas in and around the Kootenay River and its tributaries.

4.4.1 Natural Environment

The following natural environmental considerations were taken into account when developing the ATCVP.

Topography

The extensive size of the study area means that the AT Corridor experiences various grade changes along its length. Generally, the alignments along Highway 3A do not have steep grades. However, in sections where the route is off-street, steeper grades could be encountered. As the project advances to the conceptual design phase, a topographical and legal survey will be required to confirm the routing and identify alternatives in cases where the corridor routing may not meet Universal Design² standards.

Rivers and Streams

Along with the Kootenay River, several streams and tributaries are located in the study area and have been considered in the planning process. The preferred AT Corridor route proposes new bridges across these barriers and the utilization of existing bridges where space is available. Both new and existing bridges will need to be evaluated to ensure they are constructed and maintained in a manner that avoids impacts on these sensitive areas.

Forests

The proposed AT Corridor predominantly utilizes existing right of way, including roadways, railways, and utility corridors. During the conceptual and detailed design phases, efforts should be made to minimize disturbances to forested areas, even when widening the right of way. If tree removal and forest disturbances are unavoidable, careful planning and mitigation measures should be implemented to minimize environmental impacts and preserve the natural landscape.

² BC Active Transportation Design Guide, *Chapter B.3 Universal Design*, 2019. Available online:

https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructurefunding/active-transportation-guide/2019-06-14_bcatdg_compiled_digital.pdf

4.4.2 Human Environment

The following human environmental considerations were taken into account when developing the ATCVP.

Right of Way

Existing right of way typically offers the most efficient opportunities for the implementation of the AT Corridor. However, the right of way is limited along some sections of Highway 3A, including a section between Taghum and Bonnington, which influenced the direction and placement of the proposed alignment along the CP Rail line in Segment 2 and sections of the Fortis Transmission lines in Segment 2 and 3.

Bridges

There are multiple bridges the AT Corridor will need to utilize, including the Doukhobor Suspension Bridge and the Castlegar-Robson Bridge. The preferred alignment also calls for the re-building of the Taghum Bridge, which still has piers in the Kootenay River and potentially a new crossing of the Slocan River adjacent to the CP Rail and Highway 3A bridges in Shoreacres.

Streets

The proposed AT Corridor terminus points in Nelson and Castlegar utilize the existing street network including Railway Street and Government Road in Nelson and internal Selkirk College roads, Columbia Avenue, and 3rd Street in Castlegar. The AT Corridor will also utilize the existing local road network as shared street facilities including Granite Road, Corra Linn Road, Irving Road, Thrums East Road, Thrums West Road, Brilliant Road, and internal Selkirk College roads. WK Power, Teck, and Fortis access roadways will also be utilized as shared street facilities.

Transit

Public transit services are crucial for increasing sustainable trips along the corridor. Integrating transit with active transportation is essential for supporting the AT Corridor. BC Transit provides bike racks on buses, which will facilitate the combination of cycling and bus travel. The ATCVP identifies specific locations where integrating bike racks, washrooms, and other amenities near existing bus stops to create convenient and accessible mobility hubs along the corridor.

Landowners

There are multiple privately owned parcels along the preferred route, including a mix of utility and residential uses, that will need to be engaged with to gain easements and agreements in place.

In Segment 2, when an alternative route has been designated, it was to provide some options with respect to easements and access. The preferred alignment in Segment 2 includes sections along CP Rail. Coordination with CP Rail will be essential to ensure the safe and effective use of their right of way. This will involve negotiating access agreements and addressing any safety and operational concerns. Additionally, any necessary crossings of the rail line will need to be carefully planned and approved to ensure safety and minimize disruption to rail operations. CP

Rail's collaboration will be crucial for the successful implementation of the corridor. The ATCVP does not identify any potential cost of acquiring land along the preferred route.

The preferred route also intersects areas designated as Agricultural Land Reserve (ALR), predominantly in the southern portion of Segment 4 and the northern portion of Segment 5. The ALR that the preferred route passes through is illustrated in **Figure 5**. Any development within the ALR will require careful consideration to minimize impacts on agricultural activities. Engagement with the Agricultural Land Commission and affected landowners will be necessary to ensure compliance with ALR regulations and to explore options that support both active transportation and agricultural use.



Figure 5: Agriculture Land Reserve Along the Preferred Route³

³ RDCK, *RDCK Public Web Map*, 2024. Available online: <u>https://gis.rdck.bc.ca/portal/apps/webappviewer/index.html?id=e15a66aba317469481f584a71350f2ad</u>

4.4.3 Active Transportation Facility Design Guidance

The preferred routing alignment and facility types proposed in the ATCVP build off key design guidelines. The main guidelines utilized include:

- TAC Geometric Design Guide for Canadian Roads, 2017
- TAC Manual of Uniform Traffic Control Devices for Canada, Fifth Edition
- TAC Bikeway Traffic Control Guidelines for Canada, Second Edition
- BC Active Transportation Design Guide, 2019
- Transport Canada Grade Crossing Handbook, 2023

These guidelines informed the development of general typical sections incorporated into the ATCVP. They should be referenced in future work, design, and implementation efforts to ensure alignment with established standards.

Active Transportation Infrastructure on Provincial, Urban and Rural Road Right of Way

Given that a majority of the proposed route runs parallel to Highway 3A, Chapter F of the BCATDG⁴ offers substantial guidance on current practices for highway right of way facilities. Selecting the appropriate facilities for these segments is essential to ensure the AT Corridor is comfortable and accessible for AAA.

Figure 6 highlights key facility types for active transportation. For the context of between communities and rural areas, the most relevant facility types are:

- Separated pedestrian and bicycle pathways
- Multi-use pathways

⁴ BC Active Transportation Design Guide, *Chapter F.1 Current Practices for Highway Rights-of-Way*, 2019. Available online: https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructurefunding/active-transportation-guide/2019-06-14 bcatdg compiled digital.pdf

LOCATION	FACILITY TYPE (IF FEASIBLE)	PRIMARY MODES OF ACTIVE TRANSPORTATION	MOTI INFRASTRUCTURE BY LAND USE		COMFORTABLE FOR
			Through Urban Environments	Between Communities / Rural Environments	PEOPLE OF ALL AGES AND ABILITIES
Physically Separated from Roadway	Separated Pedestrian and Bicycle Pathways	Cycling and Walking	Ý	*	*
	Multi-Use Pathways	Cycling and Walking	*	×	*
	Sidewalks	Walking	~	X	4
Within Roadway	Protected Bicycle Lanes	Cycling	×	x	4
	Painted and Buffered Bicycle Lanes	Cycling	~	×	×
	Bicycle and Pedestrian Accessible Shoulders	Cycling and Walking	X	X	×

*It is important to note that local context and engineering Judgement play a critical role in determining if a bicycle facility is appropriate on roadways within provincial rights-of-way.

Figure 6: Facility Types by Land Use (Source: Table E-20: <u>BCATDG</u>)

Similar to motor vehicles, cyclists and their bicycles come in a variety of sizes and configurations. These variations include different types of bicycles (such as conventional bicycles, recumbent bicycles, or tricycles) and behavioural characteristics (such as the comfort level of the cyclist). Cyclists need sufficient clear space to operate safely within a protected area, pass other riders, and avoid potential obstacles. This necessity means the minimum operating width must be greater than the physical dimensions of the cyclist.

The active transportation corridor should consider the types of bicycles that are reasonably expected to use the facility and use appropriate dimensions accordingly. the operating space and physical dimensions for two typical adult cyclists in bi-directional operation.

Figure 7 illustrates the operating space and physical dimensions for two typical adult cyclists in bi-directional operation. These dimensions form the basis for typical bi-directional MUP / protected bicycle lane design guidance.

BI-DIRECTIONAL OPERATION



Figure 7. Typical Bicycle Operating Space (Source: Figure B-12: <u>BCATDG</u>)

Multi-Use Pathway Design Rationale

The BCATDG provides recommended widths for MUPs based on corridor designation, as detailed in **Figure 8**. A minimum MUP width of 3.0m is acceptable for all segments. However, in situations where the MUP is adjacent to Highway 3A, a wider desirable pathway width of 4.0m is recommended. The actual width of the MUP will range from 3.0 to 4.0 meters, depending on existing spatial constraints.

The BCATDG guides the buffer width/clear zone consideration for the context of the corridor. In rural areas, along the highway, a Clear Zone is necessary to ensure safety and accessibility. The Clear Zone (see **Figure 9**) encompasses the total roadside border area, beginning at the edge of the outer through-vehicle lane. This area includes a shoulder, a recoverable slope, a non-recoverable slope, a clear run-out area, and a buffer adjacent to the offstreet pathway. The desired Clear Zone width depends on the design traffic volume, speed, and roadside slope, and available space.



Figure 9: Elements of proper AT Separation (Source: Figure F-65 and F-66): <u>BCATDG</u>)

CONTEXT	DESIRABLE (M)	CONSTRAINED (M)	
Highway Corrido	r		
See Chapter F.1			
Roadway Corrido	or (Arterial and Colle	ctor Roads)	
Pathway Width	4.0	3.0	
Street buffer Zone Width*	≥ 2.0	0.6	
Roadway Corrido	r (Local Roads)	-	
Pathway Width	3.0 - 4.0**	3.0	
Street Buffer Zone Width*	≥ 1.5	0.6	
All Other Context	ts		
Pathway Width	3.0 - 4.0**	2.7	
Lateral Clearance	0.6***	0.6	

*Where a paved shoulder is present, the separation distance begins at the outside edge of the shoulder. The paved shoulder is not included as part of the separation distance.

** For high volume facilities with a variety of different user types, consider using widths at the higher end of the design domain.

*** Desirable lateral clearance increases depending on side slope (see side slope section below).

Figure 8: MUP Width Guidance (Source: Table E-20: <u>BCATDG</u>)

Below are examples of similar active transportation corridors where a MUP is adjacent to a MOTIcontrolled highway. The top photo is the Cycle 16 Project, in the Regional District of Bulkley-Nechako (RDBN), adjacent to Highway 16 between Smithers and Telkwa, BC.

The bottom photo is a section of the West Coast Multi-Use Pathway, in the Alberni-Clayoquot Regional District (ACRD), which connected Tofino to Ucluelet on the Pacific Rim Highway on Vancouver Island, BC.



Protected Bi-Directional Bike Lane Design Rationale

The consideration of protected bi-directional bike lanes should be considered in the more Urban contexts, especially if an existing sidewalk is already present. In Segment 1 of the AT Corridor, protected bi-directional bike lanes were chosen for Railway Street and Government Road. In Segment 6 of the AT Corridor, this type of facility was chosen for Columbia Avenue, and 3rd Street. Bi-directional bike lanes were chosen for these areas rather than MUPs due to the adjacent land use, which includes commercial and multi-family residential uses, resulting in a higher volume of pedestrians. Protected bicycle lanes are among the safest forms of cycling infrastructure, suitable for urban environments where cyclists travel alongside high vehicle volumes and multiple lanes.

The BCATDG recommends a desirable width of 4.0m and a constrained width of 3.0m to provide 1.5-2.0m in either travel direction for cyclists (See **Figure 10**).

Although a furnishing zone between the sidewalk and bike lanes is typically recommended to enhance separation, the ideal width for such a zone is 2.0 meters, with a minimum of 0.25 meters in constrained scenarios.

FACILITY	DESIRABLE (M)	CONSTRAINED LIMIT (M)
Bicycle Through Zone (Uni-Directional)	2.5*	1.8
Bicycle Through Zone (Bi-Directional)	4.0	3.0
Street Buffer Zone	0.9*	0.6
Furnishing Zone**	2.0	0.25

* If Street Buffer Zone is not adjacent to on-street motor vehicle parking, the desirable width is ≥0.9 metres, with a wider buffer creating additional cycling comfort.

** Furnishing Zone in this context refers to the buffer between the Bicycle Through Zone and Pedestrian Through Zone. This is especially relevant for sidewalk level protected bicycle lanes, where there is no grade difference between people cycling and people walking. For full details on Furnishing Zone width in a pedestrian context, refer to **Chapter C.3**.

Figure 10: Protected Bike Lane Width Guidance (Source: Table D-11: <u>BC AT Design Guide</u>)



Shared Street Design Rationale

Shared streets, also known as advisory lanes or advisory shoulders, are designed to provide a comfortable cycling environment on local roads, qualifying as AAA facilities. They appeal to less confident or experienced cyclists, offering a safer alternative to higher-volume roads. Shared streets can also incorporate traffic calming devices to lower vehicle speeds, promoting a shared space among various user groups.

Advisory lanes/shoulders are active transportation priority areas within a shared street environment and have priority within dedicated lanes, while motor vehicles and confident cyclists would share the centre lane. Motor vehicles may enter the advisory lanes to pass oncoming traffic when it is safe to do so. In a rural context, such as local roads parallel to Highway 3A like Thrums East Road and Glade Ferry Road, this type of treatment is cost-effective to implement.

The necessary roadway widths for shared streets with advisory lanes vary depending on the context. The bi-directional centre travel lane should ideally be 5.0m to 6.0m wide, with a constrained width of 3.0m. The striped advisory lanes should be between 1.8m and 2.1m wide. Chapter D.5 of the BCATDG provides some detailed guidance on implementation of these facility types.



Off-Street Multi-Use Pathway

Off-street MUPs not adjacent to roadways can be incorporated into linear natural areas such as parks or conservation areas, along utility corridors, or waterfronts including rivers and shorelines. In these settings, motor vehicle volumes are not a primary concern, although personal safety and lighting can be significant issues. Other considerations include managing potential environmental impacts, reducing stormwater runoff, and protecting against erosion.

Since MUPs are designed for AAA, they attract a variety of users, including those operating at slower speeds. Therefore, providing sufficient space to pass others is crucial. The BCATDG suggests that the width of MUPs typically ranges from 3.0 to 4.0 meters, accommodating various users and ensuring accessibility.

The desirable width of the MUP also needs to have additional space on either edge of the MUP, referred to as "cleared width," which may include drainage swales, additional gravel buffers, or low-lying vegetation. This cleared width requirement can be influenced by several factors, including:

- **Steep Slopes:** When an MUP is adjacent to steep slopes (1V:3H or steeper), a wider separation should be considered. A 1.5-meter separation from the edge of the path pavement to the top of the slope is desirable. Depending on the height of the embankment and conditions at the bottom, physical barriers such as dense shrubbery, railings, or fencing may be necessary.
- **Pathway Maintenance:** Planning for maintenance activities, including snow storage and the use of maintenance equipment like sweepers and snowplows, is essential. Ensuring the pathway is designed to accommodate these activities will help maintain safety and usability year-round.
- *Vehicle Restrictions:* To restrict motor vehicle traffic from entering the pathway at intersections and driveways, lockable and removable bollards are recommended. These barriers will enhance the safety of cyclists and pedestrians while allowing access for emergency or maintenance vehicles.

MUPs Adjacent to Railways

The BCATDG highlights the benefits and challenges of MUPs in rail corridors, which can be located within abandoned or active rail corridors. These pathways typically offer gentle grades, access to community centers, and scenic views, making them ideal routes for MUPs. However, there are challenges associated with installing MUPs within rail corridors, including personal security concerns related to lighting and isolation, ensuring pathways are accessible for emergency and maintenance services, securing the necessary land or easements for the pathway, addressing potential environmental contamination issues within the rail corridor, and determining land ownership and liability concerns, such as who is at fault in the event of an injury on the pathway.

In Segment 2 where the corridor is proposed to be adjacent to the CP rail line, the MUP pathway will run alongside the rail right of way, which averages approximately 30 meters in width. Maintaining appropriate setbacks and clear zones is crucial for safety. According to the U.S Department of Transportation – Federal Railroad Administration⁵, setbacks from the track centerline to the trail can vary based on context and conditions (see **Figure 11**).



Figure 11: Setback Definition and Minimum Rail-with-Trail Setback E (Source: Figure 10 and F-11): <u>Rails</u> <u>with Trails – Best Practices and Lessons Learned</u>)

⁵ U.S Department of Transportation – Federal Railroad Administration, *Rails with Trails: Best Practices and Lesson Learned*, 2020. Available online: <u>https://railroads.dot.gov/sites/fra.dot.gov/files/2020-04/RWT_Report_Final_031620_0.pdf</u>

In rural and semi-urban contexts, a clear zone with a minimum setback distance of 3 to 30 meters is recommended. This buffer zone may include fences, vegetation, or other vertical barriers to keep trail users away from the tracks, with an additional 0.6 meters for visual separation and safety. These guidelines will be followed to ensure the corridor is safely integrated into the rail corridor, protecting AT users while maximizing the use of available space.



4.4.4 Typical Cross-Sections

The guidelines referenced above have been considered in the development of the typical crosssections shown below which all make up elements of the preferred route for the AT Corridor.



Multi-Use Pathway Adjacent to Roadway - Barrier Separated on Highway



Multi-Use Pathway Adjacent to Roadway - Ditch Separated on Highway

Multi-Use Pathway Adjacent to Roadway - Existing Local/Dirt Road



Urban Bi-Directional Multi-Use Pathway



Urban Bi-Directional Bike Lane



Shared Street Facility



Off-Street Multi-Use Pathway



4.4.5 Active Transportation Crossings

In active transportation planning, best practice is to minimize conflict potential between different transportation modes. For this AT Corridor, with existing rail and highway right of way, thoughtful routing to minimize conflicts with these modes is a priority. By minimizing the number of crossings of rail lines and major roadways, user safety is improved. Routing of this AT Corridor, therefore, has prioritized as few crossings of rail lines and roadways as possible. Existing

crossings have been utilized wherever feasible with recommendations for improvements to increase the safety and operation of users.

The preferred routing of the corridor integrates multiple important crossings including:

- Eight crossings of Highway 3A
- One crossing of Highway 6
- One crossing of Granite Road
- Eight crossings of Canadian Pacific Railway lines
- One crossing of the Kootenay River at Taghum
- One crossing of the Slocan River at Shoreacres
- Approximately 14 crossings of minor roadways

These crossings exclude the crossing of private driveways. There are several crossings of private driveways proposed throughout the corridor, typically where they abut Highway 3A. At these unsignalized intersections, pathway users may be given right of way through stop control for the side road or driveway. Design

treatments at the crossing can be used to demarcate the crossing and indicate to motorists that pathway users have the right of way. This may be completed with signage, pavement markings, and geometric design; and also alerts active transportation users of the upcoming intersection.



The Transportation Association of Canada offers design guidance for cycling and walking facilities crossing active rail lines in their Geometric Design Guide (2017). For grade crossings between pathways, trails, sidewalks, bike lanes, and rail lines, it is recommended to skew the approach of the pathway to meet the rail line perpendicular to maximize sightlines and ensure ease of crossing for all users. A distance of five meters is recommended to site the STOP bar from the nearest rail of the tracks. See **Figure 12**, below. The Design Guide also recommends the use of "RAILWAY CROSSING AHEAD" and "PREPARE TO STOP AT RAILWAY CROSSING".



Figure 12: Transportation Association of Canada Design Guidance for Pathways and Trails Approaching Active Railway Lines

Detailed design guidance is provided below in **Figure 13** to identify the locations of stop bars, signage and grade crossing warning systems.





Multi-Use Pathways Crossing Railway Lines (Source: <u>Transport Canada</u>)

As outlined in the BCATDG, intersection design is a critical part of both pedestrian and cycling facility design. Similarly, active transportation network planning must consider how people cycling can navigate intersections safely and comfortably. The crossings proposed throughout the ATCVP study area will typically be simpler to navigate than in an urban core; however, high volumes of high speed traffic along Highway 3A are a core consideration for designing safe crossings.

Based on the current conditions of crossings along the corridor, at the time of conceptual design, the WKCC and the RDCK, in collaboration with MOTI or other key groups, should undertake crossing improvement reviews that can educate changes related to crossing alignments, travel surface, signage, pavement markings, intersection geometry, vehicle speeds, and the elimination of conflicts with other roadway users. For example, this could include the installation of Rectangular Rapid Flashing Beacons (RRFBs) at uncontrolled approaches to ensure vehicle operators can identify users wanting to cross, particularly in poor weather conditions.

More detailed guidance on intersection and crossing treatments is available in Chapter G.5 of the BCATDG. A BC example of a cross-ride⁶ and crosswalk combination crossing is provided below in **Figure 14**. These are the typical types of crossing that would be utilized for the main AT Corridor roadway crossings as multiple user groups are anticipated to travel the corridor.

Overall, where crossing cannot be avoided, they must be designed thoughtfully with the appropriate treatments and techniques to maximize the safety of the AT Corridor users in mind.



Figure 14: Combined Cross-Ride and Crosswalk on the Spirit Trail in North Vancouver

⁶ Cross-rides, also known as elephant's feet and cross-bikes, are the bicycle equivalent of a crosswalk. They are intended to alert all road users of a bicycle crossing. Cross-rides consist of a series of white squares laid out in parallel lines across a road. They can be enhanced by adding bicycle symbols and/or applying a green surface treatment. A green surface should not be utilized for the ATCVP project area however as they are reserved for bicycle-only crossings.



5.0 PRELIMINARY ROUTING OPTIONS

5.1 Evaluation Criteria and Decision Tree

A significant amount of technical analysis has been completed to determine the routing options and ultimate preferred routing of the ATCVP. A preliminary list of routing influence criteria was developed for consideration and review as the routing options were developed. The criteria (in no order of priority or influence) included:

- Available Right of Way
- Population Served
- Facility Safety (potential for AAA)
- Topography/grade change
- Multimodal potential (access to transit or Park 'n' Ride, vehicle parking, etc.)
- Access to Key Community Amenities & Destinations
- Directness & Distance
- Traffic Conditions
- Desire and functionality for the community
- Land Ownership
- Approximate Infrastructure Costs

These criteria helped guide the decision-making process though the selection of the most functional, safe, and practical routing options for the corridor. The ATCVP Team utilized a Decision Tree to identify decision points throughout the corridor and determine which alignments were suitable and preferrable over others. At each decision point along the corridor, where two or more routing options were available, each of the alignments were reviewed against these criteria. Ultimately, the goal was to identify two or three primary routing options for each segment that could then be reviewed and commented on by the community through the engagement process. Each routing option was explained, along with its benefits and detriments, to the community for their review. The ATCVP Team then collected and reviewed the feedback for potential alignment revisions. These decisions are reflected in the changes between the maps in **Section 5.0** and the maps in **Section 6.0**.

For example, as observed in **Figure 15** below, two primary routing options were proposed between continuing along Highway 3A and crossing the highway over to Granite Road. This decision was oriented by the directness of the highway alignment, the connection to Grohman Narrows Provincial Park and Taghum Beach Regional Park, the minimal grade change of the highway alignment, the connectivity to residents, the connections to transit stops along the highway, and the available right of way of Highway 3A.

Several of these decisions were conducted in this manner and based on these criteria.

5.2 Preliminary Routing Maps

The following sections (5.2.1 – 5.2.6) outline the preliminary routing options proposed to the communities during the public engagement process. These routing alignments were deemed feasible and held potential for hosting the active transportation corridor. Through a robust public engagement process hosted by the WKCC, the community reviewed these routing options for functionality, comfort, and safety. Through the online survey and the open houses, the public had the opportunity to provide input on the preliminary routing options. The routing option feedback received for each of the

ATCVP segments are summarized below along with the results and impacts the community's feedback had on shaping the project design. A number of distinct changes were made to better suit the routing and design to the needs of the community.

5.2.1 Segment 1: Nelson

Segment 1 options looked at connecting the City of Nelson to the community of Taghum with a separate MUP. Depending on the routing option selected, this may also connect to the community of Blewett via Granite Road. This segment may also connect to Grohman Narrows Provincial Park (PP), Morning Mountain Regional Park, and Taghum Beach Regional Park. This segment also provides access for multiple neighbourhoods outside the City of Nelson. The City of Nelson acts as the northern terminus of this project area with the corridor terminating at the Nelson Visitor Information Centre.

There were two primary routing options for this segment, and they are illustrated in Figure 15:

Routing Option 1 (green and pink): Follows Railway Street and Government Road exiting the City of Nelson. Continues along adjacent to Highway 3A west towards the Taghum bridge. This routing option connects to Grohman Narrows PP, transit stops, and multiple residences and businesses. The pathway would then exit onto Granite Road connecting to Taghum Beach Regional Park towards a newly proposed pedestrian and cycling bridge over the Kootenay River.

Key Considerations for this alignment included:

- Most direct routing
- 1 crossing of Highway 3A
- Connects to transit stops
- Decreased level of comfort adjacent to highway

Routing Option 2 (blue): Follows the same routing as Option 1 exiting the City of Nelson but then crosses Highway 3A over to Granite Road. Continuing along Granite Road, this routing would connect to the community of Blewett and Morning Mountain Regional Park. The pathway would then connect to a newly proposed pedestrian and cycling bridge over the Kootenay River.

Key Considerations for this alignment included:

- Less direct routing
- 1 crossing of Highway 3A
- Connects to Blewett
- Potentially higher comfort away from highway
- More grade change than Option 1



Figure 15: Segment 1 of ATCVP Preliminary Routing (Nelson – Taghum)

Engagement Feedback: Option 1 was ranked as the preferred route for Segment 1 by 46.8% of survey respondents. The public noted that a contributing factor to Option 1 being preferred was the better grade and reported that Option 2 was quite hilly. It was noted that if Option 1 is pursued, physical separation from highway traffic should be prioritized and the crossing at Taghum Bridge should be thoughtfully designed due to the high traffic volumes and speeds that cause safety concerns.

Result: Option 1 returned the most positive feedback and support from the community being the most direct route and aligning with transit stops for multi-modal trip potential. This alignment offers less grade change and improved AAA facility potential. It also connects well to

the proposed active transportation network in Nelson and provides access to numerous residences, Grohman Narrows PP, and Taghum Beach Regional Park. Option 1 was selected as the preferred route for Segment 1. The preferred route is mapped in **Section 6.0**.

5.2.2 Segment 2: Taghum & Bonnington

Segment 2 proposes a MUP connecting Taghum and Bonnington. This segment would provide access for multiple residents and businesses within and surrounding these communities. This segment proposes a new pedestrian and cycling bridge across the Kootenay River near Taghum bridge.

There were two primary routing options for this segment, which are shown in Figure 16:

Routing Option 1 (green and orange): Crosses the proposed new bridge and follows the Highway 3A alignment on the south side of the highway. It then enters the Fortis/WK Power hydropower right of way which runs parallel to the highway.

Key Considerations for this alignment include:

- Utilizes existing right of way
- Highway crossing required for access to Taghum
- Highway crossing required for access to Bonnington
- Highway crossing required for access to Beasley

Routing Option 2 (blue): Crosses the proposed new bridge and crosses Highway 3A to Taghum. Follows Taghum Frontage Road through the community and then enters a new alignment on a bench above Highway 3A. The pathway would enter Nygaard Road and the community of Beasley. The pathway would cross the highway, entering Cora Linn Road and then entering the Fortis/WK Power hydropower right of way as per Option 1.

Key Considerations for this alignment include:

- Less direct routing
- Greater grade changes
- Significant new construction of the new right of way
- Requires private property easement along the bench
- 2 crossings of Highway 3A
- Highway crossing required for access to Bonnington



Figure 16: Segment 2 of ATCVP Preliminary Routing (Taghum - Bonnington)

Engagement Feedback: Option 1 was ranked as the preferred route for Segment 2 by 60.2% of survey respondents. Comments received indicated that there was a preference to keep the route on the south side of Highway 3A. The preference was motivated by avoiding crossing Highway 3A, navigating an easier grade, and the close proximity to Kootenay River. Separation from highway traffic was highlighted as a priority for this segment, and it was suggested that following the CPR tracks be explored. A final notable comment that was received multiple times was the support for the new active transportation bridge at Taghum.

Result: Segment 2 of the ATCVP is a complicated section of the corridor to design for and required a high-level of effort and analysis to identify a feasible route. Following a considerable amount of technical analysis and community engagement, neither Option 1 nor Option 2 fully aligned with the needs of the community while also being feasible to construct. Option 2 was deemed less feasible considering the increased number of crossings of Highway 3A and the constructability of the MUP along the north side of the highway. The north side of the highway would have required considerable geotechnical engineering work, retaining structures, and agreements with private landowners. Option 1 was selected and revised further to follow the Canadian Pacific Railway right of way from Taghum Hall to Cora Linn Road. This reduces the conflicts with private properties and increases the constructability within the existing right of way

already utilized for rail transportation. Following Cora Linn Road, the route follows the transmission line right of way over WK Power and Fortis BC properties. The preferred route is mapped in **Section 6.0**.

5.2.3 Segment 3: Slocan Junction

Segment 3 proposes a MUP connecting Bonnington, Slocan Junction, and Shoreacres. This segment would provide access for multiple residents and businesses within and surrounding these communities. This segment would take advantage of the existing crossing under Highway 3A at the terminus of the Slocan Valley Rail Trail. This segment proposes a new pedestrian and cycling bridge at Shoreacres across the Slocan River and was proposed to be placed on either the east or west side of the existing highway and railway bridges.

There were two primary routing options for this segment, which are illustrated in Figure 17:

Routing Option 1 (orange): Follows the Fortis BC/WK Power right of way throughout the segment. This route would pass directly through Slocan Junction and cross the highway further south near Shoreacres. It would then cross the proposed new bridge and follow the Highway 3A alignment on the north/west side of the Highway.

Key Considerations for this alignment include:

- 1 highway crossing
- Utilizes existing right of way
- Connects to Slocan Valley Rail Trail at tunnel crossing
- Railway crossing needed for access to Shoreacres residents
- Other railway crossings require improvements

Routing Option 2 (pink): Crosses the Highway entering South Slocan Village Road and then enters the Slocan Valley Rail Trail. The pathway would then continue adjacent to Highway 3A on the west side connecting to Option 1 where it crosses.

Key Considerations for this alignment include:

- 1 highway crossing
- Utilizes existing Rail Trail
- Better connectivity for Slocan Junction residents



Figure 17: Segment 3 of ATCVP Preliminary Routing (Slocan Junction)

Engagement Feedback: Option 1 was ranked as the preferred route for Segment 3 by 46.6% of survey respondents. However, comments from the public expressed concern that Option 1 passed through too many private properties. Respondents and open house attendees prioritized connecting to the existing Slocan Valley Rail Trail. While both options connect to the Slocan Valley Rail Trail, some comments expressed they would like to see the existing trail utilized. Another priority identified by the public was to minimize highway crossings. Finally, comments received expressed support for creating a safe pedestrian and cycling crossing experience at Shoreacres Bridge.

Result: Similar to Segment 2, Segment 3 is also a complicated section of the corridor and, of the two options proposed, neither option perfectly fits the needs of the community. Therefore, a combination alignment of options 1 and 2 was created to continue using the CP Rail right of way, while also utilizing the exiting crossing under Highway 3A. To reduce the impacts on private properties on the east side of the highway, the recommended alignment passes through the Slocan Valley Rail Trail parking lot and the tunnel. Utilizing the existing tunnel and the Rail Trail increases regional connectivity, improves the opportunity for multi-modal trip chaining, and reduces capital costs for a new highway crossing elsewhere. The route then rejoins Highway 3A until

it reaches the community of Shoreacres, where a new highway crossing is proposed. Another mobility hub would be located at Shoreacres Beach, where there is vehicle parking and a transit stop. The MUP would then continue south along the east side of Highway 3A, crossing over the Slocan River via a new pedestrian and cycling bridge. The combination of routing options and the revisions to reduce impacts to private properties have improved the final routing alignment to be more functional for residents and provide improved access to neighbourhoods and regional destinations. The preferred route is mapped in **Section 6.0**.

5.2.4 Segment 4: Glade & Tarrys

Segment 4 proposes a MUP connecting the previous segments to the communities of Glade and Tarrys. This segment would provide access for multiple residents and businesses within and surrounding these communities.

One routing option was proposed for this segment and it is highlighted in Figure 18:

Routing Option 1 (orange): Follows the alignment of Highway 3A running adjacent to the roadway. A crossing could be added across Highway 3A at Glade Ferry Road/Lazeroff Road to provide access to the Glade Ferry and to the Tarrys Community Hall.

Key Considerations for this alignment:

- Utilizes existing highway right of way
- Provides access for multiple residences on the west side of the Highway
- Highway crossing potential for access to Glade
- Highway crossing potential for access to Tarrys Community Hall
- Decreased level of comfort adjacent to Highway 3A



Figure 18: Segment 4 of ATCVP Preliminary Routing (Glade & Tarrys)

Engagement Feedback: No options were provided for the public to choose between for Segment 4, however, they were allowed to provide suggestions for improving the overall plan for Segment 4. A common theme amongst the comments received was to keep the route on the east side of Highway 3A. This would enable easy access to Glade Ferry and Glade Ferry Road, and these locations were identified by the public as key connections.

Result: Only one routing option was proposed for Segment 4 for Glade and Tarrys. The alignment of the MUP was proposed on the west side of the highway. However, following engagement with the community, it was indicated that an improved connection to Glade Ferry and Tarrys Hall would be found by routing the MUP on the east side of the highway. After further analysis, the proposed new Shoreacres bridge was moved to the river-side of the existing Shoreacres vehicle bridge. Moving the MUP to the east side of the highway improves connectivity for residents along the east side of the highway while also maintaining minimal grade change and proper transit connectivity. Further analysis found that the available highway right of way to the south of Segment 4 at Irvine Road is constrained and would require considerable engineering work, retaining structures, and earthworks. A crossing was then proposed to utilize Irvine Road, and transitioned the MUP to the west side of the highway. The preferred route is mapped in **Section 6.0**.

5.2.5 Segment 5: Thrums

Segment 5 proposes a MUP connecting the previous segments to the community of Thrums. This segment would provide access for multiple residents and businesses within and surrounding these communities.

There are two primary routing options for this segment, which are shown in Figure 19:

Routing Option 1 (orange): The MUP continues along the west side of Highway 3A connecting to the Thrums Market and various residences on the west side of the Highway. Following the existing highway alignment, the pathway then exits the highway at Lookout Road to avoid the narrowed roadway and cliffs north of the Brilliant Rest Area. From Lookout Road, the pathway reenters the Fortis/WK Power hydropower right of way at the Brilliant Rest Area, continuing southward along the bench above Highway 3A.

Key Considerations for this alignment:

- Utilizes existing highway and road right of way
- Highway crossing needed for access Thrums East/West Road
- Grade change climbing and descending Lookout Road
- Good connectivity for west side residents
- Private property easements may be required

Routing Option 2 (red): Follows the same alignment as Option 1 but crosses the Highway onto Thrums East Road and continues on this road south. The pathway would exit Thrums West Road and rejoin Highway 3A continuing south towards the Brilliant Rest Area.

Key Considerations for this alignment:

- Less direct routing
- 1+ Highway crossings
- Utilizes existing highway and road right of way
- Consistent grade along highway
- Better connectivity for east side residents
- Decreased level of comfort adjacent to Highway 3A
- Description of options developed/maps from engagement boards



Figure 19: Segment 5 of ATCVP Preliminary Routing (Thrums)

Engagement Feedback: There was no clear routing preference for Segment 5, with 36.4% of survey respondents preferring Option 1, 30.0% preferring Option 2, and 33.6% having no preference. Lookout Road was identified as unsuitable for active transportation users due to its steep grade. Regardless of what option is moved ahead, the public reported that they would like to see connections provided to Thrums Market and highway crossings minimized.

Result: Similar to Segment 2, a combination of technical analysis and community engagement discovered that, independently, neither Option 1 nor Option 2 fully aligned with the needs of the community. A combination of the two options was then produced to improve the connectivity of Segment 5. With the MUP entering from Segment 4 on the west side of the highway, the orange alignment remains feasible for a majority of the segment. Instead of selecting the east or west sides of the highway, a connection on the east side of the highway is also proposed along Thrums Frontage Road. This offers connectivity to the residences on the east side of the highway while also providing direct access to Thrums Market. A highway crossing is also proposed at the south end of Thrums Frontage Road at Lookout Road. The red alignment is then recommended to continue south towards the Brilliant Rest Area and Castlegar. The preferred route is mapped in **Section 6.0**.

5.2.6 Segment 6: Castlegar

Segment 6 proposes MUP(s) connecting the previous segments into the City of Castlegar. This segment would provide access for multiple residents and businesses within and surrounding these communities. This segment proposes to take advantage of the existing trail network in Castlegar with the south terminus of the corridor being the CPR Station Museum and/or the Selkirk College Campus.

There are two primary routing options for this segment, see Figure 20:

Routing Option 1 (orange): The pathway continues along the north/west side of Highway 3A via the Fortis/WK Power right of way connecting to Terrace Road, continuing through the neighbourhood and crossing the highway to Brilliant Road, entering Option 2 routing. The pathway would continue entering onto the Waldie Island Trail before crossing up, over the Castlegar Robson Bridge, and entering Downtown Castlegar.

Key Considerations for this alignment:

- Complicated construction required along the north/east side of highway
- Utilizes existing right of way on Terrace Road and Brilliant Road
- Improvements Waldie Island Trail
- Less direct routing and does not connect to Selkirk College

Routing Option 2 (red/blue): The MUP continues along the south/east side of Highway 3A entering the Dam Access Road. It then continues along the Dam Access Road around under the Brilliant Bridge along Brilliant Road. It then enters the Waldie Island Trail and crosses the Castlegar Robson Bridge as per Option 1. To provide access to Selkirk College Campus, the pathway can also cross the Doukhobor Suspension Bridge and enter the Skattebo Reach Trail terminating at the Selkirk College Campus.

Key Considerations for this alignment:

- Direct routing using existing infrastructure and right of way
- Improvements to Waldie Island Trail and Skattebo Reach Trail
- Provides access to Selkirk College for students, staff, and faculty
- Decreased level of comfort adjacent to Highway 3A


Figure 20: Segment 6 of ATCVP Preliminary Routing (Castlegar)

Engagement Feedback: Option 2 was ranked as the preferred route for Segment 6, with 58.9% of survey respondents selecting it as their preferred route. Based on the comments received, it is likely that the public preferred this route because it enables people to get to downtown Castlegar and Selkirk College. In particular, providing a connection to Selkirk College received a lot of

support. Comments were also received indicating that the public felt it was important to connect to the Brilliant area and that Terrace Road felt disconnected from the community. These insights likely contributed to Option 2 being the preferred route.

Result: Finally, Segment 6 terminates the corridor in two proposed locations in Castlegar; at the CPR Museum Downtown, and Selkirk College. Both the red and blue alignments received community support and were feasible based on the technical analysis. With the MUP



entering Segment 6 from the northeast on the south side of Highway 3A from the Brilliant Rest Area, entering the Brilliant Dam Access Road and utilizing the existing Doukhobour Suspension Bridge received the most support. This connects to the Skattebo Reach Trail, Rosedale/Barry Road, and the Riverside Trail before entering into Selkirk College Campus. Continuing past the Doukhobour Bridge, under the Brilliant vehicle bridge, the second terminus is accessed via Brilliant Road, Waldie Island Trail, the Castlegar-Robson Bridge, Columbia Road, and 3rd Street to reach the CPR Museum. Both alignments fully remove users from the highway onto separate roads and trails, improving the AAA potential of the corridor. The orange alignment was deemed less feasible and more circuitous on the north side of Highway 3A. The preferred route is mapped in **Section 6.0**.

5.3 Engagement Summary

Multiple opportunities were provided for community members within the project study area to participate in the creation of the ATCVP. A public online survey was created to seek input to help shape a safe, accessible, and inclusive route that enhances connectivity, supports health and wellbeing, and promotes active transportation tourism. The public was also engaged through multiple open houses where they had the opportunity to discuss the project with WKCC volunteers and provide feedback on the proposed routing options.



5.3.1 Survey

The public online survey was live from April 19th, 2024, to May 17th, 2024. Paper copies were made available at the public open houses that were hosted in April 2024. A total of 542 records were received, of which 346 were complete survey responses to all 31 questions.

From the multiple-choice survey responses, several key takeaways were extrapolated that are important to this ATCVP. The first being the main purpose of active transportation trips within the study area. When asked, survey respondents indicated that their active transportation trips are primarily motivated by exercise and fitness. This was closely followed by active transportation trips completed for recreation purposes. It is likely most current users are using cycling for fitness and recreation purposes because the existing facilities are geared towards these types of use. Examples of existing facilities include mountain biking trails and recreational MUPs, both of which do not always provide direct connections that are desirable when commuting or running errands. To incorporate commuting purposes into the functionality of the AT Corridor, the development of the preferred route worked to strike a balance between directness, serving large portions of the various communities along the route, and providing connections to existing recreational active transportation facilities that are already valued by users.

However, the most important factors when choosing a route for an active transportation trip were identified to be safety and separation. Safety was defined as the route feeling safe from traffic and personal harm, and separation was defined as routes that offer dedicated space and separation from motor vehicles. This was an important finding because the most direct route, often along Highway 3A, may not offer users the feeling of safety and separation due to restricted right of way and high vehicle volumes and speeds. Safety was prioritized when developing the preferred route and was taken into consideration by looking at the facility types that were being proposed. Based on this takeaway, the AT Corridor was to be comprised of separated MUPs and off-street facilities as much as possible along Highway 3A to provide space and separation from motor vehicles.

In anticipation of the AT Corridor, approximately 95% of survey respondents most likely saw themselves biking along the route. This was followed by approximately 58% of respondents suggesting they would walk and roughly 42% suggesting they would jog or run.

The final key takeaway was with respect to amenities along the route. Access points / hubs were ranked as the most important amenity, followed by year-round maintenance. This highlighted the need to consider these access points and mobility hubs as key locations that would provide access to the corridor, parking, and transit connectivity.

The survey also had opportunities to provide some open-ended responses, and the following themes emerged.

Requests for Additional Amenities:

- Rest areas and benches were requested along the route to increase user comfort and provide reprieve for those with mobility issues.
- An importance was placed on facilities that support cycling, such as bike storage and ebike charging stations.

Connectivity and Accessibility:

- There was support for improving public transit frequency and integrating it with active transportation options to provide a seamless travel experience.
- An emphasis was placed on connecting key locations such as colleges, schools, employment areas, and shopping centres to make active transportation viable for students, young families, and those with lower incomes.
- An importance was placed on ensuring routes are inclusive for adaptive bicycles, e-bikes, and other non-standard forms of active transportation.
- Suggestions for paved paths to accommodate a variety of users, including those on roller skates and scooters were received.

- Concerns were raised regarding the route's gradient preventing the corridor being accessible to all.
- A call for well-maintained compact surface paths with regular sweeping, especially after the winter season to remove sand and debris would help with year-round accessibility.

Safety and Separation from Motorized Traffic:

- There was a strong preference for routes that are separated from the highway to ensure the safety and comfort of cyclists and pedestrians.
- Respondents called for physical barriers and dedicated AT facilities to protect nonmotorized users from high-speed traffic and large trucks.

Environmental and Aesthetic Considerations:

- There was preference for routes that offer scenic views and minimize environmental impact, with concerns about preserving wildlife habitats and maintaining the natural beauty of the area.
- Respondents called for eco-friendly features like solar-powered lighting and signage to enhance the user experience without harming the environment.

Community Engagement and Funding:

- There was requires for more public consultation in future stages, especially in areas where the trail interacts with private property.
- Concerns were raised regarding funding and the need for strategic investments to maximize the project's benefits while being cost-effective.

5.3.2 Open House

A total of six open houses were held in April 2024. The open houses were located throughout the study area in an effort to engage the various affected communities. The locations were as follows:

- Nelson Library
- Taghum Hall
- The Dam

- Brilliant Cultural Centre
- Tarrys Hall
- Castlegar Community Forum

The open houses were hosted by members of the WKCC and included ten display boards to cultivate meaningful conversations with attendees. General comments heard through discussions at the open houses included a variety of concerns and requests. Common concerns included safety, cost, and consideration to how the proposed corridor will interact with existing transit along the highway. Common requests included future data collection along the corridor to count active transportation users, for the routing options to provide access to employers, and future education opportunities. It was specifically requested that the education be geared towards informing drivers that cyclists may be present. Future engagement opportunities could be used to educate active transportation users on how to correctly use the new infrastructure while simultaneously educating drivers that they may be required to change their behaviour or expectations on the road. Programs can ensure drivers understand new rules of the road, how new signage impacts them, and how to keep everyone safe.





The boards were interactive and allowed attendees to add sticky notes with their

comments. Upon analysis of the sticky note comments, there was support for:

- Year-round maintenance
- Lighting
- Accessibility for all users
- Deeper connections into nature
- Signage which includes distance and challenge level
- Restrooms
- Benches
- Small links for shorter outings

Many of these comments were echoed in the online public survey results.

After public engagement concluded, the feedback received on the preliminary routing options was reviewed. After the review was complete, the options were refined to define the preferred route for the AT Corridor.



6.0 PREFERRED ROUTE

6.1 Segment Review

The following sections (6.2.1 – 6.2.6) outline the preferred route for the ATCVP. The routing and facility types identified in these maps are the culmination of the technical analysis integrated with community feedback obtained throughout this project. These map segments capture the revisions and refinements to the 'Preliminary Routing Options' in Section 5.0, and indicate the optimized alignments for the active transportation corridor.

Within the maps, (also provided in **Appendix B**) a preferred route alignment has been identified; while secondary, additional, or future connections have also been shown where the corridor may be extended or re-routed in the future. This routing approach offers flexibility in the ability to construct the corridor in the near future, with routing improvements available on a longer 20+ year time horizon. The preferred route has been separated out into the different proposed facility types, and aligns with existing active transportation planning documents where feasible. Refer back to **Section 4.4.3** for details regarding the Proposed Facility Types and **Section 4.4.4** for the Typical Cross-Sections.

Finally, the preferred routing also reflects the needs of the community and individual desire to use this corridor. The preferred routing maximizes connectivity to rural communities while also ensuring a direct and safe travel pattern accessible for AAA. Support for the construction of this corridor is evident in the community, and the preferred route aims to maximize functionality and useability for residents and visitors of the west Kootenays.

6.1.1 Segment 1: Nelson

The preferred route for Segment 1, illustrated in **Figure 21**, proposes connecting the City of Nelson to the community of Taghum with a protected MUP adjacent to Highway 3A. Two access points enter the City of Nelson – the Bi-Directional Bike Lane/MUP (blue) along Railway Street and Government Road; and, the continuation of the MUP adjacent to the highway (green), which enters the City at an existing pathway crossing under the highway from the Rosemont neighbourhood.

The westward MUP towards Taghum is recommended to be routed on the north side of the highway before reaching the existing Taghum bridge, where the MUP would cross the highway onto Granite Road. The MUP would then be routed on the south side of Granite Road, before connecting to a proposed new pedestrian and cycling bridge, crossing over Kootenay River to Taghum Hall. This segment also connects to Grohman Narrows Provincial Park and Taghum Beach Regional Park. This alignment provides access to multiple neighbourhoods outside the City of Nelson for recreational and commuting purposes. The City of Nelson acts as the northern terminus of this project area with the corridor terminating at the Nelson Visitor Information Centre.

As per the Protected Bi-Directional Bike Lane Design Rationale, and Typical Cross-Sections, the Proposed Urban Bi-Directional Bike Lane would occupy 3.0 - 4.0m of roadway along Railway Street and Government Road. It is recommended to route the bi-directional bike lane or MUP along the north/east side of Railway Street to optimize access to Cottonwood Park, and along the north side of Government Road to optimize access to future development in the Railtown area. This bi-directional bike lane should be supplemented by a minimum 1.8m wide sidewalk along a minimum of one side of both streets.



Figure 21: Segment 1 of ATCVP Preferred Routing (Nelson – Taghum)

As per the Multi-Use Pathway Design Rationale and Typical Cross-Sections, the MUP is proposed to be 3.0 - 4.0m wide with a barrier protecting the pathway from vehicle traffic along the highway. It is recommended to site the MUP on the north side of the highway to optimize access to Grohman Narrows and take advantage of the existing highway right of way. The north side also connects to the Park & Ride lot on Highway 3A at Government Road.

It is recommended to situate the MUP on the south side of Granite Road to avoid the steep grade drop on the north side and minimize earthworks required for construction. The MUP will then cross Granite Road, converting briefly to a Shared Street Facility before crossing where the proposed Taghum pedestrian and cycling bridge would cross the existing piers in the Kootenay River. Similar to other sections in the corridor, the terminus' of the AT Corridor also acts as a mobility hub, offering vehicle parking, transit access, washrooms, and a host of other amenities.

6.1.2 Segment 2: Taghum & Bonnington

The preferred route for Segment 2, illustrated in **Figure 22**, connects the new Taghum Bridge and the community of Taghum to the communities of Beasley and Bonnington. The recommended alignment follows the CP Rail right of way from Taghum Hall, with connections to Highway 3A via Taghum Hall Road and Curtis Road. This CP Rail alignment is proposed as a more feasible routing option than routing along Highway 3A. This route requires less capital investment for construction, earthworks, and engineering; and could reduce time and effort related to constructability. This facility type includes an Off-Street MUP. The CP Rail alignment connects to Cora Linn Road where the facility type changes to a Shared Street where motorists, cyclists, and other users share the roadway. Where Cora Linn Road meets Highway 3A, a MUP connects eastward to a crossing over to Lower Bonnington Road. The preferred route exits Cora Linn Road and follows the Fortis BC transmission line right of way. Following the transmission line enables the use of historical highway right of way for the MUP. The MUP then joins the Bonnington Dam Access Road and follows this road past the Bonnington Dam site.



Figure 22: Segment 2 of ATCVP Preferred Routing (Taghum – Bonnington)

Segment 2 hosts multiple facility types including MUP Adjacent to Roadway (green), Off-Street MUP (orange), and Shared Street Facility (pink). As per the Multi-Use Pathway Design Rationale and Typical Cross-Sections, the MUPs are proposed to be 3.0 - 4.0m wide with a barrier, ditch, or sufficient buffer space protecting the pathway from vehicle traffic along the highway or from the active rail line.

Further, a mobility hub is proposed at the Taghum Shell. These locations have been identified as having multi-modal potential by hosting vehicle parking, transit stops, and other amenities such as corridor maps, washrooms, lighting, seating, emergency help phones, water filling stations, and bicycle repair equipment. These mobility hubs enable users to utilize the AT Corridor for a section of the corridor and complement their travels with transit or a personal vehicle. Some users may take advantage of using transit or driving to a mobility hub and riding the remainder of their commute to work or school on the AT Corridor. Additionally, Taghum Hall (along with other community halls) is also proposed to host a number of similar amenities to the mobility hubs. These halls may act as refuge areas for AT Corridor users with washrooms, maps, and potentially retail spaces to purchase food and drinks.

6.1.3 Segment 3: Slocan Junction

The preferred routing for Segment 3, illustrated in **Figure 23**, connects the communities of Slocan Junction and Shoreacres. Leaving Segment 2, the AT Corridor follows the Bonnington Dam Access Road before crossing Blewett Road. West Kootenay Road is then used, passing through Fortis BC property and exiting off into the trailhead parking lot of the Slocan Valley Rail Trail (SVRT). The SVRT is followed and exits from Eden Road to rejoin the Highway 3A right of way. Following the west side of Highway 3A, the MUP is recommended to cross the highway at Alexis Road, providing access to Shoreacres. With the MUP routed on the east (river) side of the highway, the MUP enters the proposed new pedestrian and cycling bridge at Shoreacres, crossing the Slocan River. Continuing south on the east side of the highway, the corridor enters Segment 4.

Segment 3 hosts various facility types including MUP Adjacent to Roadway (green), Off-Street MUP (orange), Shared Street Facility (pink) and Existing Off-Street MUP (blue). As per the Multi-Use Pathway Design Rationale and Typical Cross-Sections, the MUPs are proposed to be 3.0 - 4.0m wide with a barrier, ditch, or sufficient buffer space protecting the pathway from vehicle traffic along the highway or from the active rail line. For existing MUP facilities, like the SVRT, a review would be undertaken to determine whether improvements are necessary to align the section with the standard of the rest of the corridor. This could include resurfacing or widening the pathway, or adding lighting and other amenities.

Further, two mobility hubs are proposed at the SVRT trailhead and at Shoreacres Beach.



Figure 23: Segment 3 of ATCVP Preferred Routing (Bonnington – Shoreacres)

6.1.4 Segment 4: Glade & Tarrys

The preferred route for Segment 4, illustrated in **Figure 24**, connects the AT Corridor to the communities of Glade and Tarrys, and provides access to Tarrys Hall. With the MUP following along the east side of Highway 3A from Segment 3, a proper Shared Street Facility connection can be created along Glade Ferry Road to access this community. The eastside MUP connects to the Tarrys Hall mobility hub. Continuing south, the MUP is recommended to cross Highway 3A and enter Irvine Road. This is proposed (as noted in **Section 5.2.4** to circumvent a roadway constriction and move the MUP to the other side of the highway. The alignment would then continue south on the west side of the highway into Segment 5.

Segment 4 proposes two facility types including MUP Adjacent to Roadway (green), and Shared Street Facility (pink). As per the Multi-Use Pathway Design Rationale and Typical Cross-Sections, the MUPs are proposed to be 3.0 - 4.0m wide with a barrier, ditch, or sufficient buffer space protecting the pathway from vehicle traffic along the highway or roadway.

Additionally, Tarrys Hall, similar to Taghum Hall, is also proposed to host a number of similar amenities to the mobility hubs. These halls can act as refuge areas for ATCVP users with washrooms, maps, and potentially retail spaces to purchase food and drinks.



Figure 24: Segment 4 of ATCVP Preferred Routing (Tarrys & Glade)

6.1.5 Segment 5: Thrums

The preferred alignment for Segment 5, illustrated in **Figure 25**, connects to the community of Thrums along Highway 3A. The MUP enters Segment 5 on the west side of the highway and continues south to the crossing over to Thrums Frontage Road. Here, two alignments and facility types are proposed – the MUP (green) would continue on the west side of the highway, connecting to the Thrums Market as a Mobility Hub and local destination. This MUP would continue south to the southern entrance to Thrums Frontage Road. The second alignment (pink) and facility includes a Shared Street Facility along the length of Thrums Frontage Road. Unfortunately, the public road right of way does not continue the entire length and is blocked by seven parcels that directly abut the CP Rail right of way. Across the frontage of these properties, an informal roadway appears to continue within the CP Rail right of way. Specific approval would be required to use the CP Rail land or an agreement with the private land owners could be negotiated. The Shared Street Facility is shown as dashed in this area. The remainder of Thrums Frontage Road is recommended to host a Shared Street Facility. The westside MUP will cross

Highway 3A at the south entrance to Thrums Frontage Road and will continue south on the east side of the highway towards the Brilliant Rest area.

The Brilliant Rest Area is also identified as a Mobility Hub with vehicle parking, washrooms, and other amenities for users of the ATCVP. A transit stop could also be sought after for this location to provide multi-modal connectivity to and from the AT Corridor.

Segment 5, like Segment 4, proposes two facility types including MUP Adjacent to Roadway (green), and Shared Street Facility (pink). As per the Multi-Use Pathway Design Rationale and Typical Cross-Sections, the MUPs are proposed to be 3.0 - 4.0m wide with a barrier, ditch, or sufficient buffer space protecting the pathway from vehicle traffic along the highway or from the active rail line.



Figure 25: Segment 5 of ATCVP Preferred Routing (Thrums)

6.1.6 Segment 6: Castlegar

Finally, the preferred route of Segment 6, which is shown in **Figure 26**, connects the AT Corridor into the City of Castlegar in two locations. Differing from the City of Nelson, two terminus locations in Castlegar were identified for the AT Corridor. As with the northern terminus in Nelson, the two locations in Castlegar will also act as mobility hubs.

The MUP enters from Segment 5 on the east side of Highway 3A past the Brilliant Rest Area. The MUP continues south and enters the Fortis BC Brilliant Dam Access Road where it converts into a Shared Street Facility. The Shared Street Facility continues along the Dam Access Road and, to connect to the Selkirk College Terminus, the corridor will enter the existing Doukhobour Suspension Bridge. The alignment then connects to the Skattebo Reach Trail beneath Highway 3A, and then briefly enters Rosedale Road before continuing along the Riverside trail to Selkirk College. The second Terminus is accessed by continuing past the Doukhobour Bridge along Brilliant Road as a Shared Street Facility type. Brilliant Road then connects to the Waldie Island Trail which likely requires improvements to accommodate a 3.0 – 4.0m wide MUP. Passing over the Castlegar-Robson Bridge, the facility type converts to a new Urban Bi-directional Protected Bike Lane/MUP to reach the final terminus along Columbia Avenue and 3rd Street. The Terminus lies at the CP Rail Historical Museum in downtown Castlegar.



Figure 26: Segment 6 of ATCVP Preferred Routing (Castlegar)

Segment 6 hosts the most variety in different facility types including MUP Adjacent to Roadway (green), Off-Street MUP (orange), Shared Street Facility (pink), Existing Off-Street MUP (blue), and Urban Bi-Directional Bike Lane/MUP (blue). As per the Multi-Use Pathway Design Rationale and Typical Cross-Sections, the MUPs are proposed to be 3.0 - 4.0m wide with a barrier, ditch, or sufficient buffer space protecting the pathway from vehicle traffic along the highway.

For existing MUP facilities, like the Waldie Island Trail, a review would be undertaken to determine whether improvements are necessary to align the section with the standard of the rest of the corridor. This could include resurfacing or widening the pathway or adding lighting and other amenities.





Similarly, the Castlegar-Robson Bridge currently has a shared AT facility that allows for cycling, picture on the left. The current available space to provide an appropriate two-way AT facility is limited with the current configuration of the bridge. Additional review study will need to be undertaken to determine what a future improvement might be and to determine the associated costs. As such, this has not been factored into the current cost estimates prepared.

6.2 Amenities & Mobility Hubs

Below are recommended amenity upgrades that complement the AT Corridor. The recommended amenities reflect what was heard from the public during engagement and industry best practices. These public amenities should be implemented alongside the corridor as it develops over time.

Bike Parking

Bike parking, in the form of bike racks, is an important amenity that provides active transportation users a secure location to lock their bikes. Ideal locations for bike racks include key destinations along the corridor and mobility hubs. Bike racks should be designed and placed in a manner that accommodates all types of bikes regardless of height, width, or length. Recommended bike rack styles are shown below which support the frame at two locations and make it easy for locking the frame to the rack. These options accommodate all bike styles, offering plenty of space for maneuvering to and away from the rack.



Three different bike rack styles in Nelson, BC - large and small capacity parking

Lighting

While lighting is less common in rural contexts such as the unincorporated communities along the proposed AT Corridor, insufficient lighting can be a deterrent to active transportation use, particularly in winter months with extended dark hours. According to the BCATDG, in rural environments such as the study area, the minimum average horizontal illuminance should be 2.0 LUX. However, in practice, providing lighting along the AT Corridor may be challenging. Along the preferred routing option, many stretches of highway are not lit or are proposed to be off-street where no existing lighting infrastructure is present. Providing lighting along the AT Corridor could be cost prohibitive, require additional maintenance, and there could be difficulty accessing power.

Due to the cost prohibitive nature of lighting upgrades, priority areas should receive lighting improvements, or new lighting infrastructure where it does not already exist, first. Areas of highest importance include intersections and crossings. A staged approach could be considered as part of the AT Corridor in areas with readily available power sources. More lighting could be

added later based on demand and/or power availability. Where power availability is limited, the use of solar power should be considered.

See Chapter H.4 of the BCATDG for more information on lighting guidance.

Wayfinding

Wayfinding refers to all of the infrastructure and systems associated with enabling people to correctly orient themselves within their environment and conveniently reach their intended destination. Wayfinding enables better trip planning and can be especially useful in rural settings, such as the AT Corridor, where destinations are further spread out by providing information about trip distances (and times) to make one's active transportation experience more seamless with less uncertainty. Wayfinding can also be used to encourage exploration, by increasing awareness of services, supportive infrastructure, and other points of interest along a route.

Communities with the RDCK are already utilizing wayfinding. For example, in 2023 the <u>Nakusp</u> <u>Signage and Wayfinding Plan</u> was developed to create a wayfinding strategy through the installation of signage that would benefit tourists and locals. Nelson is in the process of creating a wayfinding plan and output a Request for Proposals in 2022. Given that the AT Corridor will be crossing through multiple communities, it is recommended that wayfinding be completed at the regional level to ensure consistency along the route.

Examples of signage/kiosks to be considered along the AT Corridor include:

- *Pedestrian monoliths:* this could include information for pedestrians and people walking about distances to key destinations / amenities within the network. They could be placed on or near existing access points and/or at intersections or junction points to help with route decision making.
- **Decision and confirmation signage:** these signs are typically used for cycling wayfinding. Decision signage provides direction to select destinations through the use of directional arrows. Confirmation signage is placed after decision points and provide confirmation about cycling direction and other destinations along the route.
- *Trailhead signage:* this could include trailhead kiosks and direction signs. The kiosks provide information to users regarding safety, the environment, etiquette, and wayfinding whereas the direction signs typically provide direction information, the difficulty level of the trail, and the types of users permitted on a trail.
- Interpretive and cultural signage: these types of signage provide information on historical events or other points of interest. There is an opportunity to work with local First Nations to include points of interest or culturally significant places using Indigenous names.

See Chapter H.3 of the BCATDG for more information on wayfinding guidance.

Benches & Rest Areas

Community inputs have underlined the importance of incorporating benches and rest areas along the AT Corridor to increase user comfort and ensure the corridor remains accessible to all. By adding these amenities, the AT Corridor would accommodate persons with a broader range of physical abilities. The benches and rest areas should work to create inviting spots to stop, rest, and appreciate the stunning vistas or simply take a breather. Along areas of the route with steep topography, rest areas should be allocated to provide frequent flat landing areas with benches and seating to allow people to walk uphill in stages.

Restrooms

Providing public restrooms is a great way to encourage active transportation, especially in the case of the AT Corridor where users may be travelling longer distances. MOTI typically provides restrooms along highways in areas where alternate options, like gas stations, are not available or

limited. For similar reasons, public restrooms should be provided along the AT Corridor as it passes through areas where alternate options may not be available or hard to get to due to the length of the route. These restrooms should be regularly maintained to provide a pleasant and safe experience for all. Some restrooms may also include change rooms, which would be useful when using the AT Corridor for longer recreational trips. These buildings can often also host many other amenities such as maps, transit information, suggestions boxes, water filling stations, benches, lighting,



emergency call buttons, trash & recycling receptacles, or public notice boards. Ideal locations for these host of amenities have been identified along the AT Corridor as mobility hubs. The photo to the right is the Brilliant Dam Rest Area, which has bathrooms, benches, and a nice view of the Kootenay River. Coincidentally, it has also been identified as a mobility hub.

6.2.1 Mobility Hubs and Corridor Access

Mobility hubs and access points along the AT Corridor between Castlegar and Nelson are essential for facilitating ease of use and encouraging active transportation. These hubs can be designed as parking areas, community halls, existing transit stops, public rest stops, gas stations, or stores, providing necessary amenities and ensuring safe and convenient access to the corridor.

Mobility hubs will provide critical access points to the AT Corridor. These can range from simple turnouts along the road that accommodate a few vehicles to larger parking lots that accommodate dozens of vehicles with additional amenities. For example, hubs near community centres or parks like Shore Acres Beach as an example, may require more extensive facilities.

Access points need to have safe ingress and egress for vehicles, bicycles, and pedestrians, requiring a straight stretch of road with sufficient sight distance in either direction. They should

be situated on relatively level terrain with adequate drainage. The layout may include perpendicular or angled parking with loop access drives, which are especially important for accommodating larger vehicles.

Mobility hubs along the corridor should be equipped with comprehensive amenities to support users, including:

- Vehicle parking
- Bicycle parking
- Trail rules and information
- Information kiosks
- Maps and directional signage
- Restrooms
- Drinking water
- Trash and recycling receptacles
- Dog waste stations (if dogs are permitted)
- Picnic tables
- Benches

Additional amenities that may be included:

- Interpretive information
- Picnic shelters
- Self-guided tour information

Accessibility and Safety

To ensure safety and accessibility, mobility hubs should provide:

- Clear and well-marked pathways for pedestrians and cyclists
- Adequate lighting for personal safety, especially in isolated areas
- Lockable and removable bollards to restrict motor vehicle traffic from entering the AT Corridor while allowing emergency and maintenance vehicle access

In the near term, some of these mobility hubs will act as jumping-off points to connect to transit or other modes of transportation before all segments of the corridor are implemented. **Section 6.0** and the maps in **Appendix B** provides details on their locations.

By strategically placing these mobility hubs and ensuring they are well-equipped, connectivity and accessibility along the corridor will be enhanced.

6.2.2 Integration with Transit

The West Kootenay Transit System, serviced by BC Transit, provides transportation options to communities throughout the study area. Route 99 Kootenay Connector provides service between Castlegar, Thrums, Tarrys, Playmor Junction, Taghum, and Nelson. In addition, the following zones fall within the study area:

- Columbia Zone serving Playmor Exchange, Castlegar, Trail, Fruitvale and Rossland
- Kootenay Zone serving Playmor Exchange, Nelson, Blewett, and Balfour
- Slocan Zone serving Playmor Exchange and Slocan

Public transit services are important for increasing sustainable trips along the AT Corridor. Given the length of the corridor between the two communities, transit integration is essential to supporting active transportation. Integration refers to the coordination and connectivity of different modes of transportation, including public transit, walking, and cycling. BC Transit provides bike racks on their buses to facilitate people to easily combine active transportation with public transit. When transit systems are integrated with active transportation options, it becomes easier for people to combine different modes of transportation to reach their destinations. By providing the option to take transit part of the way or one-way to their destination, transit also provides a weather-proof option.



6.3 Maintenance

The benefits of an active transportation corridor can quickly disappear if it is not adequately maintained throughout the year. The corridor requires regular maintenance, along with snow and ice removal. When facilities are not maintained and have icy or snowy conditions, debris, potholes, and uneven paving, active transportation users, especially cyclists, tend to have more negative experiences and higher risks for potential crashes and accidents.

Currently, the proper equipment and resources required to maintain the recommended facilities are limited, and any comprehensive maintenance will necessitate coordination with the MOTI on segments that are within the road right of way that fall under their jurisdiction. This is especially important for MUPs where smaller machinery is needed to access the area behind barriers and/or curb and gutter for snow removal and clearing of debris. Best practice solutions for the corridor maintenance are based on previous experience and input from the BCATDG.

The overall maintenance of the corridor includes several components:

- Sweeping and Debris Removal: Regular sweeping to remove gravel, debris, and leaves; and trimming adjacent vegetation.
- Snow and Ice Management: In the fall and winter months, it is critical to clear and remove debris and snow, and to treat and remove ice or slippery conditions. Any maintenance requirements will need coordination with the group,



agency, or landowner in which the corridor is located, to determine if year-round maintenance is achievable and desired.

• Asset Management: This includes repairing pavement surfaces and other road surface appurtenances such as utility covers, replacing worn pavement markings and signs, mitigating locations with pooling water or drainage issues

As the ATCVP moves into future stages of design and implementation, developing a Memorandum of Understanding (MOU) among groups that will be involved in the maintenance, including local municipalities and MOTI, will help ensure coordinated efforts. Additionally, establishing a "Friends of the Castlegar-Nelson Active Transportation Corridor" volunteer program can engage the community in the maintenance and long-term stewardship of the ATC.

A well-maintained AT Corridor will enhance safety, increase usage, and reduce long-term costs.



7.0 IMPLEMENTATION APPROACH

7.1 Governance & Collaboration

The AT Corridor will need to be built piecemeal and in a phased approach and also managed using a collaborative governance system. This system involves a governing arrangement where multiple public agencies, advocates, and non-governmental agencies (NGOs) will need to engage in a consensus-oriented, deliberative decision-making process.

The purpose is to update and share the vision for the ATC, in this arrangement, the WKCC should continue to act in its convener role, look to partner where possible and work together to bring key public agencies such as the RDCK, the Province, local municipalities, First Nations, and other interested parties to support rolling out the vision of the ATCVP.

In the short term, the WKCC and its partners will support the collaborative planning for the AT Corridor and work with the RDCK to develop the conceptual and detailed design of the various segments of the corridor. Municipalities will be able to support through the development and implementation of specific portions of the ATC that mesh with their own local active transportation networks and amenities.

Other orders of government and their agencies operating in the region, such as the MOTI, will provide important infrastructure support, such as enhancing the Road ROW to allow for integration with other transportation modes. NGOs and other interested parties play crucial roles in advocacy, education, and funding.

The following definitions outline roles and suggest ways in which each role can support the development and implementation of the ATC.

Promoter

A Promoter actively advocates for the ATCVP, championing its vision and goals. Promoters are essential in raising awareness and building public and political support for the project. Ways to support as a Promoter include:

- Advocating for policies that support active transportation and public health.
- Promoting the ATC concept through public campaigns and community engagement.
- Celebrating successes and project milestones to maintain momentum and support.

Coordinator

A Coordinator ensures effective communication and collaboration among all key groups involved in the ATC development. This role is vital for harmonizing efforts and ensuring a cohesive approach. Ways to support as a Coordinator include:

- Facilitating regular meetings and communications between public agencies, municipalities, and other stakeholders.
- Exploring partnerships to facilitate planning, construction, and operation of AT Corridor segments.

• Collaborating with municipalities and other jurisdictions to ensure seamless integration with existing transportation networks.

Strategist

A Strategist focuses on long-term planning and policy development to support the AT Corridor. This role involves confirming optimal routes, securing necessary resources, and ensuring alignment with broader regional plans. Ways to support as a Strategist include:

- Developing policies and plans that incorporate green infrastructure and amenities that align with the ATCVP.
- Updating local and regional plans to reflect the ATCVP.
- Identifying and securing routes through collaboration with private landowners and other agencies.

Implementer

An Implementer would be responsible for the practical aspects of constructing and developing the various segments of AT Corridor. This role involves prioritizing projects / sub-segments, securing funding, providing available right of way, and managing the physical development of the corridor. Ways to support as an Implementer include:

- Planning, designing, and building AT Corridor segments that meet established goals and objectives.
- Including AT Corridor development in capital projects and securing the necessary right of way.
- Utilizing land use policies to support AT Corridor development through public amenities and setback acquisition.

Manager

A Manager oversees the operation and maintenance of the AT Corridor, ensuring that it remains functional and sustainable over time. This role is critical for the long-term success and usability of the corridor. Ways to support as a Manager include:

- Coordinating the operation and maintenance of AT Corridor segments, particularly those within municipal or regional jurisdictions.
- Planning for increased operational budgets to accommodate new AT Corridor segments.
- Developing agreements with various levels of government and private partners for the upkeep of the AT Corridor segment.

Informer

An Informer plays a key role in educating the public and stakeholders about the AT Corridor, its benefits, and its progress. This role helps build a supportive community and ensures transparency. Ways to support as an Informer include:

- Publishing updates and plans online to keep the public informed.
- Collaborating with local organizations on educational campaigns promoting active transportation.

• Tracking and reporting on the progress of ATC development and expansion.

Financial Supporter

A Financial Supporter provides the necessary funding to ensure the development and sustainability of the AT Corridor. This role is essential for securing the financial resources needed to make the vision of the ATCVP a reality. Ways to support as a Financial Supporter include:

- Incorporating AT Corridor funding into regional and local budgets and planning processes.
- Seeking grant funding from provincial, federal, and other sources.
- Collaborating with NGOs and DMOs that have mutually beneficial interests. As an example partnering with organizations like Destination BC can help secure financial contributions by highlighting the potential for increased tourism and regional promotion, making the AT Corridor an attractive investment.
- Providing funding or land access to support the implementation of the AT Corridor.

Table 4 below suggests which roles could be supported by the various regional groups andauthorities.

Agency	Roles for the Development of the AT Corridor			
Regional District of Central Kootenay Inc. Castlegar, Nelson, Electoral Areas E, F, H, I)	Promoter, Coordinator, Strategist, Implementer, Manager, Informer, Financial Supporter			
West Kootenay Cycling Coalition	Promoter, Coordinator, Strategist, Implementer, Informer, Financial Supporter, Partner			
Provincial Government	Promoter, Strategist, Implementer, Manager, Financial Supporter, Partner			
Ministry of Transportation and Infrastructure (MOTI)	Promoter, Strategist, Implementer, Manager, Financial Supporter, Partner			
Provincial Agricultural Land Commission	Promoter, Implementer, Financial Supporter, Partner			
BC Transit	Promoter, Implementer, Partner			
Federal Government	Promoter, Strategist, Implementer, Manager, Financial Supporter, Partner			
First Nations	Promoter, Partner			
NGOs	Promoter, Financial Supporter, Partner			
Private Land Owners (Fortis, Teck, CP Rail)	Strategist, Implementer, Manager, Financial Supporter, Partner			

Table 4: Potential Role for the Development of the AT Corridor

7.2 Preliminary Cost Estimates

The financial planning for the ATCVP draws on unit cost assumptions detailed in **Table 5** and **Table 6**. These unit and lump sum costs reflect typical expenses and recent construction pricing observed in communities of similar size within British Columbia. The estimates are based on adapting existing right of way to incorporate active transportation facilities or crossing improvements, as well as developing new MUPs across the study area. Some pathways will be in public right of way, while others will be on private land and require easement or land access agreements.

Recognizing the comprehensive nature of active transportation facility construction, the unit costs include some elements and exclude others. It is important to note that these estimates do not cover expenses associated with land acquisition, structural enhancements, traffic control mechanisms, the relocation of hydro lines, or additional engineering assessments. The costs reflect typical slopes and associated grading without retaining walls, but some of the preferred route alignments will not reflect the right of way, grading, and slope stability requirements in locations where the topography is steep.

The estimates are assumed averages and are subject to change based on construction market fluctuations, real estate values, final design, surveys, and engineering.

Table 5: Unit Costs

Facility Type	Unit Cost - per m	General Assumptions
Shared Street Facility	\$75	Assumes installation on both road sides, with signage every 400m, Sharrows installed at 1 at start and end of block for each direction and line painting on two sides - assume every 200m and assumes 1 speed table every 250m (@ \$7500 per table / 30\$ per m of Shared Facility)
Multi-Use Pathway Adjacent to Roadway	\$1,100	A 3.0-4.0m wide hard surface asphalt pathway (MUP) within the road right of way, to be built near the edge of the road, with asphalt pavement being widened, includes excavation, removal of organic materials, placing base aggregate, and connecting to the existing ground level (cut/fill). Includes Signage 1 every 200m) + Pavement Marking with Ped/Bike Symbol + Roadside concrete barrier. Excludes potential private property agreements, design/installation of retaining structures / extensive earthworks, and drainage (culverts / swales). Costs will vary depending on the project's scale and complexity.
Urban Bi- Directional Protected Bike Lane/Multi-Use Pathway	\$1,400	A 3.0-4.0m wide hard surface asphalt pathway / bike lane within road right of way, assuming curb and gutter is removed and replaced but no utility relocations. Includes Signage 1 at start and end of each block at each 200m) + Pavement Marking with Ped/Bike Symbol. Excluding design of and/or signal modifications. Costs will vary based on project scale and complexity.
Off-Street Multi- Use Pathway	\$900	A 3.0-4m wide hard surface asphalt pathway (MUP) through a green space / forest and/or adjacent to utility / Rail ROW, setting under normal conditions with a 90mm asphalt depth, includes clearing and grubbing, excavation, removal of organic materials, placing base aggregate, and connecting to the existing ground level (cut/fill) costs for. Includes Signage 1 every 200 + Pavement Marking with Ped/Bike Symbol. Excludes potential private property agreements, design/installation of retaining structures / extensive earthworks, and drainage (culverts / swales). Costs will vary based on project scale and complexity.

Table 6: Lump Sum Costs

Lump Sum	Lump Sum Cost	Assumptions
Urban AT Crossing	\$15,000	Ramps on both sides, back-to-back signs, tactile domes, and solid white lines with Zebras and elephants feet
RRFB AT Crossing	\$20,000	Include two push buttons, rapid flashing beacons signs X 2, concrete curbing, back-to-back signs, and pavement crossing.
Minor Street Crossing	\$3,500	Includes adjustment of existing curb (if any) to accommodate a MUP and includes green thermoplastic for improved visibility.
At-Grade Railway Crossing with Gate	\$100,000	Includes surface treatment and a standard gate with signage for AT User safety at railway crossings.
Wood Bridge (Medium)	\$15,000	For bridges spanning 10 to 20 meters.
Custom Bridge (Medium)	\$5,000,000	Single span bridges, either metal or wood, ranging from 50 to 100 meters in length.

As indicated in **Table 7**, the estimated cost to realize the proposed AT Corridor detailed in this ATCVP is approximately \$66 million. This includes 40% contingency added.

This estimate encompasses the core infrastructure developments but does not cover the Taghum Bridge or Selkirk College Connection (see **Section 7.2.1 - 7.2.2).** It also does not include additional elements such as bicycle parking, benches, public amenities, enhancements at the proposed mobility hubs, and the ongoing maintenance of the facilities and amenities. **Appendix C** provides a breakdown of each segment cost by the facility type and lump sum elements.

As the ATCVP moves to conceptual design and implementation, there will be a need to actively pursue partnerships with other agencies and government entities to form cost-sharing agreements and seek grant funding, mitigating the financial impacts. Detailed information about potential funding opportunities is provided in **Section 7.4**.

Segment Number	Total Cumulative Length of new facility (m)	Lump Sum Item & Quantities	Total Cost	
Segment 1	8718	 3 x Urban AT Crossing 2 x RRFB AT Crossing 3 x Minor Street Crossing Taghum Bridge* 	\$13,600,000	
Segment 2	12723	 3 x RRFB AT Crossing 1 x Minor Street Crossing 2 x At-Grade Railway Crossing with Gate 1 x Wood Bridge (Medium) Taghum Bridge* 	\$14,400,000	
Segment 3	5343	 1 x RRFB AT Crossing 4 x Minor Street Crossing 2 x At-Grade Railway Crossing with Gate 1 x Custom Bridge (Medium) 	\$15,200,000	
Segment 4	5284	 2 x RRFB AT Crossing 2 x Minor Street Crossing 2 x At-Grade Railway Crossing with Gate 	\$7,800,000	

Table 7: Estimated Costs by Segment

Segment 5	8250	 1 x RRFB AT Crossing 4 x Minor Street Crossing 2 x At-Grade Railway Crossing with Gate 1 x Custom Bridge (Medium) 	\$9,300,000
Segment 6	10778	 1 x Urban AT Crossing 2 x Minor Street Crossing 1 x At-Grade Railway Crossing with Gate Robinson-Castlegar Bridge AT accommodation* 	\$5,400,000
Total			\$65,700,000

*Lump Sum Item not included in the cost estimate

7.2.1 Taghum Bridge Piers

The Old Taghum Highway Bridge, originally constructed in the early 1900's, stands as a historical structure with significant potential for adaptive reuse. In 2021, a Hydrotechnical and Structural Assessment of the piers was conducted by StructureCraft⁷. The assessment concluded that, with specific recommendations and further detailed investigations, the existing piers and abutments could be economically salvaged and repaired to support a new pedestrian bridge with an estimated lifespan of 40 to 60 years.

While the idea of repurposing the old piers for a new active transportation bridge is highly beneficial for the community, it has been treated as a separate initiative from the ATCVP but is

identified as infrastructure that would be utilized in the preferred routing. This bridge would not only provide a crucial connection across the Kootenay River but also enhance active transportation options for residents in the Taghum area, directly linking them to the south-side communities of Blewett and Granite.

As the ATCVP progresses into future stages, coordination with the development of this



pedestrian bridge will be essential to ensure seamless integration and maximize the benefits of both initiatives. Given the significance and complexity of the bridge replacement, it is excluded from the current cost estimates of the ATCVP and should be pursued as an independent but complementary infrastructure project.

7.2.2 Selkirk College Active Transportation Connection to Castlegar

Selkirk College in Castlegar is a key terminus point for the AT Corridor. A potential future connection between Selkirk College and the City of Castlegar, has again been given some thought, and as of late, proposed by the Castlegar Rotary Sunrise Club in May, 2023⁸. The goal of this would be to enhance connectivity and promote active transportation by constructing a pedestrian bridge or gondola over the Columbia River.

⁸ My Kootenay Now, *Rotary hoping for study on Castlegar-Selkirk College link*, 2023. Available online: <u>https://www.mykootenaynow.com/50837/news/rotary-hoping-for-study-on-castlegar-selkirk-college-link/</u>

⁷ StructureCraft, Preliminary Hydrotechnical and Structural Assessment of the Old Taghum Highway Bridge Piers for Possible Re-Use to Support Proposed Pedestrian Bridge, 2021. Made available by the RDCK

Artist Credit: S. Work - WKCC FLKIRK CONDOL

The connections would integrate Selkirk College more closely with the community, making it easier for over 2,000 students and 400 staff to access local businesses and amenities. The envisioned bridge would accommodate cyclists and pedestrians, providing a direct route across the river without supporting vehicular traffic. This initiative aligns with the ATCVP's goal of

enhancing active transportation options and connectivity within the region. While this initiative is still in its infancy, it has not been included in the cost estimates of the ATCVP.

7.3 Segment Phasing and Prioritization

As outlined in **Section 6.1**, there are six active transportation corridor segments recommended as part of the ATCVP. While all six segments are important, it will not be feasible to implement them simultaneously due to right of way acquisition, construction challenges, and budgetary constraints. Recognizing these limitations, several segment prioritization criteria were developed, and the segments were scored to develop prioritization, as shown in **Table 8**.

	Natural Environment Considerations			Human Environment Considerations				Project Complexity	
Seg #	Route is relatively flat (Yes/No)	# of Rivers / Streams Crossed (#)	Routing in Green spaces / Forests (Yes/No)	% of Seg. that on Existing Public ROW (L/M/H)	Connection w/ Existing Residents (L/M/H)	Connection w/ Transit (L/M/H)	Agreement required w/ Priv. Land Owners (Yes/No)	Cost (\$,\$\$,\$\$\$)	Ease to implement (L/M/H)
Seg 1	Yes	0.5*	No	High	High	High	No	\$\$\$	Med
Seg 2	No	1.5*	Yes	Low	Low	Low	Yes	\$\$\$	Low
Seg 3	No	1	Yes	Med	Med	Med	Yes	\$\$	Med
Seg 4	Yes	0	No	High	Med	High	No	\$	High
Seg 5	Yes	0	No	High	Med	High	Yes	\$\$	Med
Seg 6	Yes	2	Yes	High	High	Med	Yes	\$	Med

Table 8: Segment Prioritization Criteria and Scoring

*Represents Proposed Taghum Bridge, which is split between Segments 1 and 2.



Based on the criteria outlined in **Table 8**, it is recommended that the ATCVP team and its partners pursue priority segments in the following order of priority, which is based on professional judgment and should be revisited as the ATCVP progresses to future stages. Note that the overall prioritization of segments may be subject to change based on shifting priorities, budget availability, available resources, and coordination with

external partners, including the MOTI/CP Rail/ALC & Fortis/WK Power as an example. Therefore, the list below is included for recommendation purposes only; ultimately, the decision on the order of implementation will need to be determined by the project partners.

Segment 4

This segment has no river or stream crossings and avoids green spaces or forests, making it easier to implement. It has high connectivity to residents and transit, with a high percentage utilizing existing public right of way. The route connects the corridor to Glade and Tarrys, providing access to Tarrys Hall. Due to its low cost and high ease of implementation, Segment 4 should be the highest priority.

Segment 1

This segment connects Nelson to Taghum with a MUP for a majority of the segment. The cost of building the Taghum Bridge on existing piers is not factored into this prioritization, as connecting Nelson to Taghum Beach Regional Park and Grohman Narrows Provincial Park is seen as a benefit and can be achieved without the bridge. The segment features flat topography, with high connectivity to residents and transit. It avoids green spaces and utilizes a high percentage of public right of way. Despite its high cost, Segment 1's medium ease of implementation makes it a strong candidate for earlier implementation.

Segment 6

This Segment terminates the corridor in Castlegar at two locations: the CPR Museum Downtown

and Selkirk College. Overall, the segment has relatively flat topography but requires crossing multiple rivers and some of its routing is through green spaces on Waldie Island and requires land access by the way of Brilliant Dam Access road. It does have better connectivity to existing residents than other segments. Given its low cost and medium ease of implementation, Segment 6 should follow the easier and less expensive segments.



Segment 5

This segment improves connectivity in Thrums, avoiding river crossings and green spaces. It has high connectivity to residents and transit, with a high percentage of public right of way. Some agreements with private landowners are needed. With moderate cost and medium ease of implementation, Segment 5 should be prioritized after Segments 4, 1, and 6.

Segment 3

This segment connects Slocan Junction and Shoreacres. It requires a new river crossings and a good portion of the preferred routing is through green spaces, with medium connectivity to residents and transit. It does benefit from tying into the existing Slocan Rail Trail, but the northern portion of segment will require agreements with private landowners. With moderate cost and medium ease of



implementation, Segment 3 should be prioritized after less complex segments.

Segment 2

This segment connects Taghum to Beasley and Bonnington. It features challenging topography and multiple river crossings, requiring routing through green spaces and forests. Connectivity to residents and transit is low, and it utilizes a low percentage of public right of way. A significant challenge is negotiating the use of the CP Rail right of way, which complicates implementation. It then follows Cora Linn Road to Lower Bonnington Road and continues along the Fortis BC transmission line and Bonnington Dam Access Road. Due to its high cost and low ease of implementation, Segment 2 should be the lowest priority.

7.4 Funding for the Active Transportation Corridor Vision Plan

Stable and long-term funding sources will be essential from municipal, provincial, and federal levels of government to fully realize the long-term vision of the ATCVP. Local levels of Government must collaborate with project partners to present a unified voice to other levels of government, demonstrating how new investments in sustainable transportation infrastructure can be effectively and equitably allocated to support economic growth and promote healthy, prosperous communities.

Local Government Climate Action Program (LGCAP)

The Local Government Climate Action Program (LGCAP), launched in 2022, offers predictable, long-term funding for communities to support local climate action to reduce emissions and prepare for climate change impacts. The program has several eligibility requirements including the need for a specific project to be linked to one or more objectives outlined in the CleanBC Roadmap to 2030 and/or the Climate Preparedness and Adaptation Strategy. The CleanBC Roadmap to 2030 aligns well with the ATCVP, as it supports several relevant transportation infrastructure and policy changes, including:

- Development and implementation of active transportation plans or investments
- Provision of secure bike parking
- Commute reduction programs
- Transit/pedestrian-oriented development regulations
- Trip reduction programs
- Mode shift targets in Official Community Plans and Regional Growth Strategies

LGCAP provides a total of \$24.456 million annually, allocated to local governments and Modern Treaty Nations based on community population size. The LGCAP website provides more detail on the eligibility requirements but in general, several of the cycling facilities project would be eligible for funding.

B.C. Active Transportation Infrastructure Grants Program

The B.C. Active Transportation Infrastructure Grants Program offers two grant options for Indigenous governments and local governments, including municipalities and regional districts. Eligible governments can apply for a maximum of two grants per intake if they satisfy specific criteria, including:

- Project must be part of an active transportation network plan or equivalent.
- Project must be ready to begin construction once provincial funding is announced.
- Projects must be completed by March 2025 for budgets under \$1 million or by March 2026 for budgets over \$1 million.
- Projects must be open to the public.

The ATCVP team can leverage this grant program by ensuring that priority segments are shovelready, positioning itself for funding.

Road Safety Funding

The Ministry of Health and the Ministry of Transportation & Infrastructure offer the <u>BC Vision</u> <u>Zero in Road Safety Grant Program (https://www.visionzerobc.ca/apply-now</u>), supporting local governments, Indigenous governments, and NGOs in addressing road safety issues. The program targets immediate and long-term injury reduction benefits for vulnerable road users in underserved, Indigenous, and small or remote communities. It also promotes low-cost, innovative, and technology-driven road safety measures. Grants range from \$5,000 to \$20,000, with applications typically accepted between November and January.

ICBC's Road Improvement Program (https://www.icbc.com/road-safety/community/investing-inroad-improvements) aims to reduce collisions, injuries, and fatalities, enhancing road safety for all users. This program also helps lower insurance claims, resulting in cost savings for ICBC. It adopts a cost-sharing agreement, typically 50/50, with the road authority for projects expected to reduce future collisions. Eligible projects include road safety reviews, sidewalk installations, intersection improvements, cycling facilities, and speed reader boards. The ATCVP team can reach out to the ICBC Road Safety Engineer for the Interior Region to discuss partnership opportunities and submit projects for ICBC's funding considerations.

By utilizing resources from both the BC Vision Zero in Road Safety Grant Program and ICBC's Road Improvement Program, the ATCVP team can promote the AT Corridor as an improvement to existing conditions, that will enhance safety and accessibility for all users along the proposed route.

Columbia Basin Trust

The Columbia Basin Trust (CBT) provides various forms of support to those who live within the Canadian portion of the Columbia Basin, including through grants. The CBT's <u>Community</u> <u>Development Program</u> supports the efforts of Basin residents to address community challenges and opportunities. Eligible applicants include non-profits, public organizations, municipalities, regional districts and First Nations communities. The types of projects that may be eligible include strategic, broadly supported projects that address community challenges or take advantage of unique opportunities that have significant positive impacts on Basin communities, planning projects that will lead to the implementation of tangible projects, and capital projects that become community assets. Under this program, priority would given to projects with confirmed cash contributions from the applicant or other funders. There is no deadline to apply for this grant, and is recommended that when the AT Corridor is moved to the next phase of the ATCVP, a project inquiry could be submitted online at: https://forms.ourtrust.org/community-development-program-project-inquiry/

Outdoor Recreation Council of BC (ORCBC) Grants

The Outdoor Recreation Council of BC (ORCBC) supports enjoyable and respectful outdoor recreation opportunities for all, representing more than 100,000 individual members. In May 2023, the province of BC provided a one-time grant of \$10 million to ORCBC to establish a new endowment fund to improve and enhance outdoor recreation opportunities. Grant sizes range from \$2,000 to \$10,000, with criteria including alignment with grant priorities such as:

- Outdoor enhancement
- Stewardship and education

These grants can support initiatives around maintenance, interpretive signage, and safety enhancements. Although the 2024 grant intake is closed, future opportunities may arise, allowing the ATCVP team to apply for funding to support wayfinding, signage, and maintenance of enhanced trails.


8.0 NEXT STEPS

The Castlegar-Nelson Active Transportation Corridor Vision Plan sets the stage for a transformative infrastructure project that promises to enhance regional mobility, promote sustainable transportation, and foster community health and well-being. To transition from vision to reality, the next steps are detailed out below. These initiatives will require coordinated expertise from multiple disciplines and are not laid out in any particular order.

Establish Governance and Collaboration Framework

- **Steering Committee:** Establish a committee with representatives from the West Kootenay Cycling Coalition, Regional District of Central Kootenay, local municipalities, First Nations, provincial agencies, and community organizations to oversee the next stages of the ATCVP.
- *MOUs:* Create Memorandums of Understanding with key groups, including the Ministry of Transportation and Infrastructure, local governments, and utility companies, to define roles, responsibilities, and collaborative mechanisms for corridor development and maintenance.

Business Case Development

• **Develop a comprehensive business case** to evaluate the benefits, costs, and risks associated with the proposed AT Corridor. Highlight the anticipated economic, environmental, and social benefits to generate public support and convince decision-makers to invest public funds.

Secure Funding and Resources

- *Funding Opportunities:* Explore diverse funding opportunities, including federal and provincial grants, municipal contributions, and private sector partnerships. Engage with organizations like the Columbia Basin Trust and Outdoor Recreation Council of BC for potential financial support.
- *Grant Applications:* Develop comprehensive grant applications highlighting the ATCVP's benefits, alignment with policy goals, and community support. Prioritize applications for segments that can be initiated in the short term to demonstrate early successes and build momentum.

Detailed Design and Engineering

- *Surveys:* Conduct detailed topographical and environmental surveys along the proposed route to inform concept development and engineering design.
- **Engineering Designs:** Create detailed engineering designs for each segment of the corridor, ensuring compliance with active transportation design standards and addressing any identified challenges.

• *Phased Implementation:* Revisit the phased priorities regularly based on future public input, engineering design, and studies to focus on those segments that offer the greatest benefits and are most feasible to implement.

Community Engagement and Communication

- *Maintain continuous communication* with community members, key audiences, and the public throughout the implementation process using public meetings, online updates, and social media.
- *Volunteer Program:* Establish a "Friends of the Castlegar-Nelson Active Transportation Corridor" volunteer program to engage the community in corridor maintenance and stewardship, fostering a sense of ownership and pride in the project.

Permitting and Land Acquisition

• Obtain the necessary permits and land through consultations with regulatory agencies, multiple levels of government, NGOs, and utility owners. Along with securing land acquisition or easements from private landowners.



APPENDIX A – KEY AUDIENCE INTERVIEW SUMMARIES



Castlegar-Nelson ATC Visioning Project Stakeholder Interview Summaries - Draft

1.0 PURPOSE

The purpose of conducting interviews was to gather insights from groups that are directly involved or impacted by the planning, management, and operation of transportation modes along the Castlegar-Nelson Active Transportation (AT) Corridor. The stakeholder interviews aimed to achieve the following objectives and outcomes:

Assess how each stakeholder organization engages with active transportation in their professional realm.

- Identify specific challenges and opportunities for active transportation from a professional perspective.
- Understand the current transportation context, including existing plans, policies, and programs.
- Determine the potential for collaboration between various organizations and the ATCVP.
- Uncover specific safety considerations and strategies related to active transportation.
- Gather professional insights into how the ATCVP can best serve a diverse range of users.

2.0 INTERESTED AND AFFECTED PARTIES

Stakeholders for these interviews included the following Governing bodies and organizations:

- City of Nelson
- Ministry of Transportation and Infrastructure (MoTI)

- RCMP (Castlegar Detachment)
- City of Castlegar
- Regional District of Central Kootenay

- ICBC
- BC Transit

3.0 INTERVIEW QUESTIONS

Each stakeholder interview took place virtually over Microsoft Teams and lasted approximately 45 minutes to one hour. The conversation commenced with a brief project overview and concluded with an invitation to participate in other public engagement activities.

The below table shows the interview questions asked alongside the corresponding engagement objective.



Interview Quest	ion	Engagement Objective			
1. Could you deso concerning tran	cribe your organization's role and responsibilities nsportation in the Castlegar-Nelson corridor?	For all stakeholders: To understand each stakeholder's professional involvement and influence on active transportation.			
2. What key chall transportation	enges and opportunities do you see for active from your professional perspective?	For all stakeholders: To identify sector-specific insights into the complexities of planning and implementing active transportation solutions.			
3. What existing	plans, policies, or programs in your organization	For all stakeholders: To uncover potential synergies or conflicts that need to be considered in the ATCVP.			
could intersect	could intersect with the ATCVP?	le. Clean BC Directives (Reduce driving in trip in the short term)			
		Maintenance & Re-paving			
4. What potential organization ar	do you see for collaboration between your nd the ATCVP?	For all stakeholders: To explore opportunities for partnership and joint efforts to promote active transportation.			
5. What safety co organization's	onsiderations are important from your perspective in developing the ATCVP?	Particularly for ICBC, RCMP, and engineering professionals: To understand unique safety concerns related to active transportation.			
6. How do you th users from a pr	ink the ATCVP can best serve the needs of diverse ofessional transportation perspective?	For all stakeholders: To gain specialized advice on catering to different user groups, such as those using public transit, personal vehicles, bicycles, and pedestrians.			
7. Are there any a like to offer for	additional considerations or suggestions you would the development of the ATCVP?	For all stakeholders: To provide an opportunity for stakeholders to share additional insights, ideas, or concerns not covered by the previous questions.			



4.0 INTERVIEW SUMMARIES

Interview Summary #1:

Agency: City of Nelson Interviewee: Matthew Kuziak and Sebastian Arcand

Date / Time: July 27th, 2023, 2:00pm

Main Insights:

- 1. **Familiar Communities:** The City recognizes the necessity for improved connectivity between Castlegar and Nelson, aligning with Nelson's Active Transportation Implementation Plan and integrating conceptual plans into the broader corridor for internal community linkage.
- 2. **Engagement with Active Transportation:** The lack of accommodating infrastructure was highlighted as a major issue with a focus on the demand for safer and more comfortable transportation means and the opportunities presented by the rising popularity of longer trips, like those that can be made by E-bike.
- 3. **Barriers or Opportunities:** Identified barriers include a lack of accommodating infrastructure and topographical challenges, such as road width and competition for space. Opportunities are seen in leveraging the rise in E-bikes and reducing traffic congestion.
- 4. **Improvements:** Emphasis is placed on the necessity of infrastructure that ensures safety in areas like dangerous intersections and choke points, along with the potential for more effective integration of current plans and infrastructure.
- 5. **Catering to Different User Groups:** Safety for all users is stressed as important, with additional considerations like lighting, shade, wind protection, and accessibility for diverse user needs.
- 6. **Policies or Programs:** References are made to several intersecting plans with the ATCVP and stated that the City's Active Transportation Implementation Plan is due for updates and will be integrated into the city's Official Community Plan (OCP). This integration signifies the city's commitment to embedding active transportation within its broader urban planning framework.
- 7. **Partnerships/Collaborations:** A desire is expressed to remain informed about developments affecting Nelson, with discussions on routing options and impacts on surrounding communities highlighted as important.
- 8. **Future Vision of Active Transportation:** A future is envisioned where active transportation is safely integrated, accommodating a variety of users and effectively connected within the broader transportation network.



9. Other Remarks: No additional comments were provided.

The insights from the interview highlight a nuanced understanding of the challenges and opportunities in developing active transportation in the Castlegar-Nelson corridor. A focus on safety, strategic planning, and the potential for E-bikes as game-changers suggests a forward-thinking approach. Collaborative efforts and the alignment of policies and plans are crucial in realizing a future vision of active transportation that is inclusive, sustainable, and beneficial to the community.

Interview Summary #2:

Agency: Ministry of Transportation and Infrastructure (MoTI) Interviewee: Juliet Spalding and Ryan Oakley

Date / Time: August 1, 2023, 10:30am

Main Insights:

- 1. **Familiar Communities:** MoTI's mandate includes ensuring safe and reliable infrastructure. In the Castlegar-Nelson corridor, they've tackled resurfacing along the route, though no significant repaving is scheduled in the near future due to cost. Emphasis is placed on maintaining rather than upgrading due to these constraints.
- 2. Engagement with Active Transportation: MoTI recognizes the challenges posed by the region's topography and climate to AT. They are supportive of Multi-Use Pathways (MUP) off the highway but are constrained by the high costs of constructing such pathways in mountainous terrain. However, e-bikes are seen as a game-changer for rural cycling feasibility when considering the viability of cycling routes.
- 3. Barriers or Opportunities: Topography, traffic volume, and maintenance are primary challenges for AT along the highway. Off-highway solutions like the TC trail (in Banff) are seen as opportunities, however not sure the ability exists for this type of treatment along the highway without additional costs. The 2021 Hwy 3A corridor study aimed at improving safety and mobility is in a holding pattern, awaiting action. MoTI is guided by the Ministers' mandate, which currently doesn't prioritize active transportation but focuses on the safety, reliability, and economic vitality of the network.
- 4. **Improvements:** Safety is paramount, with a preference for grade-separated crossings over painted crosswalks. The high-speed rural context complicates at-grade solutions, and MOTI stresses the importance of realistic project expectations when considering new infrastructure developments to ensure user safety.
- 5. **Catering to Different User Groups:** The Ministry faces challenges in implementing the AAA (All Ages and Abilities) cycling infrastructure, especially in rural settings. They are also



considering whether the infrastructure should serve transportation needs or recreational purposes, highlighting a dilemma in planning for future needs of the highway corridor.

- 6. Policies or Programs: Policies like Clean BC and BC Active Transportation guide align with ATCVP goals. Clean BC's targets, including a 30% emission reduction and a 10% increase in active transportation by 2030, guide their long-term planning. It is also noted that a 2021 Hwy 3A corridor study, currently shelved, could provide insights for future projects.
- 7. **Partnerships/Collaborations:** MoTI is open to partnerships, particularly in areas such as grant funding, sharing information, and permitting rights-of-way. However, budget constraints necessitate involvement from regional districts and other stakeholders for infrastructure development.
- 8. **Future Vision of Active Transportation:** A year-round AT solution is ambitious and complex. MoTI suggests a phased approach to developing infrastructure and emphasizes that its purpose should be to reduce car usage, not just for recreational use. They noted that the Political climate and budget constraints heavily influence project feasibility.
- 9. **Other Remarks:** Budget is a critical concern for MoTI, with funding often dictating project feasibility. Implementing intricate and costly projects like the ATC requires a collaborative and strategic approach.

The interview underscored the complex balance MoTI maintains between ensuring highway safety and exploring active transportation opportunities. The topographical and budgetary constraints present significant challenges, but there's a clear willingness to consider creative solutions and collaborate where possible. The dialogue around the ATCVP highlighted the need for realistic, phased approaches to developing infrastructure that aligns with both the highway transportation needs (goods movement, movement of people) and the recreational desires of the community.

Interview Summary #3:

Agency: ICBC Interviewee: David Dean, Road Safety Engineer

Date / Time: August 23, 2023, 2pm

Main Insights:

1. **Familiar Communities:** The Road Improvement Program (through ICBC) participates with all road authorities throughout the province on road safety initiatives. The program has had similar discussions, with respect to adding AT facilities to highways with reduced lane widths and improved operating speeds, between Smithers and Telkwa.



- 2. **Engagement with Active Transportation:** The Road Improvement Program provides road safety advice and audits on road and active transportation design and encourages the construction of road safety projects through funding.
- 3. **Barriers or Opportunities:** ICBC notes the challenge of designing AT facilities for all user types. For example, improvements for pedestrians may not correlate with improvements for cyclists, and vice versa. ICBC sees a key opportunity to connect to AT facilities at each end of the ATC to ensure user safety.
- 4. **Improvements:** The suggestion is to provide a surface treatment that makes the ATC accessible to everyone.
- 5. **Catering to Different User Groups:** The ATC should be designed to anticipate all types of users and mobility devices. Mobility devices can vary in size, speed, and maneuverability.
- 6. **Policies or Programs:** ICBC offers the Road Safety Audit program that overlaps with the engineering design of any transportation facility. They provide the Road Safety Audit team free of charge to any of the province's road authorities. Additionally, they have provided one-off opinions on conceptual design reviews and could be used as another input to the road safety aspect of this project.
- 7. **Partnerships/Collaborations:** ICBC wants road safety to be an explicit consideration in all steps of the design for the ATC. They are happy to participate in collaboration efforts to ensure that road safety is considered.
- 8. **Future Vision of Active Transportation:** Designs that do not sacrifice user safety for the sake of the directness of the path. This includes anticipating and accommodating all users and mobility devices by providing adequate widths and potential areas where passing could be allowed to reduce conflict when two different user types come together.
- 9. Other Remarks: ICBC notes that phasing of a project can often lead to attracting new users who do not have the confidence or ability to cycle on the road. Often, these new users are stuck at a facility type they are not comfortable with. Care should be taken on the phase-ability of the project to ensure the safety of users. Additionally, ICBC notes that bridges and crossings will require specific localized designs to address specific safety issues.

This interview highlights the importance of considering safety and different user types throughout the entirety of the ATC design process. The Road Improvement Program can provide direction or comment on cross-section elements and speed limits.



Interview Summary #4:

Agency: BC Transit Interviewee: Carl Purvis, Manager of Planning & Jen Getz, Transit Planner

Date / Time: August 23, 2023, 3pm

Main Insights:

- Familiar Communities: BC Transit provides strategic planning, seasonal service change planning and scheduling, fleet management, and government management services for the West Kootenays. Jen is involved in the strategic planning for the West Kootenay Transit System.
- 2. **Engagement with Active Transportation:** The ATC will work towards creating better multimodal hubs by leveraging existing multi-modal infrastructure or potentially enhancing them, which is a good opportunity to explore synergies with BC Transit.
- 3. **Barriers or Opportunities:** There is an opportunity for a modal shift from passenger vehicles, which can be achieved through the growing population of e-bikes, connecting to existing cycling routes, and connecting to Selkirk College to engage students. A modal shift from passenger vehicles would be good for household health and affordability. BC Transit foresees a challenge with incorporating AT facilities and bus stops. It is noted that there are guidelines at the provincial level as well as some ICBC performance standards documents (June 29, 2010 (bctransit.com)).
- 4. **Improvements:** BC Transit has had previous discussions with MoTI and identified the following AT items they would like to see addressed within the study area:
 - The need for more crosswalks
 - The idea of a pedestrian/bicycle bridge connecting the Selkirk College side of Electoral Area I to the city of Castlegar (across the Columbia River)
 - The benefits of considering pedestrian movements as they review and approve land use applications in electoral areas on highways (in communities that straddle opposite sides of the highways). Permitting residential and employers on highways creates pedestrian and transit demand. No one wants to get in a car simply to cross a highway to visit their neighbour.
- 5. Catering to Different User Groups: It is important to BC Transit that the ATC is designed with all ages and abilities in mind and considers different socio-economic backgrounds. A resource that may enable this to be accomplished is Gender-based Analysis Plus. Additionally, BC Transit would like consideration to be given on how to increase the safety of bus stops within the study area.



- 6. **Policies or Programs:** BC Transit is looking at expanding some trips on Route 99 (which connects Nelson and Castlegar) by 2024/2025. BC Transit's Infrastructure Design Guidelines and Summary documents may be of use to the ATCVP.
- 7. **Partnerships/Collaborations:** BC Transit is eager to participate in the ATCVP and in future conversations with MoTI. Any routing changes or stop location changes are run by their Infrastructure team and/or their Safety and Training team, and WATT can reach out to Jen if there are any ideas with respect to these items throughout the project.
- 8. **Future Vision of Active Transportation:** The Transit Future Service Plan for Nelson speaks to the expansion of Castlegar routes and serving the Grandview Heights.
- **9.** Other Remarks: Jen suggests keeping the ATCVP short and sweet by having all the data in the appendices. She also noted that Tom Dool is a good contact as he has been in touch with someone affiliated with Selkirk College with respect to data on students and where they are living.

This interview underscores the complexity of designing the ATC and bus stops to work cohesively to ensure a safe experience for all users. Safety considerations should be given to users of all ages and abilities and from different socio-economic backgrounds. Accessing bus stops and the ATC on the highway via safe crossings is essential.

Interview Summary #5:

Agency: RCMP Interviewee: Sgt. M.M Taylor

Date / Time: September 21, 2023, 2pm

- Familiar Communities: Monty is part of the RCMP's Castlegar Detachment, which enforces federal, provincial, and municipal acts and legislation along the highway and in rural areas. This results in him working along the highway between Castlegar and Nelson and within the rural communities between the two municipalities.
- 2. **Engagement with Active Transportation:** The RCMP sees many cyclists and pedestrians utilizing the Castlegar-Nelson corridor, especially due to the rural communities and tourists.
- 3. **Barriers or Opportunities:** The RCMP currently receives complaints regarding motorized use along existing paths and anticipates they will receive complaints with the ATC. By-laws would be required to enforce no motorized usage on the ATC. Monty has also seen vehicles thwart temporary structures to use motorized vehicles along paths. If the ATC goes off the beaten path, access will be required for police and emergency services to respond to. It was



noted that the local fire department has access to a UTV which could be used to access the ATC in emergency situations.

- 4. **Improvements:** The suggestion is to have multiple accesses along the ATC, to not only allow access to emergency services but to easily allow people to complete shorter trips on the ATC.
- 5. **Catering to Different User Groups:** The RCMP suggests having a public education opportunity on how people can access and use the ATC. Additionally, it may be beneficial to have areas along the ATC where people can park their vehicles, which would allow people to drop one vehicle off at start/end points.
- 6. **Policies or Programs:** The RCMP does a bit of public education on cycling and partners with the Nelson Hub group to do bike rodeos in Castlegar. Monty notes it may be useful to note where the ATC falls within the Castlegar RCMP jurisdiction.
- 7. **Partnerships/Collaborations:** Monty is available for future collaboration and should be kept in mind when considering highway crossings.
- 8. Future Vision of Active Transportation: No specific input was provided.
- 9. **Other Remarks:** There are many accidents along the highway between Castlegar and Nelson, and there have been a few recent fatalities in the Thrums area.

The interview emphasizes the need for multiple accesses along the ATC to serve the rural communities between Castlegar and Nelson, provide access to emergency services, and allow users the opportunity to complete smaller trips along portions of the ATC. The high number of accidents and recent fatalities along the highway are of note and should be considered when determining how the ATC should be separated from traffic and the routing.

Interview Summary #6:

Agency: City of Castlegar

Interviewee: Ryan Niddery, Manager of Engineering and Infrastructure

Date / Time: September 21, 2023, 3:15pm

- Familiar Communities: Ryan works for the City of Castlegar and is pushing for a Transportation Master Plan (TMP) which is anticipated to have a major AT component. He sees a collaborative approach as being key to tying together the TMP and the ATC.
- 2. **Engagement with Active Transportation:** Castlegar will be an end/start point for a high portion of people using the ATC, and ultimately the city will need to have the connecting infrastructure.



- 3. **Barriers or Opportunities:** The City does not have a TMP in place and their OCP is very dated. AT infrastructure is considered whenever they are reviewing documents or projects, but ultimately having that guiding document would help in decision-making. The City sees an opportunity to formalize what current AT infrastructure exists.
- 4. **Improvements:** Creating access points along the ATC between Castlegar and Nelson to incorporate the small communities throughout.
- 5. **Catering to Different User Groups:** The City has an accessibility committee (similar to the Regional District and Nelson). Ryan utilizes this committee to run high-level ideas or concepts past them and to ask what they see that he doesn't to help fill in the blanks.
- 6. **Policies or Programs:** The City is happy to work with the project team to create a collaborative approach to tie together the City's TMP and the ATC.
- 7. **Partnerships/Collaborations:** The City is open to working with other partners in the Region (ex. Regional District or City of Nelson) to ensure the ATC does not seem disjointed and is approached holistically.
- **8.** Future Vision of Active Transportation: The City would like to set up their future AT infrastructure for success by tying into the ATC.
- **9.** Other Remarks: There is an existing pinch point for pedestrians when crossing downtown bridges in Castlegar. The City also noted that the ATC should make note of the main wildlife corridors in the study area and work to avoid them.

This interview shows the City of Castlegar's willingness to participate in future engagement, public education sessions, workshops, and general collaboration. Connecting to the communities by creating access points and connecting to municipal AT infrastructure was highlighted as being of importance.

Interview Summary #7:

Agency: RDCK Interviewee: Paris Marshall Smith, Sustainability Planner

Date / Time: October 5, 2023, 2:30pm

1. **Familiar Communities:** The RDCK offers a transit service and parks service, but currently has nothing related to AT. They see themselves as more of a facilitator and provide administrative support, research, and feasibility studies.



- 2. **Engagement with Active Transportation:** The RDCK would like to understand the best practices that can be gleaned from the ATCVP so they can replicate it in other areas within the Regional District.
- 3. Barriers or Opportunities: The RDCK has hosted previous public engagement events (called "Think Tanks") and could host further touchpoints with the community to discuss AT. Additionally, the RDCK sees an opportunity to build bike storage units where there are connections to transit and are conducting a high-level preliminary study.
- 4. Improvements: To address safety concerns, the RDCK suggests the ATC should consider users' exposure to vehicle speed and volumes along the corridor; visibility so that people can be seen in all types of weather; the public's perception of feeling safer with a physical separation and barrier; and that the corridor should not be isolated to prevent user being vulnerable to animals.
- 5. Catering to Different User Groups: Paris suggested shorter routes and shorter opportunities to get on and off the ATC so it is not just a commuter corridor (to cater to the folks who can't cycle for an extended period of time). Electronic charging stations along the route would also be nice due to the length of the route. The RDCK would like to promote the ATC as being as multi-modal as possible (minus motorized off-road vehicles).
- 6. Policies or Programs: The RDCK is currently developing an AT Scope for RFP and their Climate Action Plan.
- **7. Partnerships/Collaborations:** The RDCK is very eager to implement this type of project in other areas and would like to work with the MoTI to achieve this.
- 8. Future Vision of Active Transportation: The RDCK sees active transportation as being an asset to the amplification of the existing community halls to become a community café etc. and to build out services there.
- **9.** Other Remarks: The RDCK feels the ATC should have good wayfinding and signage and that it should be promoted so that people are aware of how to use it.

The interview emphasized the RDCK's desire to use the ATCVP to develop best practices that can be applied to other AT projects within the Regional District. Specific items were given to consider with respect to improvements along the ATC and catering to different user groups.



Castlegar-Nelson ATC Visioning Project Draft Stakeholder Interview for Non-Transportation Specialist Groups -Results

1.0 PURPOSE

The interviews are designed to gather insights from groups directly involved in, or impacted by, active transportation along the Castlegar-Nelson Active Transportation (AT) Corridor. Key audiences can provide specific knowledge of different communities along this corridor, addressing challenges and opportunities unique to their area. Furthermore, they can suggest improvements that the Castlegar-Nelson Active Transportation Corridor Visioning Plan (ATCVP) could implement to benefit their organization and the communities they represent. The objectives and expected outcomes of the Stakeholder Interview engagement activity are:

- Understand how the stakeholders are engaged with active transportation in their specific community along the Castlegar-Nelson AT corridor
- Identify key barriers and opportunities for active transportation users in these communities
- Gather specific improvements stakeholders would like to see along the active transportation corridor in their community
- Gain a more detailed understanding of stakeholder priorities and aspirations concerning active transportation in their community
- Uncover potential policies, programs, partnerships, or collaborations that could promote active transportation
- Receive stakeholder's vision for the future of active transportation in their community, and the role their organization plays in this vision
- Get insights into community outreach strategies that could raise awareness and promote the benefits of active transportation in their community



2.0 INTERVIEW QUESTIONS

Each stakeholder interview will take place over the phone or Microsoft Teams and will last 20-30 minutes. The conversation will commence with a brief project overview and conclude with an invitation to participate in other public engagement activities.

The below table shows the interview questions alongside the corresponding engagement objective.

Interview Question	Engagement Objective
 Which community or communities along the Castlegar-Nelson AT corridor are you most familiar with? 	For all stakeholders: Identify their familiarity and experience with specific areas along the corridor.
2. How does your organization engage with active transportation in the Castlegar-Nelson AT corridor and study area?	For all stakeholders: Understand their relationship and involvement with active transportation, even if indirect.
3. What barriers or opportunities do you see for active transportation in the communities you're familiar with along the Castlegar-Nelson AT corridor?	For all stakeholders: Gather their insights on the challenges and opportunities within the communities they are most familiar with.
4. Can you identify any specific improvements that would enhance active transportation in these communities along the proposed corridor alignment?	For all stakeholders: Gain suggestions for improvements based on their unique perspectives and experiences within these specific areas.
5. In your perspective, how can the ATCVP better cater to different user groups (children, elderly, differently-abled individuals, etc.) in the communities you're familiar with?	Particularly for school districts, health authorities, community organizations: These groups can provide valuable insights into the needs of various demographics within their specific community.
6. Are there any particular policies or programs you would suggest to support active transportation in your community along the Castlegar-Nelson ATC corridor?	Primarily for major employers and AT-focused stakeholders: They might have ideas for potential collaborations or initiatives that could promote active transportation.



Inter	rview Question	Engagement Objective			
7. V e a	Vhat partnerships or collaborations could your organization nvision to promote active transportation in your community long the corridor?	Especially for local businesses, educational institutions, and community groups: They may have ideas for potential collaborations that could promote active transportation.			
8. H ci rc	low do you envision the future of active transportation in your ommunity along the Castlegar-Nelson AT corridor, and what ole does your organization play in this vision?	For all stakeholders: To understand their long-term vision for active transportation and their potential role in achieving it.			
9. A ir	nything else you would like to share about active transportation n your community	For all stakeholders: An open- ended question to capture any additional feedback or perspectives not covered by the previous questions.			

3.0 INTERESTED AND AFFECTED PARTIES RESPONSES

Agency: Agricultural Land Commission Interviewee: Michael McBurnie, Regional Planner Date / Time: July 24, 2023, 9am

Main Insights:

- 1. **Familiar Communities:** Michael is most familiar with the ALR lands in the vicinity of Glade from the ALC's perspective. He has experience with the Fortis gas pipeline that crosses private land and the Columbia River into Millennial Park in Castlegar.
- 2. **Engagement with Active Transportation:** The ALC is involved in any projects that cross or use ALR. An application will be required for the ATCVP, even if it uses existing MOTI ROW. The ALC prefers early involvement in projects to avoid expensive changes later in the process.
- 3. **Barriers or Opportunities:** From the Cycle 16 example, potential conflicts with land use can arise, such as a culvert for cattle crossing the highway that would be disrupted by a cycle path. These conflicts require collaboration with landowners to ensure solutions that are mutually beneficial.
- 4. **Improvements:** The suggestion is to use existing frontage roads where possible for active transportation initiatives.
- 5. Catering to Different User Groups: No specific input was provided.
- 6. **Policies or Programs:** The ALC operates under a narrow-focused mandate; no specific policies or programs were suggested.
- 7. **Partnerships/Collaborations:** The ALC can partner with farmers. The importance of signage and awareness of farming along the path was emphasized. The Cycle 16 project was mentioned again as an example of managing potential conflicts between urban and farming interests.

Castlegar-Nelson ATC Visioning Project

Stakeholder Interview for Non-Transportation Specialist Groups - Results



- 8. Future Vision of Active Transportation: No specific input was provided.
- 9. **Other Remarks:** The Cycle 16 project was emphasized as a good example of what to expect when developing pathways in ALR. Any widening of the highway in the MOTI ROW will require ALC approval. A map of land within ALR along the corridor was referenced.

TAKEAWAY: the importance of early and ongoing engagement with the ALC, careful planning to avoid conflict with existing land uses, and the potential for partnerships with farmers. The Cycle 16 project was frequently cited as a relevant case study.

Agency: Selkirk College

Interviewee: Various Staff members: Peter Holton, Doris Hausleitner, Allison Lutz, Rena Vandenbos Date / Time: July 24, 2023, via email

Main Insights:

- 1. **Familiar Communities:** Castlegar, Shore Acres, corridor between Nelson and Castlegar, various routes used by staff and students.
- 2. **Engagement with Active Transportation:** Engages with BC Transit to improve campus access; facilities manager and sustainability coordinators involved.
- 3. **Barriers or Opportunities:** Property ownership, access through Teck properties, CP Rail corridor potential, safety concerns on bridges, and shoulder maintenance.
- 4. **Improvements:** Bike-only or separated routes on bridges, larger and better-demarcated shoulders, speed signs, and improved signage.
- 5. Catering to Different User Groups: Paved routes for accessibility, addressing safety on bridges.
- 6. Policies or Programs: Support for the initiative, encourage safe and accessible infrastructure.
- 7. **Partnerships/Collaborations:** Collaborating on improving connections between campuses and highways, working with MOTI on feasibility studies.
- 8. **Future Vision of Active Transportation:** Enhancing connectivity, promoting safe and accessible routes, potential role in feasibility studies and planning.
- 9. **Other Remarks:** Emphasis on paved paths, better infrastructure on bridges, and overall support for the project.

TAKEAWAY: Focus on safety improvements, particularly on bridges, paving routes for accessibility, and fostering partnerships for better connectivity.

Agency: Castlegar Parks and Trails Society

Interviewee: Sarah Meuiner

Date / Time: July 27, 2023, via email

Main Insights:

- 1. Familiar Communities: Castlegar, Thrums, Robson.
- 2. **Engagement with Active Transportation:** The CPTS develops and maintains trails for non-motorized use in the Castlegar area.
- 3. **Barriers or Opportunities:** Obtaining permissions from landowners and being "landlocked" when private owners deny permission for trails.
- 4. Improvements: A highway lane for cyclists that is safe, accommodates traffic in both directions, and is



well maintained.

- 5. **Catering to Different User Groups:** The infrastructure should be safe, well maintained, and have good signage and connections to places users will be going.
- 6. Policies or Programs: No specific policies or programs suggested.
- 7. **Partnerships/Collaborations:** Potential partnership with Trans Canada Trail and Rotary Club's feasibility study for a bridge or gondola over the Columbia River.
- 8. **Future Vision of Active Transportation:** Hope for a shift in public habits towards using active transportation more for commuting rather than just recreation.
- 9. **Other Remarks:** Willing to provide letters of support and answer any questions to help with the endeavor.

TAKEAWAY: Focus on obtaining land permissions, developing safe and well-maintained infrastructure, and leveraging potential partnerships for significant projects like bridges.

Agency: Community Futures Central Kootenay (CF)

Interviewee: Paul Kelly, Program Manager

Date / Time: August 3, 2023, 9am

Main Insights:

- 1. Familiar Communities: Nelson, Blewett, Granite Road, Taghum Road.
- 2. **Engagement with Active Transportation:** Active members of Kootenay Lake tourism and Nelson and Area Economic Development Partnership; focus on reducing fossil fuel consumption and car commuting.
- 3. **Barriers or Opportunities:** Weather, winter road maintenance, gravel and debris removal, narrow shoulders.
- 4. **Improvements:** Continuous pathway like rails to trails, widened shoulders, better brushing and gravel clearing.
- 5. Catering to Different User Groups: Visibly and physically separated bike lanes from auto transport.
- 6. **Policies or Programs:** Minimum shoulder width, driver awareness, signage, best practice policy for vegetation and gravel maintenance.
- 7. **Partnerships/Collaborations:** Stakeholder meetings, newspaper articles, community events to normalize and celebrate active transportation.
- 8. **Future Vision of Active Transportation:** Separated bike lanes, wider shoulders, a bike-friendly community, regional branding for AT, CF supporting events and leveraging economic interest.
- 9. **Other Remarks:** Collaboration with RCMP and MOTI for policy enforcement, and addressing maintenance and traffic issues.

TAKEAWAY: Emphasizes the importance of infrastructure improvements, policy enforcement, community engagement, and partnerships for promoting active transportation.



Agency: FortisBC

Interviewee: G. Thompson, EV Infrastructure and Investment Manager

Date / Time: November 21, 2023, 9am

Main Insights:

- 1. **Familiar Communities:** Entire corridor, especially Shore Acres and dam sites like Brilliant, Bonnington, Corra Lin.
- 2. **Engagement with Active Transportation:** Provides safe and secure bike storage for employees; receives requests for ROW use.
- 3. Barriers or Opportunities: Geography and topography are both challenges and opportunities.
- 4. **Improvements:** Enhancements for safety and sustainability along the Kootenay loop; feasible for shared use by drivers and riders.
- 5. **Catering to Different User Groups:** Ensure route accessibility for all, reducing income disparity and expanding affordable areas to live.
- 6. **Policies or Programs:** FortisBC Community Relations and Community Investment Teams could support AT initiatives.
- 7. **Partnerships/Collaborations:** ROW protected access, working with regional districts, municipalities, and Indigenous communities.
- 8. **Future Vision of Active Transportation:** Not just for recreation but also for commuting; add bike infrastructure to park and ride lots.
- 9. **Other Remarks:** Potential for FortisBC in-kind or financial investment, developing consent forms for ROW use, and supporting sustainable infrastructure.

TAKEAWAY: Focus on ROW access, community collaboration, and infrastructure support to enhance safety and sustainability of active transportation routes.

Agency: Member of "Dream Team" and formerly affiliated with Kootenay Adaptive Sports Association (KASA) / Inclusion by Design

Interviewee: Cedra Eichenauer

Date / Time: Not specified

Main Insights:

- 1. Familiar Communities: Nelson to Junction.
- 2. **Engagement with Active Transportation:** Involvement through Inclusive by Design, emphasizing accessibility.
- 3. **Barriers or Opportunities:** Geography and topography, Nelson's steep areas, private landowners' permissions, and infrastructure challenges.
- 4. **Improvements:** Adaptations for accessibility, clear and informative signage, and infrastructure to accommodate various mobility needs.
- 5. **Catering to Different User Groups:** Ensuring accessible bathrooms, clear signage, and considerations for various user groups including differently-abled individuals.
- 6. **Policies or Programs:** Providing detailed information to users, enforcing policy through signage, and setting clear rules.
- 7. Partnerships/Collaborations: Collaborations for inclusive design, communicating information



effectively to all users.

- 8. **Future Vision of Active Transportation:** Comprehensive and inclusive infrastructure, promoting active transportation for various activities.
- 9. **Other Remarks:** Vision for diverse and inclusive use of the corridor, emphasizing getting people out of cars.

TAKEAWAY: Prioritize inclusive design, clear communication, and comprehensive infrastructure to support diverse users.



APPENDIX B – PREFERRED ROUTING ALIGNMENT







Castlegar-Nelson Active Transportation Corridor Vision Project Segment 3 - Slocan Junction

20

McKenzie Rd





Preferred Route

- Proposed Multi-Use Pathway Adjacent to Roadway
- Proposed Off-Street Multi-Use Pathway
- Proposed Shared Street Facility
- Existing Off-Street Multi-Use Pathway
- **Alternative Routes**
- Potential Altnernative Alignment Adjacent to Roadway

Other Elements

- Road Network
- Transit Stops
- ++ Railroad
- Municipal Boundary
- Corridor Terminus
- Important Crossing
- Park Amenity
- Mobility Hub









- Proposed Multi-Use Pathway Adjacent to Roadway
- Proposed Shared Street Facility

Potential Alternative Shared Street Alignment

- Community Hall
- **T** Corridor Terminus
- Important Crossing
- Park Amenity





Electoral Area I

Terrace Rd

dale

Ootisch

enia

Rd

Columbia

Rd

Exit/Enter Waldie Island Trail

Brilliant Flats

Skattebo Reach Trail crosses under HWY, MUP follows Rosedale Rd and exits onto Barry Rd continuing along this grade eventually reentering the existing trail network

> Frank Beinder Way KIRK College

Castlegar-Nelson Active Transportation Corridor Vision Project Segment 6 - Castlegar

APPENDIX C – Segment Cost Estimates



Date: July 30, 2024 Project No.: 3065.B01 Prepared by: E. Watts, EIT Checked by: N. Carswell, P.Eng

ITEMS	Quantity	units	Unit Cost	Total Cost	
Linear					
Shared Street Facility	283.00	m	\$75	\$	21,225.00
Multi-Use Pathway Adjacent to Roadway	7470.00	m	\$1,100	\$	8,217,000.00
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	965.00	m	\$1,400	\$	1,351,000.00
Off-Street Multi-Use Pathway	0.00	m	\$900	\$	-
Chain Link Fence	0.00	m	\$100	\$	-
Lump Sum					
Urban AT Crossing	3.00	each	\$15,000	\$	45,000.00
RRFB AT Crossing	2.00	each	\$20,000	\$	40,000.00
Minor Street Crossing	3.00	each	\$3,500	\$	10,500.00
At-Grade Railway Crossing with Gate	0.00	each	\$100,000	\$	-
Wood Bridge (Medium)	0.00	each	\$15,000	\$	-
Custom Bridge (Medium)	0.00	each	\$5,000,000	\$	-
Other Notes					
					9,684,725.00
Contingency - 40%				\$	3,873,890.00
					13,558,615.00
					13,559,000.00
Notes:					

1. Estimate does not include any underground utility relocations, drainage or lighting.

Disclaimer:



Date: July 30, 2024 Project No.: 3065.B01 Prepared by: E. Watts, EIT Checked by: N. Carswell, P.Eng

ITEMS	Quantity	units	Unit Cost	Total Cost	
Linear					
Shared Street Facility	2703.00	m	\$75	\$	202,725.00
Multi-Use Pathway Adjacent to Roadway	1687.00	m	\$1,100	\$	1,855,700.00
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	0.00	m	\$1,400	\$	-
Off-Street Multi-Use Pathway	8038.00	m	\$900	\$	7,234,200.00
Chain Link Fence	7040.00	m	\$100	\$	704,000.00
Lump Sum					
Urban AT Crossing	0.00	each	\$15,000	\$	-
RRFB AT Crossing	3.00	each	\$20,000	\$	60,000.00
Minor Street Crossing	1.00	each	\$3,500	\$	3,500.00
At-Grade Railway Crossing with Gate	2.00	each	\$100,000	\$	200,000.00
Wood Bridge (Medium)	1.00	each	\$15,000	\$	15,000.00
Custom Bridge (Medium)	0.00	each	\$5,000,000	\$	-
Other Notes					
other Notes					
Contingency - 40%					10,275,125.00
					4,110,050.00
					14,385,175.00
				\$	14,386,000.00
Notes:					
1. Estimate does not include any underground utility relocations, drainage of	or lighting.				

Disclaimer:



Date: July 30, 2024 Project No.: 3065.B01 Prepared by: E. Watts, EIT Checked by: N. Carswell, P.Eng

ITEMS	Quantity	units	Unit Cost	Total Cost	
Linear					
Shared Street Facility	0.00	m	\$75	\$	-
Multi-Use Pathway Adjacent to Roadway	4260.00	m	\$1,100	\$	4,686,000.00
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	0.00	m	\$1,400	\$	-
Off-Street Multi-Use Pathway	963.00	m	\$900	\$	866,700.00
Chain Link Fence	0.00	m	\$100	\$	-
Lump Sum					
Urban AT Crossing	0.00	each	\$15,000	\$	-
RRFB AT Crossing	1.00	each	\$20,000	\$	20,000.00
Minor Street Crossing	4.00	each	\$3,500	\$	14,000.00
At-Grade Railway Crossing with Gate	2.00	each	\$100,000	\$	200,000.00
Wood Bridge (Medium)	0.00	each	\$15,000	\$	-
Custom Bridge (Medium)	1.00	each	\$5,000,000	\$	5,000,000.00
Other Notes					
					10,786,700.00
Contingency - 40%				\$	4,314,680.00
				\$	15,101,380.00
Notes:				\$	15,102,000.00

1. Estimate does not include any underground utility relocations, drainage or lighting.

Disclaimer:



Date: July 30, 2024 Project No.: 3065.B01 Prepared by: E. Watts, EIT Checked by: N. Carswell, P.Eng

ITEMS	Quantity	units	Unit Cost	Total Cost	
Linear					
Shared Street Facility	384.00	m	\$75	\$	28,800.00
Multi-Use Pathway Adjacent to Roadway	4900.00	m	\$1,100	\$	5,390,000.00
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	0.00	m	\$1,400	\$	-
Off-Street Multi-Use Pathway	0.00	m	\$900	\$	-
Chain Link Fence	0.00	m	\$100	\$	-
Lump Sum					
Urban AT Crossing	0.00	each	\$15,000	\$	-
RRFB AT Crossing	1.00	each	\$20,000	\$	20,000.00
Minor Street Crossing	2.00	each	\$3,500	\$	7,000.00
At-Grade Railway Crossing with Gate	1.00	each	\$100,000	\$	100,000.00
Wood Bridge (Medium)	0.00	each	\$15,000	\$	-
Custom Bridge (Medium)	0.00	each	\$5,000,000	\$	-
Other Notes				r	
					5,545,800.00
Contingency - 40%					2,218,320.00
				\$	7,764,120.00
				\$	7,765,000.00
Notes:					

1. Estimate does not include any underground utility relocations, drainage or lighting.

Disclaimer:



Date: July 30, 2024 Project No.: 3065.B01 Prepared by: E. Watts, EIT Checked by: N. Carswell, P.Eng

ITEMS	Quantity	units	Unit Cost	Total Cost	
Linear					
Shared Street Facility	2660.00	m	\$75	\$	199,500.00
Multi-Use Pathway Adjacent to Roadway	5590.00	m	\$1,100	\$	6,149,000.00
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	0.00	m	\$1,400	\$	-
Off-Street Multi-Use Pathway	0.00	m	\$900	\$	-
Chain Link Fence	0.00	m	\$100	\$	-
Lump Sum					
Urban AT Crossing	0.00	each	\$15,000	\$	-
RRFB AT Crossing	2.00	each	\$20,000	\$	40,000.00
Minor Street Crossing	2.00	each	\$3,500	\$	7,000.00
At-Grade Railway Crossing with Gate	2.00	each	\$100,000	\$	200,000.00
Wood Bridge (Medium)	0.00	each	\$15,000	\$	-
Custom Bridge (Medium)	0.00	each	\$5,000,000	\$	-
Other Notes					
Contingency - 40%				\$ \$	6,595,500.00 2,638,200.00
Notes:				\$ \$	9,233,700.00 9,234,000.00

1. Estimate does not include any underground utility relocations, drainage or lighting.

Disclaimer:


Preliminary Cost Estimate - Segment 6

Date: July 30, 2024 Project No.: 3065.B01 Prepared by: E. Watts, EIT Checked by: N. Carswell, P.Eng

ITEMS	Quantity	units	Unit Cost	Total Cost
Linear				
Shared Street Facility	4256.00	m	\$75	\$ 319,200.00
Multi-Use Pathway Adjacent to Roadway	1410.00	m	\$1,100	\$ 1,551,000.00
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	755.00	m	\$1,400	\$ 1,057,000.00
Off-Street Multi-Use Pathway	832.00	m	\$900	\$ 748,800.00
Chain Link Fence	0.00	m	\$100	\$ -
Lump Sum				
Urban AT Crossing	1.00	each	\$15,000	\$ 15,000.00
RRFB AT Crossing	0.00	each	\$20,000	\$ -
Minor Street Crossing	2.00	each	\$3,500	\$ 7,000.00
At-Grade Railway Crossing with Gate	1.00	each	\$100,000	\$ 100,000.00
Wood Bridge (Medium)	0.00	each	\$15,000	\$ -
Custom Bridge (Medium)	0.00	each	\$5,000,000	\$ -
Other Notes		ļ		
		L		
				\$ 3,798,000.00
	Contingency - 40%			\$ 1,519,200.00
				\$ 5,317,200.00
				\$ 5,318,000.00
Notes:				

1. Estimate does not include any underground utility relocations, drainage or lighting.

Disclaimer:

Whereas any opinions of probable cost prepared by WATT Consulting Group Ltd. ("the Engineer") will be based on incomplete or preliminary information, and will also be based on factors over which the Engineer has no control, the Engineer does not guarantee the accuracy of these opinions of probable cost and shall have no liability where the probable costs are exceeded.

ATCVP Facility Type Linears	Length (meters) Location			
Segment 1				
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	965	Nelson VIC to Highway 3A		
Multi-Use Pathway Adjacent to Roadway	7,470	Highway 3A @ Government Road to Highway 3A @ Granite Road	7,470	
Shared Street Facility	283	Granite Road to entrance of new Taghum Bridge	283	
Segment 2			1	
Off-Street Multi-Use Pathway	295	New Taghum Bridge		
	7,040	CP Rail Alignment Taghum Hall to Cora Linn Road		
	998	Cora Linn to Fortis BC Road	8333	
Multi-Use Pathway Adjacent to Roadway	246	New Taghum Bridge to Taghum Hall		
	672	Taghum Hall Road to Shell		
	218	Cora Linn Road to Lower Bonnington Road crossing		
	551	Fortis BC Access Road to crossing of CP Rail line	1,687	
Shared Street Facility	332	Taghum Hall to Highway 3A		
	851	CP Rail ROW to Highway 3A via Curtis Road		
	1,520	Cora Linn Road Connection	2703	
Segment 3				
Off-Street Multi-Use Pathway	963	Blewett Road crossing to Slocan Valley Rail Trail parking lot		
	120	New Shoreacres Bridge	1083	
Multi-Use Pathway Adjacent to Roadway	1,260	Crossing of CP Rail line to Blewett Road crossing		
	3,000	Slocan Valley Rail Trail Section to New Shoreacres Bridge	4,260	
Existing Off-Street Multi-Use Pathway	1,580	Slocan Valley Rail Trail Section	1,580	
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Segment 4				
Multi-Use Pathway Adjacent to Roadway	4,900	New Shoreacres Bridge to Irvine Road	4,900	
Shared Street Facility	384	irvine Road Connection	384	
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Segment 5				
Multi-Use Pathway Adjacent to Roadway	5,590	Irvine Road & Highway 3A to Brilliant Rest Area	5,590	
Shared Street Facility	2,660	irvine Road Connection	2,660	
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Segment 6				
Multi-Use Pathway Adjacent to Roadway	1,410	Brilliant Rest Area to Brilliant Dam Access Road	1,410	
Shared Street Facility	3,910	Brilliant Dam Access Road to Waldie Island Trail		
	346	Selkirk College Road Connection to Terminus	4,256	
Existing Off-Street Multi-Use Pathway	1,760	Waldie Island Trail to Castlegar-Robson Bridge		
	1,300	Doukhobour Suspension Bridge to Riverside Trail	3,060	
Off-Street Multi-Use Pathway	832	Riverside Trail to Selkirk College Campus Road	832	
Urban Bi-Directional Protected Bike Lane/Multi-Use Pathway	1,220	Castlegar-Robson Bridge - Columbia Avenue - 3rd Street to Terminus	1220	

