Thompson-Nicola Regional District

Blue River Trails and Active Transportation Plan: Draft Action Plan

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LEES + ASSOCIATES

June 2021

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Thank you to those residents, members of the public, government and stakeholder groups who responded to the surveys and participated in engagement events.

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1 INTRODUCTION

1.1 WHY A TRAILS AND ACTIVE TRANSPORTATION PLAN?

Blue River is located within Electoral Area "B" (Thompson Headwaters) of the Thompson-Nicola Regional District. Situated between Vancouver and Edmonton on the Yellowhead Highway (Highway 5), it is close to several national and provincial parks and offers a variety of year-round outdoor recreation opportunities in close proximity to the town. Like many rural and remote communities in BC, Blue River has experienced a shift from an economy driven by timber harvesting to one that includes a growing outdoor recreation tourism sector.

> The area is rich in both accessible natural amenities, including Eleanor Lake, Mud Lake, and several community parks, as well as more challenging alpine terrain best accessed by snowmobile or helicopter.
>
> *- North Thompson OCP 2020*

Blue River's trail system includes a vast network of trails and forest service roads. Blue River is also the access point to renowned snowmobile riding areas and heli-skiing that make the area a destination for powder seekers. The trails are valued by locals and are seen as a key asset for the development of tourism opportunities that build on the success of existing winter outdoor recreation tourism. The trail system has developed over time through the efforts of residents, community organizations, local business, industry, the Thompson-Nicola Regional District (TNRD) and Recreation Sites and Trails BC (RSTBC). By building on what exists, designating trail uses, adding wayfinding and signage, and creating a framework for partnerships, the trail system has the potential to grow in a way that is sustainable. Trails have the potential to be a high-quality trail experience for locals and visitors, bringing economic benefits to the town and region.

The community is also aiming to enhance an active transportation network, which forms the backbone of daily trips for work, school, and activities. In Blue River, the trail and active transportation components work hand in hand to improve sustainability, create low-cost transportation options, and support safer travels for all.

1.2 PLAN GOALS

The Blue River Trails and Active Transportation Plan (the Plan) is a community-guided vision that preserves the overarching goal of a sustainable and resilient community. The Plan is intended to balance the needs of diverse groups of users – cyclists and hikers, advanced and beginner skill sets, motorized and non-motorized activities, locals and visitors, and optimize for winter or summer activities. It considers what improvements could be made to create a safe and accessible town, where people are more likely to use active transportation (i.e. non-motorized methods like walking or cycling) to get to work, school, and other community destinations. It also considers how the forestry industry, outdoor

recreation, and active transportation assets can all be complimentary and coordinated to support economic opportunities for residents.

This plan provides recommendations for the Regional District and stakeholders, with projects that are actionable and framed to best leverage future funding opportunities. The overarching goals of the plan include:

- Improving the trail experience for locals and visitors through enhanced trail amenities and improved signage and wayfinding;
- Improving connections to support active transportation to get to work, school, services and recreation;
- Improving management and maintenance of trails through phased improvements, partnership development and funding options; and
- Creating a framework for trail development that considers limited financial resources and enhances partnerships.

1.3 THE STUDY AREA

The plan focuses on the existing and potential trail network within a 7-kilometer radius from the intersection of Highway 5 and Angus Horne St. in Blue River, but also considers how people can access trails systems outside that boundary, particularly for motorized activities.

The order of priority for consideration includes:

1. improvements to existing authorized trails,
2. potential for formalizing and improving existing unauthorized trails, and
3. potential future trails.

The Active Transportation study area focused on the highway corridor from the south end of town (at the Husky/Esso gas station) north to Mud Lake Forest Service Road, connecting across the highway, and making sure residential areas connect to key destinations. The priorities for active transportation include:

1. identifying barriers and safety issues,
2. identifying key gaps in the network, and
3. identifying opportunities to address those barriers and gaps.

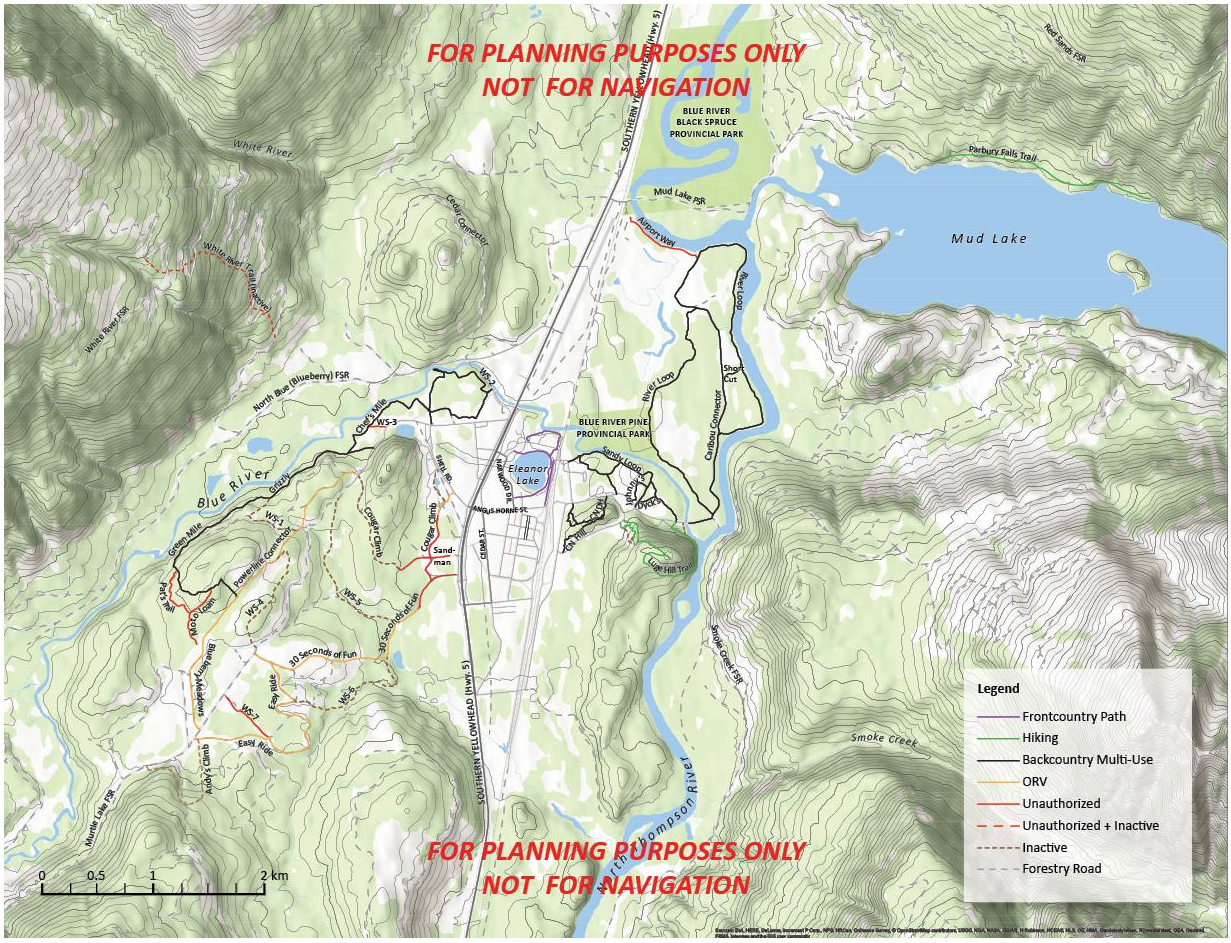

Figure 1: Existing Summer Trails

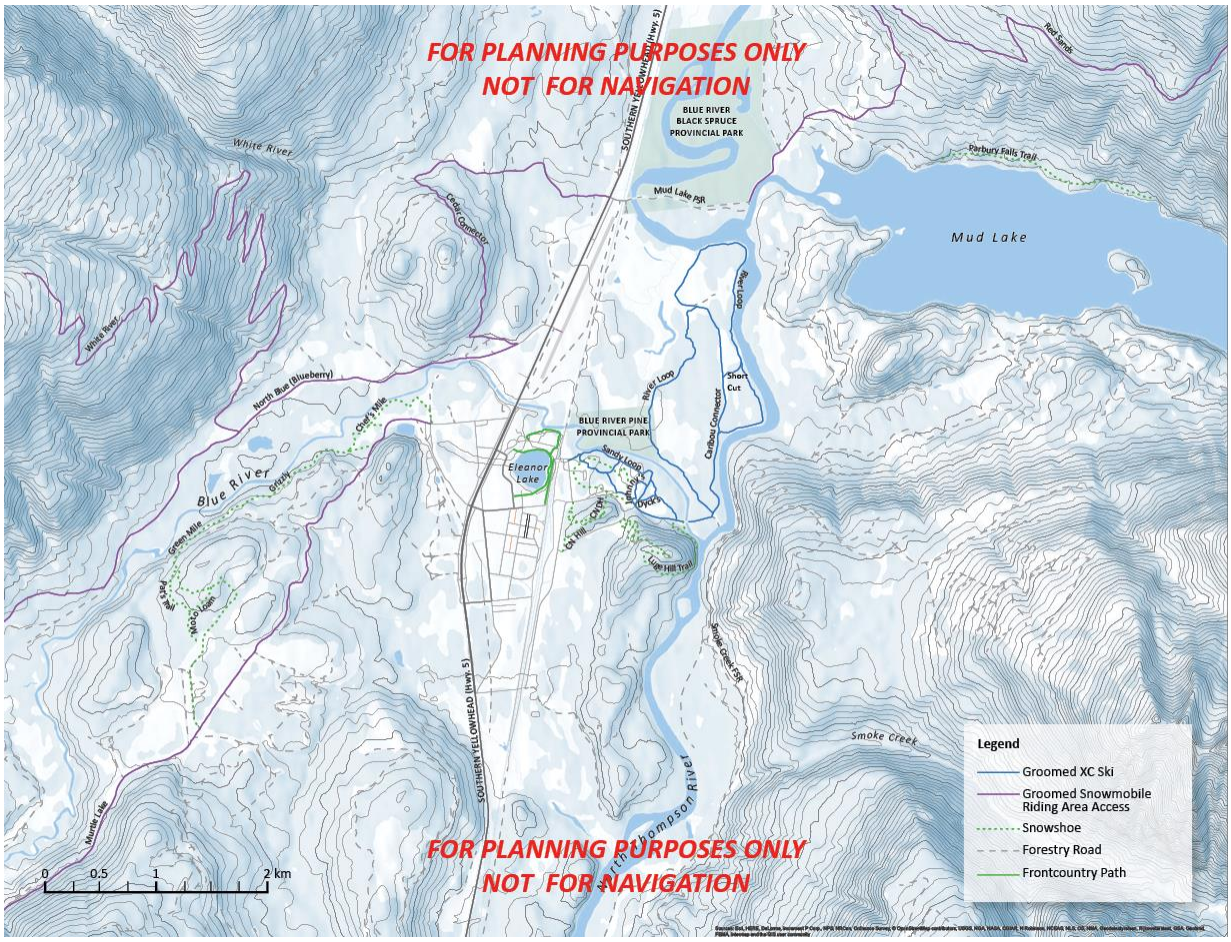

Figure 2: Existing Winter Trails

1.4 SUMMARY OF DRAFT ACTIONS

The Trails and Active Transportation Plan provides recommendations for the Regional District and stakeholders for a wide range of actionable projects. The tables below list out all the Plan's recommended actions. Section 2, Action Plan, describes each action in detail.

ACTIVE TRANSPORTATION

Action	Priority
Develop a multi-use path connecting Blue River to Mud Lake FSR	Medium
Extend the Millennium Path to Main Street	Low
Install AT Highway Crossings at Harwood Dr. and Angus Horne St.	High

CAPITAL PROJECTS

Action	Priority
Implement a signage and wayfinding system: Phase 1	High
Implement a signage and wayfinding system: Phase 2	Low
Develop the Green Mile area into a stacked loop system with a designated trailhead	Medium
Realign Luge Hill Trail	High
Realign Flood-Prone sections of Parbury Falls Trail	High
Unify the eastern entrance to Murtle Lake FSR East	Medium
Reroute the lower section of CN Downhill	Low
Develop mountain bike primary trails in the White River area	Low

MANAGEMENT INITIATIVES

Action
Ensure all actions are in line with community-supported goals
Establish a trail classification system
Adopt a trail difficulty rating system
Employ best practices for trail layout and construction
Work with RSTBC to bring unsanctioned trails into the official network
Pursue an Agreement with Mike Wiegele Helicopter Skiing to Allow Public Use of the Eleanor Lake Trail
Collaborate with Mike Wiegele Helicopter Skiing on a mountain bike pump track
Collaborate and consult with Simpcw First Nation
Partner with local businesses
Continue the Trails Working Group
Collaborate and coordinate with the forestry sector
Support community volunteers
Work to minimize conflicts between users
Support ORV initiatives

2 ACTION PLAN

2.1 VISION

Through discussions with the Trails Working Group, stakeholders and the community, the following vision and principles were developed.

Vision

Blue River's trails network is cohesive, connected, easy to navigate, and provides high quality trails for a variety of trail activities year-round. The trails network brings benefits to the community such as improved quality of life, new and diverse economic opportunities, and a sense of community pride. Visitors and new residents are attracted to the community by the trails, the natural beauty of the area, and the lifestyle and experiences that come with it. A safe and connected active transportation network means residents make the most of their daily trips for work, school, services, shopping, and recreation by walking, cycling and other non-motorized methods.

Principles

- Provide quality recreation experiences for fulltime and seasonal residents;
- Support existing and future tourism opportunities through trails;
- Provide opportunities for motorized and non-motorized trail uses and work to minimize conflicts;
- Provide safe highway crossings and separated paths that support active transportation throughout the town that are used by locals and visitors;
- Ensure collaboration and look for win-wins between government, businesses, industry, and local residents;
- Build on Blue River's excellent reputation as an outdoor recreation destination;
- Highlight the features of Blue River that make it unique and noteworthy, such as its pockets of old growth, inland rainforest, and access to beautiful lakes, and
- Ensure all new trail development takes the long-term maintenance implications into account during planning and design stages.

2.2 ACTIVE TRANSPORTATION PROJECTS

The future active transportation network in Blue River is illustrated in figure 4 and includes an extension of the Millennium Trail, two new pedestrian crossings on Highway 5, and a pathway north from Blue River to Mud Lake Road.

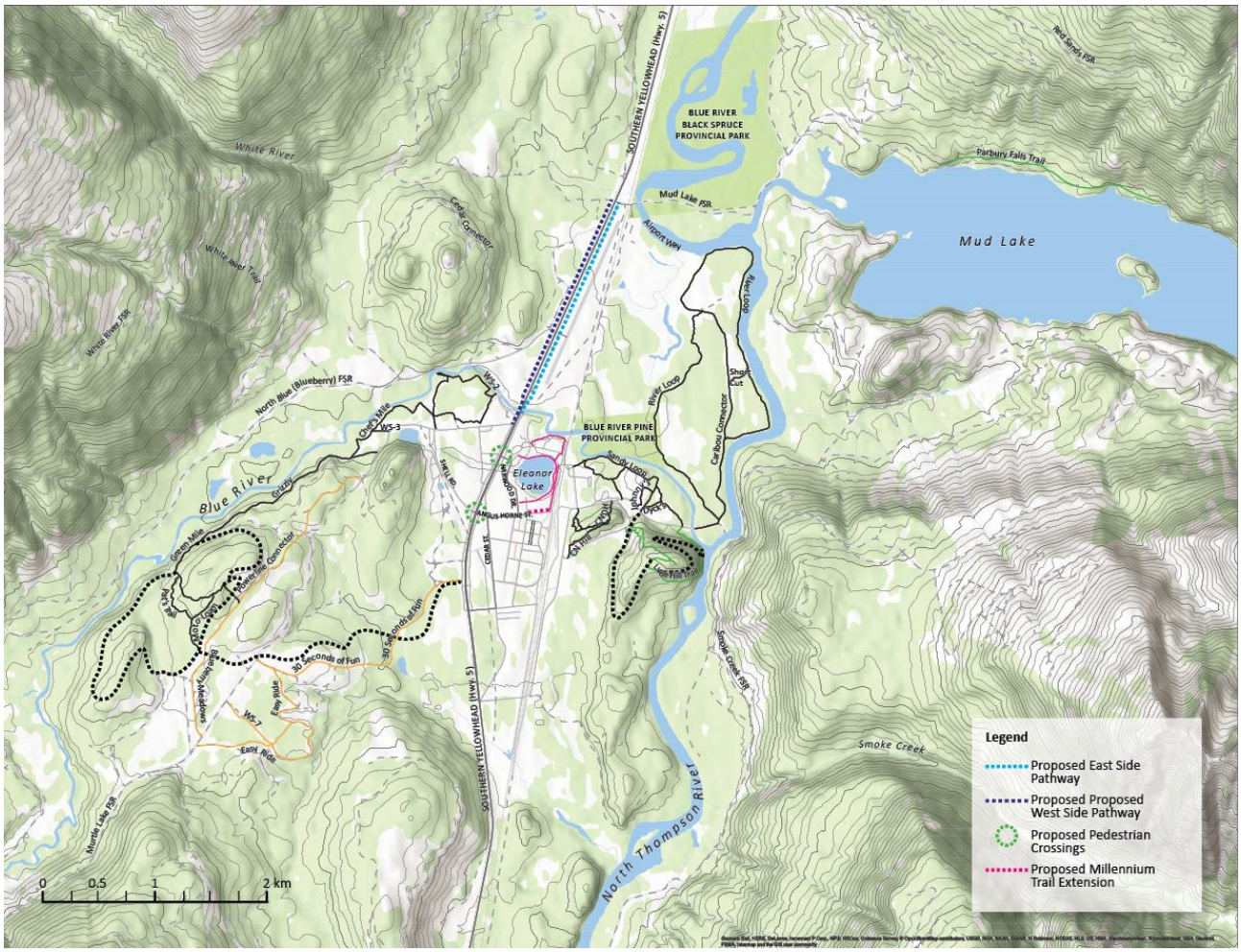

Figure 3: Proposed Active Transportation Infrastructure

DEVELOP A MULTI-USE PATH ALONG HWY. 5 CONNECTING BLUE RIVER TO MUD LAKE FSR

A new pathway along Highway 5 between Blue River and Mud Lake Road would provide a walking and cycling route for:

- Visitors and residents accessing trails to the north of town.
- Seasonal employees of Wiegele Resort and other employers in town who live in the Snowfield Park trailer park on the west side of the highway 2 km north of town.
- Visitors and employees of the River Safari on Mud Lake Road.
- Currently, people walk on the highway shoulder, on the airport runway and along the railway track. A new pathway would provide a safe and accessible route for pedestrians and cyclists of all ages and abilities, in summer and winter. Use of the pathway would be limited to active transportation, including pedestrians, persons with disabilities, bicycles, class 1 pedal assist e-bikes, cross-country skis, snowshoes and other human powered modes of transportation. Snowmobiles and UTVs/ATVs would be prohibited.

Alignment Options

There are three alignment options for the new pathway along Highway 5 — on the east side, the west side, or a combination of the east and west sides:

- The east side option would link the north end of the east frontage road in Blue River with Mud Lake Road. Existing short sections of access road on the east side of the highway could be incorporated into the pathway. Elsewhere, the pathway would be located within the highway right-of-way, in some cases on the berm.
- The west side option would be located within the hydro corridor north of the gravel quarry. In the vicinity of the quarry, the pathway would be constructed in the highway right-of-way on the berm. At its south end, the pathway would connect to the north end of the west frontage road at the campground.
- The east–west side option would cross the highway at Blueberry Road north of the gravel quarry. The pathway would be in the hydro corridor on the west side north of Blueberry Drive, and would incorporate the access road on the east side south of Blueberry Drive. New pedestrian crossings would be required on the highway at Blueberry Road and Mud Lake Road

The east side option is preferred as it would connect the town and Mud Lake Road without any highway crossings, would avoid private properties, and could incorporate existing access roads to reduce construction costs. The only destination not directly served by a pathway on the east side would be the Snowfield Park trailer park (residents of the trailer park would continue to cross the highway in the vicinity of Weather Station Road as they do at present).

Specific design considerations for the pathway include:

- A width of 3 m is desirable to enable pedestrians and cyclists to safely share the pathway.

- A compacted fine crushed aggregate surface would be appropriate, as it would accommodate pedestrians, most bicycles, many persons with disabilities, and winter users, while providing good drainage and minimizing construction and maintenance costs.
- Where the pathway is within the highway right-of-way it should be located a distance from the highway so that snow is not dumped onto the pathway from snow clearing operations on the highway. In some sections it might be necessary to construct the pathway on the berm. This could be accomplished with a small retaining wall as illustrated in Figure ***. A retaining wall or structure would also be required to construct the section of pathway immediately north of the Blue River bridge where there is a steep slope on the side of the highway.
- The pathway should be designed in accordance with the B.C. Active Transportation Design Guide.

Currently the only crossing of the Blue River in the vicinity of the new pathway is the highway bridge. The bridge cross-section includes two traffic lanes plus shoulders approximately 1.5 m wide, and a sidewalk on the east side of the bridge approximately 1.5 m wide. Options for the pathway to cross the Blue River include:

- A pathway on the east side of the existing bridge. The traffic lanes would be shifted to the west, the shoulder widths reduced in both directions, and the sidewalk on the east side widened to 3 m (with a railing). MOTI bridge engineers should confirm the feasibility of this option as it would alter the loading on the structure.
- A new pathway cantilevered on the side of the bridge. The feasibility of this option would need to be confirmed with MOTI bridge engineers as it would place additional loads on the structure.
- A new pathway on an upgraded or new highway bridge. TMOTI plans to upgrade Highway 5 to a heavy haul corridor with a capacity of 125 tonnes (the current capacity is 85 tonnes), and as part of this project the Blue River bridge might need to be upgraded or replaced.
- A new active transportation bridge near the highway bridge. Although this option would avoid changes to the highway bridge, this advantage is offset by the likely need to mitigate environmental impacts associated with a new bridge across the river.

Implementation

Order of magnitude estimated costs for the new pathway are:

- Pathway construction = $500,000–$2 million. Although the new highway pathway would incorporate existing access roads on the east side of the highway, it would still involve construction of over 1,000 m of new pathway, much of which would require retaining walls, railings and other structures.
- Bridge = $250,000–$3 million. The new pathway would involve improvements to the existing highway bridge or a new bridge over the Blue River (unless the highway bridge is upgraded or replaced as part of the heavy haul corridor project).

Funding for the new pathway would be available from the B.C. Active Transportation Infrastructure Grants Program. This is an annual program that provides cost-share funding for the construction of active transportation infrastructure. For a community such as Blue River with a population of less than 15,000 persons, the Province provides 70% funding to a maximum of $500,000 per project (this level of funding equates to a total project cost of $714,000).

The total costs of the pathway would exceed the $714,000 maximum project cost eligible for Provincial funding, and therefore it is expected that the pathway would be constructed in phases, each of which would be eligible for cost-share funding as a separate project. The preferred sequence of implementation is:

- Blue River bridge–Blueberry Road. This section of the pathway would provide a connection from the highway bridge to the Blueberry Road intersection. It would incorporate a section of access road and approximately 500 m of new pathway.
- Blueberry Road–Weather Station Road. This section would include as much as 850 m of new pathway construction.
- Highway 5 bridge over Blue River. The bridge accommodates pedestrians at present on the sidewalk on the east side of the bridge. Consequently, there is no short-term need for improvements. Rather, improvements to the bridge would be undertaken after sections of the pathway are constructed to the north (unless the bridge is upgraded or replaced by MOTI).

Potential GHG emissions reductions with AT infrastructure

GHG reductions are most likely to be achieved as a result of seasonal employees, visitors and residents who choose to use active transportation for trips between the town and the Snowfield Park trailer park, Mud Lake Road, River Safari and trails north of the town:

- For each seasonal employee who walks or cycles rather than drives the reduction in GHG is estimated to be 0.15 tonnes per year.
- For every 100 round trips that residents and visitors make by active transportation rather than drive to and from Mud Lake Road, the reduction in GHG is estimated to be 0.23 tonnes per year.

Year over year GHG emissions reductions

Annual GHG reductions are estimated to be 6 tonnes (assuming 25 seasonal employees choose to use active transportation every year, and assuming 1,000 round trips by residents and visitors made by active transportation rather than driving).

EXTEND THE MILLENNIUM PATH TO MAIN ST.

The Millennium Trail currently extends from the beach house on Eleanor Lake in Blue River Community Park south around the lake to Harwood Drive. The Trail also connects to a network of private trails on the north side of the lake.

Another branch of the Millennium Trail continues south along Angus Horne Street and ends at the 90-degree curve. This branch of the Trail would be extended west along Angus Horne Street to Main Street, ending at the Community Hall.

INSTALL AT HIGHWAY CROSSINGS AT HARWOOD DR. AND ANGUS HORNE ST.

Two new pedestrian crossings will be implemented on Highway 5 at Harwood Road and Angus Horne Street/Shell Road:

- The Harwood Road crossing is used by pedestrians walking to and from the campground and hotel on the west side of the highway, and the resort and other locations within the town on the east side. It is also used to access trails to the west.
- The Angus Horne Street/Shell Road crossing is used by pedestrians walking to and from the gas station, restaurant and hotel on the west side of the highway.
- Each crossing will include signs, pavement markings and improved illumination.
- The Ministry of Transportation and Infrastructure (MOTI) plans to implement these pedestrian crossings in summer 2021.

2.3 TRAIL CLASSIFICATIONS

ESTABLISH A TRAIL CLASSIFICATION SYSTEM

Blue River has a wide variety of trails reflecting different types of activities, levels of use, user needs, locations, and terrain. All existing and future trails should be categorized using the classification system described below. This system is a planning tool, and not an outward facing system like difficulty ratings or usage designations. The classification system can be used to take stock of the existing network, help identify gaps, plan new routes, minimize user conflicts, and estimate maintenance requirements. Figure 5 shows the trail system with proposed permitted uses. Table XX lists the proposed classification of each trail.

- Frontcountry Multi-Use Path
    - Description: Universally accessible paths within or connecting to town
    - Uses: Walking, jogging, cycling
    - Surface: Paved or compacted gravel
    - Tread Width: 2-4 m
    - Gradient: < 5% (may exceed 8% over short distances)
    - Difficulty Rating: Easiest (white circle)

  - Maintenance Requirements: Moderate to High. Path corridor must be kept clear and surface in good condition. Maintenance is solely a government responsibility.
  - Example: Eleanor Lake Trail

- Backcountry – Multi-Use Non-Motorized Trail
  - Description: Singletrack or doubletrack trail suitable for a variety of non-motorized uses. Some trails in this category may be groomed in the winter
  - Uses: Hiking, trail running, mountain biking, gravel biking, horseback riding, snowshoeing, cross-country skiing, fatbiking
  - Surface: Native soil
  - Tread Width: > 0.3 m
  - Gradient: 10% average; 30% max
  - Difficulty Rating: Easy to very difficult (green circle to black diamond)
  - Maintenance Requirements: Low to moderate. Depending on difficulty rating, users expect loose or uneven trail tread and a narrow trail corridor. Depending on location, annual brushing, clearing of deadfall, and spot maintenance may be required. Trail users may contribute to maintenance.
  - Example: Green Mile
- Backcountry - Hiking-Only Trail
  - Description: Singletrack trail restricted to foot traffic only
  - Uses: Hiking, trail running, snowshoeing
  - Surface: Native soil
  - Tread Width: > 0.3 m
  - Gradient: < 20% average; 30% max
  - Difficulty Rating: Easy to extremely difficult (green circle to double black diamond)
  - Maintenance Requirements: Low to moderate. Depending on difficulty rating, users expect loose or uneven trail tread, a narrow trail corridor, and deadfall. Depending on location, annual brushing, clearing of deadfall, and spot maintenance may be required. Trail users may contribute to maintenance.
  - Example: Parbury Falls
- Backcountry - Mountain Bike Primary Trail
  - Description: Singletrack trail designed for gravity-oriented mountain biking, but typically open to other non-motorized uses. MTB use is designated as downhill only – typically MTB climb trails are suitable for a multi-use designation.

- Uses: Mountain biking, hiking, trail running, snowshoeing
- Surface: Native soil and rock armoring
- Tread Width: > 0.3 m
- Gradient: 10% average; 30% max
- Difficulty Rating: Easy to extremely difficult (green circle to double black diamond)
- Maintenance Requirements: Low to high. Depending on difficulty rating, users expect loose or uneven trail tread and a narrow trail corridor. Depending on location, annual brushing, clearing of deadfall, and spot maintenance may be required. TTFs, if present, should receive an annual inspection. Trail users can be expected to contribute to maintenance.
- Example: N/A

- Off-Road Vehicle
  - Description: Singletrack, doubletrack, or FSR
  - Uses: Off-road vehicles (ORV), including: all-terrain vehicles (ATVs)/quads, recreational off-highway vehicles (ROVs)/side-by-sides, off-highway motorcycles (OHM)/dirt bikes, four-wheel drive vehicles (4WD), and snowmobiles.
  - Surface: Compacted gravel and/or native soil
  - Tread Width: > 2 m. Varies by vehicle type.
  - Gradient: < 15% average; 30% max
  - Difficulty Rating: Easy to more difficult (green circle to blue square)
  - Maintenance Requirements: Low to moderate. Depending on difficulty rating, users expect loose or uneven trail tread, close-growing vegetation, and deadfall. Depending on location, annual brushing, clearing of deadfall, and spot maintenance may be required. Trail users can be expected to contribute to maintenance.
  - Example: Cedar Connector

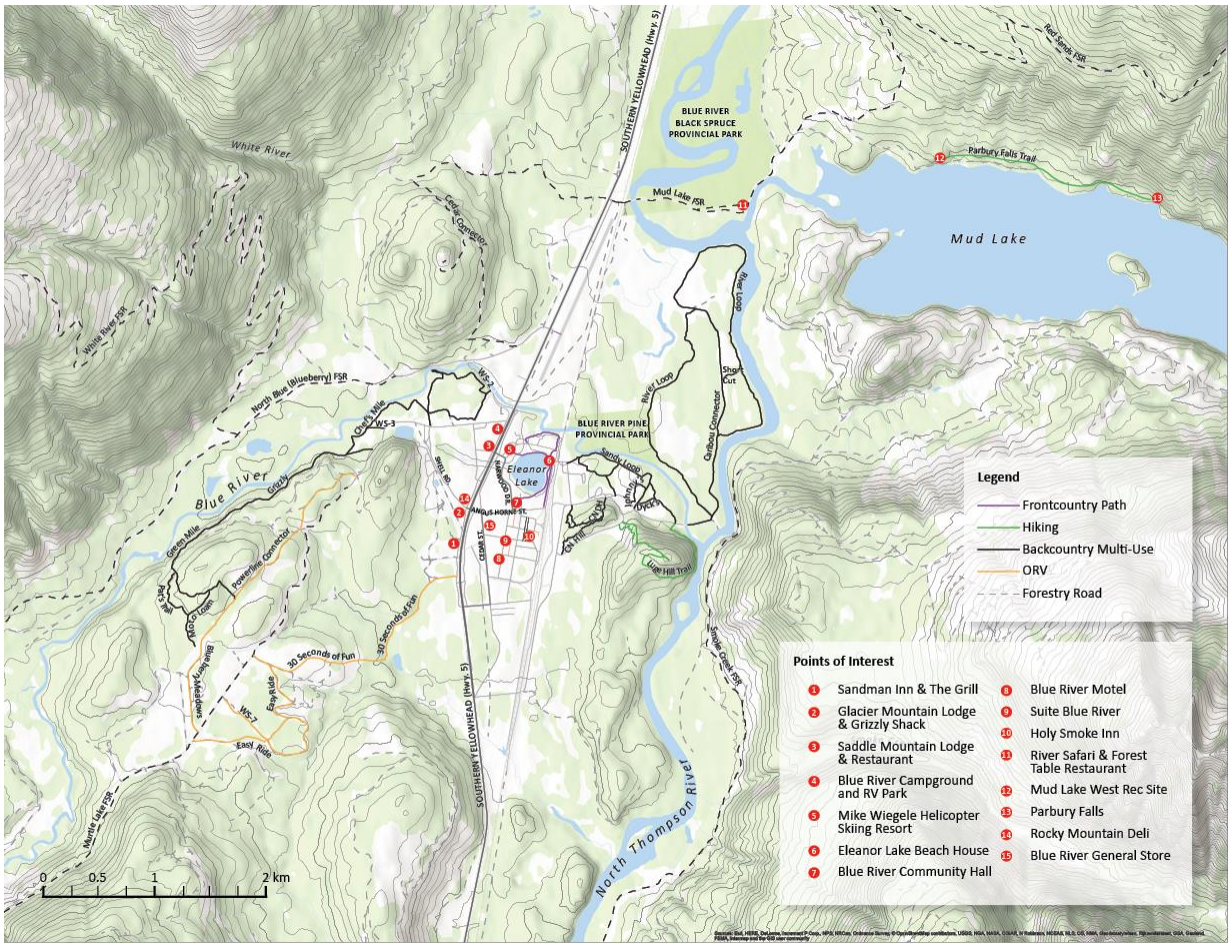

Figure 4: 2021 Trails Map with Proposed Uses

ADOPT A TRAIL DIFFICULTY RATING SYSTEM

In addition to classifying each trail by type, every trail should receive a difficulty rating based on the IMBA Trail Difficulty Rating System. This system, based off those used by ski areas, is widely used by trail networks throughout BC, and is like the system used for BRPPS riding areas and by Parks Canada. The IMBA system grades the technical challenge of a trail, which is determined by trail width, surfacing, grade, and the presence of natural or technical trail features. This system does not rate the physical challenge of a trail, which is influenced by factors such as length, elevation, and weather, as well as technical difficulty. Because physical challenge is not factored into the difficulty rating, it is important that trail length and elevation is also available to trail users. Table 1 lists the proposed difficulty rating of each trail.

- White Circle – Easiest
    - Definition: Easy, fully accessible trail
    - Description: Fairly wide and flat
    - Recommended Experience/Skill Level: Little or no experience required
    - Equipment: No specialized equipment required
- Green Circle – Easy
    - Definition: Easy, mostly accessible trail
    - Description: Gentle climbs and easily avoidable obstacles
    - Recommended Experience/Skill Level: Little or no experience required
    - Equipment: No specialized equipment required
- Blue Square – More Difficult
    - Definition: Moderate trail
    - Description: Gentle climbs and easily avoidable obstacles
    - Recommended Experience/Skill Level: Some experience recommended
    - Equipment: Specialized equipment may or may not be required
- Black Diamond – Very Difficult
    - Definition: Advanced trail
    - Description: Longer, steeper slopes, loose surfaces, more numerous obstacles
    - Recommended Experience/Skill Level: Advanced or expert users
    - Equipment: Specialized equipment is required

- Double Black Diamond -Extremely Difficult
    - Definition: Expert trail
    - Description: Many challenging obstacles, high risk level
    - Recommended Experience/Skill Level: Expert users only
    - Equipment: Specialized equipment is required

Riding Area	Trail Name	Classification	Difficulty Rating
West Side: Murtle Lake FSR West	Chef's Mile	Backcountry Multi-Use	More Difficult - Blue Square
	Grizzly	Backcountry Multi-Use	Easy - Green Circle
	Green Mile	Backcountry Multi-Use	More Difficult - Blue Square
	Powerline Connector	Off-Highway Vehicle	Easy - Green Circle
	Blueberry Meadows	Backcountry Multi-Use	Easy - Green Circle
	Pat's Trail	Backcountry Multi-Use	Very Difficult - Black Diamond
	Moto Loam	Backcountry Multi-Use	Very Difficult - Black Diamond
	WS-1	Backcountry Multi-Use	Easy - Green Circle
	WS-2	Backcountry Multi-Use	Easy - Green Circle
	WS-3	Backcountry Multi-Use	Easy - Green Circle
	WS-4	Backcountry Multi-Use	Easy - Green Circle

West Side: Murtle Lake FSR East	Cougar Climb	Off-Highway Vehicle	Easy - Green Circle
	Sandman	Off-Highway Vehicle	Easy - Green Circle
	30 Seconds of Fun	Off-Highway Vehicle	Easy - Green Circle
	Easy Ride	Off-Highway Vehicle	Easy - Green Circle
	Andy Climb	Off-Highway Vehicle	Easy - Green Circle
	WS-5	Off-Highway Vehicle	Easy - Green Circle
	WS-6	Off-Highway Vehicle	Easy - Green Circle
	WS-7	Off-Highway Vehicle	Easy - Green Circle

Riding Area	Trail Name	Classification	Difficulty Rating
East Side: Herb Bilton Way	Sandy Loop	Backcountry Multi-Use	Easy - Green Circle
	Spark Start Loop	Backcountry Multi-Use	Easy - Green Circle
	Dyck's	Backcountry Multi-Use	Easy - Green Circle
	Johnny's	Backcountry Multi-Use	Easy - Green Circle
	Sandy Loop	Backcountry Multi-Use	Easy - Green Circle
	Snowshoe Hare	Backcountry Multi-Use	Easy - Green Circle
East Side: CN Hill	CN Hill	Backcountry Multi-Use Trail	More Difficult - Blue Square
	CN Downhill	Backcountry Multi-Use Trail	Very Difficult - Black Diamond

East Side: Luge Hill	Luge Hill Trail	Backcountry Hiking-Only	More Difficult - Blue Square
East Side: River Loop	River Loop	Backcountry Multi-Use	More Difficult - Blue Square
	Cariboo Connector	Backcountry Multi-Use	More Difficult - Blue Square
	Shortcut	Backcountry Multi-Use	More Difficult - Blue Square
	Airport Way	Backcountry Multi-Use	More Difficult - Blue Square
East Side: Eleanor Lake	Eleanor Lake Trail	Frontcountry Multi-Use	Easiest - White Circle
	Helipad Way	Frontcountry Multi-Use	Easiest - White Circle

Riding Area	Trail Name	Classification	Difficulty Rating
Parbury Falls	Parbury Falls Trail	Backcountry Hiking-Only	Easy - Green Circle
White River	Ridge Ride	N/A	N/A
	White River	N/A	N/A

Table 1:Proposed Trail Classifications and Difficulty Ratings

2.4 SIGNAGE + WAYFINDING

ESTABLISH AND IMPLEMENT A SIGNAGE AND WAYFINDING SYSTEM

Implementing a signage and wayfinding system is a crucial step in formalizing Blue River's trail network and increasing its usability for visitors. Signage provides important information to trail users about route options, who yields to who, permitted uses, and etiquette, and adds to the overall safety and enjoyment of the trail experience. A clear and legible signage and wayfinding system helps ensure that residents and visitors use the trail network safely and appropriately. Trail signage is also a low-cost management strategy that can help reduce maintenance requirements over time and mitigate human impact on sensitive natural environments.

Implement the signage and wayfinding system in two phases, as outlined in table 2. Phase 1 includes maps, information kiosks and junction posts. These components provide basic wayfinding and safety information, and focus on answering the questions:

- Where am I?
- How can I go elsewhere?
- What can I do here?
- How do I stay safe?

Phase 2 is focused on facilitating and enriching the experience of visitors to Blue River. Interpretive panels should aim to deeper readers' understanding of the place. Way-marked routes help users link together a series of trails into an enjoyable loop. Destination signs help visitors find their way from town to key trailheads.

Facility	Information	Location
Information Kiosk	Map; safety signs, including wildlife safety and FSR road use; regulatory signs, e.g., permitted uses, trail etiquette, and speed limits	Major trailheads
Junction Post	Wayfinding signs, e.g., trail name and direction; difficulty-level signs; regulatory signs, e.g., permitted uses and speed limits	Trailheads; intersections, including ones with unmarked or inactive trails
Paper Maps	Diagrammatic representation of trails; contextual information including topography, geographic features, roadways, landmarks, etc.	Local businesses
Digital Maps	Diagrammatic representation of trails; contextual information including topography, geographic features, roadways, landmarks, etc.	Trail apps, e.g., Trailforks, Alltrails, and Gaia; georeferenced PDF on the Blue River website for use with Avenza

Phase 2		
Facility	**Information**	**Location**
Interpretive Panels	Educational information on natural and cultural features/areas of significance	Trailhead kiosks; points of interest
Way-Marked Routes	Route name and branding to help users link together trails into a loop or longer route; recommended direction if applicable	Trailheads; intersections
Destination Signs	Directions to key trailheads	Key road intersections

Table 2:Proposed Signage and Wayfinding System

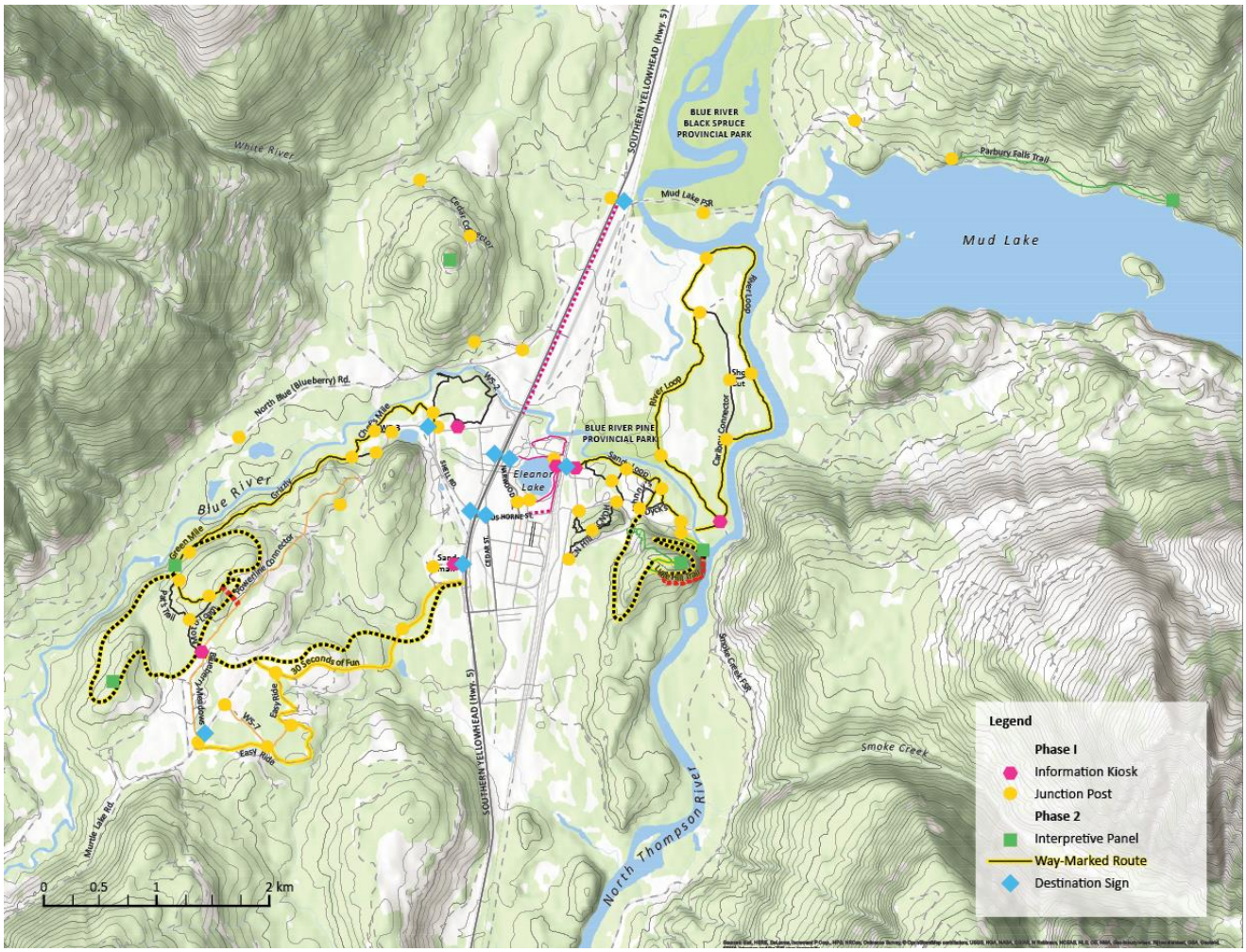

Figure 5: Conceptual implementation of the signage and wayfinding system (Exact locations must be field verified)

2.5 NEW TRAIL DEVELOPMENT AND REROUTES

EMPLOY BEST PRACTICES FOR TRAIL LAYOUT AND CONSTRUCTION

Adhering to the well-established best practices for trail layout and construction can maximize the user experience while minimizing maintenance and liability exposure. Ensure that new trail development and reroutes are led by people with experience in sustainable trail design, whether they are contractors or volunteers.

Key Trail Planning and Design Resources

- Trail Solutions: IMBA's Guide to Building Sweet Singletrack, International Mountain Bike Association, 2004.
- Managing Mountain Biking: IMBA's Guide to Providing Great Riding, International Mountain Bike Association, 2007
- Natural Surface Trails by Design, Troy Scott Parker, 2004
- Great Trails: Providing Quality OHV Trails and Experiences Guidebook, National Off-Highway Vehicle Conservation Council, 2015

DEVELOP THE GREEN MILE AREA INTO A STACKED LOOP SYSTEM WITH A DESIGNATED TRAILHEAD

Participants in the Working Group consistently described the Green Mile as the highlight of the trail system. The trail is an exceptional example of rolling singletrack and provides a harmonious old growth forest experience for intermediate to advanced users. However, the experience is brief, the distance to the trail is far for hiker and bikers, and the main connecting trails, such as Grizzly and Powerline Connector, offer a different type of experience than is non-complimentary.

Build off the strength of the Green Mile by further developing the area into a stacked loop system, including a new connection to town and a new trailhead:

- Develop a trailhead where Moto Loam meets Blueberry Meadows. Include an information kiosk and space for pull-off parking.
- Close the existing, fall-line alignment Green Mile Entrance and develop a replacement that connects the new trailhead to the start of the Green Mile.
- Develop a new trail that begins at the proposed Blueberry Meadows trailhead, travels up and around the old growth covered knoll to the south, and connects to the Green Mile below Pat's Trail.
- Develop a new trail connecting the low end of the Green Mile to its upper terminus and the new Green Mile Entrance.
- Develop a new non-motorized singletrack trail running parallel to 30 Seconds of Fun that connects the proposed Blueberry Meadows trailhead to the Sandman trailhead.

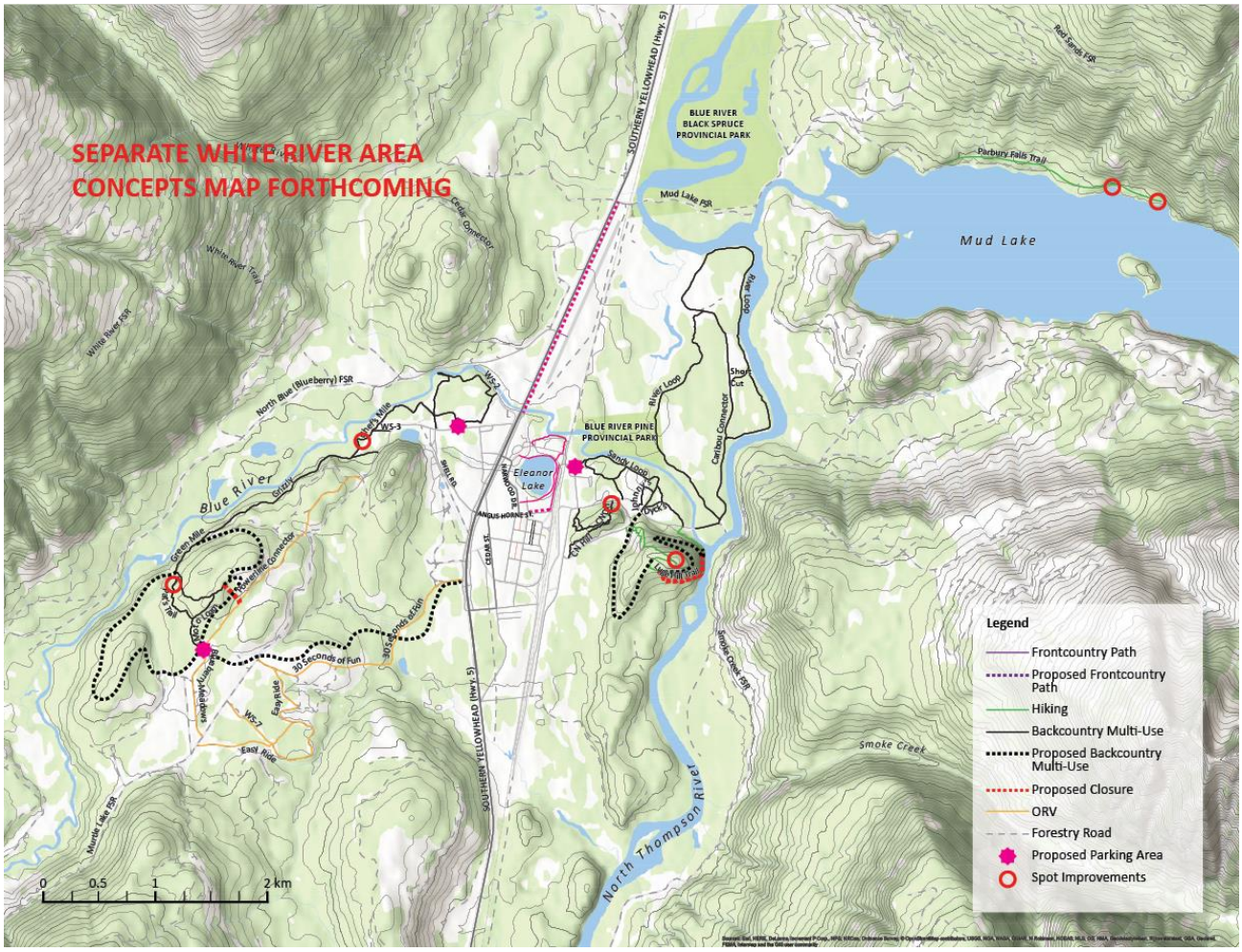

Figure 6: Proposed New Trails and Reroutes

REALIGN LUGE HILL TRAIL

The Luge Hill trail's hilltop and river bank views make it a compelling destination, but sections of trail with too-steep alignments and slope instability take away from the overall experience, prevent the use of mountain bikes, and present persistent maintenance issues.

Complete a two-part realignment of Luge Hill to improve the user experience and overall sustainability, and to open the trail to mountain biking:

- Develop an alternate alignment along the west and south aspects of the hill that connects Johnny's and Dyck's with the former luge starting gate.
- Clear debris from the former luge starting gate and develop as a lookout with benches and interpretive panels. Thin trees east of the lookout to improve views out to the North Thompson River.

- Close the sections of existing trail that traverse the east aspect. Develop a new alignment above the steepest sections of the east aspect and along the north aspect. Connect the new alignment with the existing trail where the Blue River meet the North Thompson and develop a rest area with benches and interpretative panels.

ADDRESS FLOOD-PRONE SECTIONS OF PARBURY FALLS TRAIL

Parbury Falls trail plays an important role in the trail network as a destination-focused hike, but access is limited by early summer flooding in most years. Improvements to the flood-prone sections of the trail are needed to enable spring and early summer use. Field verification of potential solutions was not possible during the master planning process (due to flooding of the access road), so additional exploration of the feasibility of two options is needed.

Explore two options for trail upgrades:

- Option A: Reroute uphill of flood-prone areas. LiDAR data shows steep slopes and possible rock outcrops that may prevent this option. This may make it a more difficult trail.
- Option B: Construct segments of raised boardwalk over flood prone sections.

ADDRESS FLOOD-PRONE SECTIONS OF CHEF'S MILE

The area of Chef's Mile closest to Grizzly that cuts into and out of the forest crosses over a wet area, is prone to flooding, and has wooden boardwalks. The boardwalks may be passable most of the year, but consideration of an improved alignment and/or improvement of the boardwalk design and elevation would help ensure this trail is passable in the spring.

BRING UNSANCTIONED TRAILS IN THE GREEN MILE IN TO THE OFFICIAL NETWORK

TNRD to explore options for entering in to Section 56 and 57 agreements with RSTBC for "Pat's Trail" and "Moto Loam." Before finalizing the agreements, upgrade the drainage crossings on Pat's Trail by bringing abutments to the top of bank, and formalize the names of the trails.

PURSUE AN AGREEMENT WITH MIKE WIEGELE HELICOPTER SKIING TO ALLOW AND PUBLICIZE PUBLIC USE OF THE TRAILS WITHIN RESORT PROPERTIES

TBC with MWHS

UNIFY THE EASTERN ENTRANCE TO MURTLE LAKE FSR EAST TRAILS

There are currently four eastern entrances to the Murtle Lake FSR East Area: two off Shell Road and two off West Frontage Road. All cross private land, and none have agreements in place. Pursue an agreement for the southernmost entrance and develop as a trailhead with an information kiosk. Explore options for on-street parking. Work with the other private landowners to close the remaining trailheads.

REROUTE THE LOWER SECTION OF CN DOWNHILL

CN Downhill is a mountain bike-oriented descent trail that begins with open, insloped turns, but ends in a steep chute leading onto Herb Bilton Way. The chute at the bottom offers riders minimal reward for elevation loss, and erosion will deteriorate the fall-line alignment over time. Reroute the bottom third of the trail in the open, flowing style of the upper sections.

DEVELOP MOUNTAIN BIKE PRIMARY TRAILS IN THE WHITE RIVER AREA

This section is forthcoming from IMBA Trail Solutions

COLLABORATE WITH MIKE WIEGELE HELICOPTER SKIING ON A MOUNTAIN BIKE PUMP TRACK

Mike Wiegele Helicopter Skiing (MWHS) has recently explored the feasibility of developing a mountain bike pump track, but a suitable site could not be found on the main MWHS Resort property. There is potential to host the track on other MWHS properties or TNRD lands, creating a publicly accessible amenity. TNRD could collaborate with MWHS, including options for funding and maintenance.

2.6 PARTNERSHIPS

COLLABORATE AND CONSULT WITH SIMPCW FIRST NATION

Continue to consult and work with Simpcw First Nation on new initiatives, such as planning efforts and future trail development. Inform early, and bring ideas in progress rather than finished products. As projects develop, engage in Simpcw's referral process to determine whether further study may be needed, such as Preliminary Field Reconnaissance (PFR), an Archaeological Overview Assessment (AOAs), or an Archeological Impact Assessment (AIA), or Traditional Land and Resource Use Study (LRUS).

Collaborate with Simpcw First Nation to promote Simpcw heritage and culture through the trail signage and wayfinding program. This could include:

- Developing interpretive signage about Simpcw history and culture
- Incorporating maps showing Simpcwúĺecw ("Simpcw Territory") and Secwepemcúĺecw ("Secwepemc territory")
- Integrating Secwepemctsín language and place names

Chu Chua, the current habitation site, has a strong mountain biking and trail building community. Collaborate and draw on their expertise during planning and new trail development.

PARTNER WITH LOCAL BUSINESSES

Local businesses in Blue River expressed an interest in contributing to the maintenance and development of the trail network in Blue River. Explore opportunities for local businesses to support trails through monetary and/or in-kind donations. Consider trail sponsorship models, such as the North Shore Mountain Bike Association (NSMBA) Trail Adoption Plan (TAP). The TAP model sees businesses sponsor an individual trail and receive promotional opportunities, such as logo placement on trail heads. Businesses can contribute both financially and by organizing staff trail days.

CONTINUE THE TRAILS WORKING GROUP

The trail network in Blue River is connected to a broad network of rightsholders and stakeholders, including the TNRD, Simpcw First Nation, RSTBC, user groups such as the Blue River Powder Packers, forest companies, Mike Wiegele Helicopter Skiing, and local businesses. Continue to hold regular and special topic Working Group meetings to work through the implementation of the Master Plan recommendations and other management issues.

COLLABORATE AND COORDINATE WITH THE FORESTRY SECTOR

Outdoor recreation and forestry are both important industries in Blue River and throughout the North Thompson Valley. Outside of protected areas, such as parks and Old Growth Management Areas (OGMAs), trails and forestry must coexist on the same land base. It should be assumed that any unprotected area may be harvested at some point in the future. As well, even trails under specific agreements may be affected by harvesting.

Forest Service Roads (FSRs), which are developed to access timber, play an important role in outdoor recreation. FSRs are utilized extensively by the ORV community, and many mountain bike-focused trail systems rely on FSRs for climbing and shuttling routes.

Through the Trails Working Group, collaborate and coordinate with the forestry sector on trail planning and development. Forestry companies have expressed a willingness to collaborate and look for win-win situations. Collaboration should be detailed and site specific to make best use of the equipment and timing of harvest activities. By working together closely, valuable in-kind contributions can be made, such as clearing parking areas, clearing trail corridors, and removing stumps. Communication can also lead to adjustments in timing, although many regulatory and market factors must also be considered.

SUPPORT COMMUNITY VOLUNTEERS

Volunteers and volunteer-based trail associations are a vital part of most trail networks in BC. In Blue River, the Powder Packers groom and maintain snowmobile trails and hold land use agreements for several alpine riding areas. Outside of the Powder Packers, trail users currently perform spot maintenance, such as clearing deadfall, but there is currently no organized system for volunteer contributions during the summer. The public online survey indicated significant interest in volunteering for trail maintenance. Given the public interest and the importance of volunteer contributions, take a two-part approach to encouraging volunteerism:

- In the short term, the TNRD could host volunteer trail days to perform maintenance and develop new trails and reroutes. Ensure that the TNRD has participants complete a waiver, establishes safe work procedures, and oversees all volunteer activities. Trail days should be led by an experienced trail builder.
- In the long term, the TNRD could support the formation of a summer-focused or all-season trail user association. Work closely and collaboratively with future trail organizations.

Trail user associations can take many forms. Consult with nearby associations, such as the Clearwater-based Wells Gray Outdoors Club (cross country skiing, mountain biking, and hiking) and VARDA, the Valemount & Area Recreation Development Association (mountain biking and snowmobiling), for advice specific to the North Thompson area.

Trail associations can enter into land use agreements, and can sometimes access different sponsorship and grant funding sources than government. Trail associations may also have more success attracting volunteers.

2.7 MANAGEMENT + MAINTENANCE

WORK TO MINIMIZE CONFLICTS BETWEEN USERS

Motorized – Non-Motorized User Conflicts

Many trails in Blue River are currently used by motorized and non-motorized users, despite Section ## agreements specifying non-motorized uses. While most residents report low levels of conflict between different user groups, if trail use by locals and visitors increases, as is hoped for, motorized and non-motorized uses will need to become better separated to ensure safety and minimize maintenance. Table 1 recommends designated uses for each trail. Ensuring these recommendations are followed in practice will require clear signage. Maintaining a culture of respectful trail use should be based on peer-to-peer communication and courtesy.

When deciding on designations for future trails, look to the following factors:

- Non-motorized:
    - High levels of non-motorized use
    - Sensitive and/or rare ecosystems
    - Narrow and/or poor sight lines
- Motorized:
    - Low levels of motorized use and/or remote
    - Disturbed areas or non-sensitive ecosystems
    - Wide trail tread and good sight lines

Another strategy for minimizing conflicts between motorized and non-motorized uses is to facilitate the dispersal of motorized users into the large networks of FSRs and snowmobile riding areas surrounding Blue River. Encourage this by creating “out and away” routes for motorized users that allow motorized users to ride from town, out to riding areas such as Red Sands and destinations such as Mystery Lake. This approach takes advantage of the longer distances a motor allows. Providing a connection to town for ORV users enables locals to start their ride closer to home and makes it easier for visitors to patronize local businesses.

Non-Motorized User Conflicts

On most non-motorized trails in Blue River, potential conflicts between cyclists and hikers should be minimized through trail design techniques that increase the perception of speed and reduce actual trail speeds. These can include narrowing trail tread, corralling or anchoring corners, and creating gateways. Maintaining site lines and promoting good trail etiquette are also important strategies.

It may be necessary to designate trails as hiking-only or mountain biking-primary in the following situations:

- Hiking-only:
    - Crowded or heavily trafficked trails
    - Highly-sensitive ecosystems
- Mountain Bike Primary:
    - High trail speed (such as on a downhill flow trail)
    - High density of technical trail features (TTFs)

ESTABLISH TARGET MAINTENANCE LEVELS

Establish target maintenance levels for each trail in the network. Requirements will differ depending on type of use, surface type, and setting. For example, ORV uses displace more trail tread material than hikers, and the fast-growing forest setting of Grizzly requires more brushing than the old growth setting of the Green Mile. At minimum, all trails should receive an annual spring inspection and be cleared of deadfall as needed.

Active Transportation

Pathways and pedestrian crossings should be maintained year-round, to provide access in winter as well as in summer. Winter maintenance should include clearing snow from pedestrian crossings on the highway, including walkways leading to the crossings. Summer maintenance should include filling and regrading areas of the pathway where water has accumulated to eliminate ponding.

2.8 SUPPORT ORV INITIATIVES

Continue TNRD support for initiatives that improve access to ORV riding areas. Two related projects aimed at improving ORV experiences are in early planning stages at the time of writing:

- Developing a parking and staging area at Murtle Rd Park.
- Constructing a bridge to across the Blue River connecting Murtle Rd Park to North Blue FSR.

Participants in the working group, open house, and online survey also expressed a desire for ORV routes within town to allow users to ride from their home to riding areas outside of town. While this issue is outside the jurisdiction of the TNRD, ORV use, particularly snowmobiling, is a significant economic and cultural contributor to Blue River. Request that the Ministry of Transportation and Infrastructure (MOTI) consider an ORV pilot project allowing registered ORV users to travel on designated routes within Blue River. Include a designated highway crossing in town and at the Cedar Connector-Mud Lake FSR intersection.