



BURNS LAKE ACTIVE TRANSPORTATION PLAN
Village of Burns Lake, BC



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December 18, 2009

Village of Burns Lake
Box 570, #15 3rd Avenue
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V0J 1E0

Attn: Tim Palmer, Chief Administrative Officer

Re: BURNS LAKE ACTIVE TRANSPORTATION PLAN

Dear Mr. Palmer,

Boulevard Transportation Group Ltd. is pleased to present herewithin the Burns Lake Active Transportation Plan. The AT Plan sets forth a vision, recommended long-term active transportation network, and supporting policies, programs, and initiatives to provide the Village with a plan toward facilitating increased active transportation in Burns Lake. We believe that our close working relationship with your staff, the Village Council, and the Burns Lake community has resulted in a document that accurately reflects community needs.

We thoroughly enjoyed the opportunity to work once again with Village staff and the Burns Lake community in developing this document. We hope that it meets your needs and expectations.

Should you have any questions or concerns regarding this document, please do not hesitate to contact me directly.

Yours truly,

BOULEVARD TRANSPORTATION GROUP LTD.

per,

Michael Skene, EngL, ASCT
President

Executive Summary

The Village of Burns Lake, with the assistance of Boulevard Transportation Group and D'Ambrosio architecture+urbanism, have developed the Burns Lake Active Transportation Plan (AT Plan). The AT Plan seeks to increase demand for active transportation in Burns Lake by identifying routes, facilities, programs, and regulations that facilitate an increase in active transportation and generally work toward creating a safer, healthier, more sustainable community.

Active transportation refers to any travel mode that is driven by human power. It typically refers to walking and cycling, but also considers options that support active travel, such as transit. The benefits of increased active transportation are as follows.

- > Improved community health;
- > Reduced greenhouse gas (GHG) emissions;
- > More equitable transportation infrastructure;
- > Improved affordability; and
- > Reinforcement of compact settlement patterns.

The Village of Burns Lake presents both challenges and opportunities to active transportation. The community is young and attracts outdoor enthusiasts, with a general willingness to travel via active modes. The Village is also small in area, making active travel feasible. However, steep topography and winter weather make self-propelled travel challenging in certain locations and at certain times of year. Also, the Village is bisected by Highway 16 and the CN Railway, both of which pose barriers to non-vehicular connectivity. Its location along a major highway has caused automobile-oriented development in Burns Lake and resulted in infrastructure designed for vehicle speed and safety, with little consideration for pedestrians or cyclists.

The AT Plan sets forth recommended actions for the Village to facilitate increased demand for active transportation in the future. The primary recommendation is to work toward an envisioned long-term active transportation network comprised of routes and facilities that facilitate active transportation. The recommended network includes the following components (in order of priority).

- > Improvements to Highway 16 from Francois Lake Drive to 3rd Avenue, to include wider sidewalks, landscaping, traffic calming features and narrowed vehicle lanes.
- > Improved crossing of the Saul Creek ravine, either as a \$2.5-million bridge or a less expensive improvement of the existing crossing.

- > A 3.0m roadside trail the length of Centre Street, connecting the Lake Babine Band lands, William Konkin Elementary School, Muriel Mould Primary School, and Lakes District Hospital with the Downtown.
- > An improved connection between Highway 16 and Gilgan Road that includes an asphalt surface and landscaping.
- > Redesign of 8th Avenue to include a 3.0m roadside pathway and improved stormwater management.
- > Extension of the existing Eveneshen Trail to connect to Burns Lake, with a formal crossing of the CN Railway adjacent to Lakes District Secondary School.
- > Long-term potential for a lakefront walkway providing continuous public access to Burns Lake.
- > Roadside greenway routes along Government Street, Gilgan Road, and Francois Lake Drive, connecting Radley Beach and Spirit Square with the rest of the community.
- > A series of trails along Waldrup Creek, at the east of the Village, connecting the Rod Reid Nature Trail with Burns Lake.

In addition to the recommended network, the AT Plan recommends actions for the Village to pursue to facilitate active transportation. Recommended actions are as follows.

- > Alter Village maintenance and operations protocols to better facilitate active transportation, including putting more priority on sidewalks and cycling routes in snow clearing practices, improve sidewalk maintenance, better enforce parking, incorporate landscaping into transportation infrastructure, and consider pedestrian-scaled banners.
- > Pursue opportunities to acquire land and/or funding for active transportation infrastructure through land development, community donation, and Provincial or Federal grant programs.
- > Promote community-based programs and initiatives to increase capacity for active transportation.

Acknowledgements

The Burns Lake Active Transportation Plan was funded by a community planning grant through the Built Environment and Active Transportation (BEAT) program, a joint initiative of the BC Recreation and Parks Association and the Union of British Columbia Municipalities.



The contributions of the Village of Burns Lake's elected officials should be acknowledged.

- > Bernice Magee, Mayor
- > Eileen Benedict, Councillor
- > Quinten Beach, Councillor
- > John Illes, Councillor
- > Lianne Olson, Councillor

Village staff were instrumental in organizing community events, liaising with stakeholders and reviewing the Plan.

- > Tim Palmer, CAO
- > Paul Carver, Engineering
- > Natasha Letchford, Corporate Services
- > Stephanie Beerling, Corporate Services
- > Susan Schienbein, Recreation

The project team consisted of Boulevard Transportation Group as lead consultants, with assistance from D'Ambrosio architecture+urbanism.

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1.0 INTRODUCTION

Automobile use has been a central component of a lifestyle which, for years, Burns Lake residents have been drawn to, a lifestyle characterized by a freedom of mobility, reliance on available, cheap fossil fuels, and a short-term comprehension of the long-term repercussions of travel choices. Over time, Burns Lake has devolved into a place that is less healthy, less sustainable, less safe, less equitable, and generally less enjoyable than ever before.

Gradually, a shift is occurring. A shift in emphasis from the drive-in, drive-out culture, to a built environment that puts self-propelled travel on par with vehicle travel. Residents are looking to base their lifestyles around active modes of travel, with opportunities to satisfy both mobility needs and recreation needs in the same activity, and under conditions that are not only safe, but are also enjoyable. There is also a push to remove physical and perceived mobility barriers so that individuals of all physical abilities, including seniors and handicapped residents, can fulfill transportation needs safely and without assistance. There is also a need to address personal mobility issues in winter weather, recognizing Burns Lake's northern climate.

With that in mind and through funding assistance from the Built Environment & Active Transportation initiative, the Village of Burns Lake has developed this document - the Burns Lake Active Transportation Plan (AT Plan). The AT Plan seeks to establish a framework to increase future demand for self-propelled travel in Burns Lake, generally working toward creating a safer, healthier, more sustainable community. The AT Plan includes the following:

- > A definition of active transportation and an outline of the health, environmental, and other benefits of increased self-propelled travel;
- > An outline of Burns Lake, with emphasis on the opportunities and challenges presented by the infrastructure, facilities, geography, culture and demographics of the community;
- > A summary of feedback received through consultation with the community;
- > An envisioned long-term active transportation network, including identified routes, critical junctions, prioritized improvements, and cost implications;
- > Design standards to ensure the appropriate design of future infrastructure; and
- > Policies, programs, and services that support active transportation.



The goal is not just to promote recreation... but to design physical activity into the daily routine, to build a city so that people will leave their cars at home, strap on a backpack and take up walking as their primary mode of travel.

1.1 Methodology

The AT Plan was developed over a five (5) month period, between August and December 2009, and involved considerable coordination between the Burns Lake community, Village staff and Council and the project team. The process involved the following steps.

- > Existing community plans were reviewed to ensure coordination between the AT Plan and previous community-based work. Existing active transportation facilities were inventoried, including both routes and origin/destinations.

- > Potential future active transportation improvements were identified, including potential new routes and important locations in the community.

- > The project team led a community walking tour Monday, October 29, 2009 with community members, Village staff and Council to observe active transportation conditions first-hand. Later that day, an open house was held to solicit feedback from the community on the proposed future improvements and provide an opportunity for creative community input. Community feedback is summarized in *Appendix A*.

- > Further consultation was undertaken with community stakeholder individuals and groups to confirm findings and refine recommendations.

- > Stakeholder and community feedback was summarized and integrated into preliminary improvement options to create a draft AT Plan, which was reviewed by Village staff before being finalized.

2.0 Active Transportation 101

2.1 What is Active Transportation?

Active transportation describes any form of human powered, self-propelled transportation. The most common choices are walking or cycling, but active transportation can also include horseback riding, in-line skating, skateboarding, wheelchair travel, or in winter, cross-country skiing and snowshoeing. The primary goal of active transportation may be utilitarian, that is, to travel to a particular destination for a specific purpose, or it may be primarily recreational, that being personal travel for leisure purposes.



A supportive active transportation network provides residents with a safe, accessible, interconnected system of roadways and trails that connects them with their common destinations. Ideally, this network will be multi-modal, providing the user with multiple options for travel; for example, a roadway that is usable by pedestrians or cyclists, or a trail that may be utilized by wheelchair or equestrian users. Active transportation modes may be combined with motorized modes such as carpooling or train; a cyclist could ride to a friend's home, park their bike, and continue their trip in a carpool. Moreover, a supportive network should provide accessible transportation opportunities for all ages and demographics. To be inclusive for youth, it should prioritize connections between homes, schools and recreation centers; and to address the needs of the mobility-challenged or elderly it should provide appropriate paved facilities between homes, shops, and medical facilities.



Active transportation is supported by providing appropriate infrastructure. Such facilities may range from sidewalks and bike lanes, which provide dedicated space for active transportation modes in the road network; trails and bridges, which serve to facilitate connections and shorten trip distances for non-motorized travel, as well as allow for aesthetic opportunities; and end-of-trip facilities, such as bike racks, which enable safe storage at the destination. Design and maintenance of all infrastructure must take into consideration the specific regional climatic conditions. For example, sidewalks, trails, and bike lanes should be prioritized in snow clearing, using gravel and grooming to allow for travel by foot, ski or bike. Bike racks should be in covered locations to provide protection from rain and snow. Providing an active transportation network that is separated from the roadway will provide more pleasing and safe travel conditions through the temperate months, and reduce snow storage associated with snow clearing and slush sprays from vehicles during the winter season.



Active transportation is also encouraged through community capacity building strategies, such as marketing, promotion and education programs. Examples include:

- > Bike-to-work week
- > Walk-to-school programs (e.g., the Hub for Action on School Transportation Emissions, www.hastebc.org)
- > Personalized family transportation planning (e.g., Mobility Matters from Better Environmentally Sound Transportation (www.BEST.bc.ca))
- > Training workshops (e.g., bicycle commuter skills training, for children or adults)
- > Maps highlighting the local active transportation network, connections and key destinations
- > Festivals and celebrations (e.g., commuter breakfasts, outdoor films, community walks)
- > Common interest clubs (e.g., seniors walking groups, women's biking groups).

Active Transportation and Sustainable Transportation

Active transportation objectives are quite similar to sustainable transportation planning in that they present the community with viable alternatives to vehicle travel. However, where active transportation focuses on human-powered travel modes, sustainable transportation considers any mode that is a more environmentally sustainable option than single-occupancy vehicle travel, including motorized travel via transit and ridesharing. From this perspective, the primary objectives of active transportation and sustainable transportation are the same: reducing vehicle travel. However, the emphasis of each differs based on travel mode. The AT Plan recognizes sustainability objectives and seeks to encourage them through active transportation, but focuses on encouraging only those travel modes that are non-motorized modes.



Active Transportation and Transportation Demand Management

Transportation demand management (TDM) is an emerging, integrated approach to improving the efficiency and sustainability of a transportation network through managing travel demand and modal integration. By definition, TDM does not preclude vehicle travel, but in reality, transportation networks are already developed to facilitate widespread vehicle use. Accordingly, TDM tends to encourage all self-propelled and multi-passenger travel modes, as well as look at factors that influence travel behavior, such as land use and work arrangements. While not a TDM plan, the AT Plan recommends a number of similar measures that would be found in a TDM plan to encourage travel via self-propelled modes.



2.2 What are the benefits of Active Transportation?

Health

Physical inactivity and obesity are two of the leading health concerns in Canada. Physical inactivity is a key risk factor for a number of chronic diseases including diabetes, cardiovascular disease, and osteoporosis, stroke, and various cancers. Inactivity is also known to affect personal mood, self-esteem, energy levels and depression. Alarmingly, physical inactivity is extremely common in Canada: about two-thirds of Canadians do not get adequate physical activity to achieve any health benefit (PHAC, 2008). Furthermore, obesity, a direct result of physical inactivity, has doubled in the past two (2) decades (Katzmarzyk, 2002). According to the Canadian Community Health Survey in 2007, 41.2% of BC adults were overweight or obese. The rising levels of physical activity and obesity in children are especially concerning. In 2004, 29.2% of Canadian youth were classified as overweight or obese, and the proportion of obese children has nearly tripled in the last 25 years. Research has also shown that obesity levels are higher in lower socio-demographic groups, and in rural and suburban areas as compared to city centers (Ministry of Healthy Living and Sport, 2009).

The costs of these high levels of physical inactivity and obesity are felt by everyone. Compared to an active person, an inactive person uses more health services (38% more days in hospital, 5% more doctor visits, 13% more specialist visits, 12% more nurse visits) (Sari, 2009). The direct health care costs associated with inactivity have been estimated at over 2 billion dollars in Canada (Katzmarzyk, 2000).

Active transportation improves physical activity and personal health. Recommended levels of physical activity are 30 minutes a day, most days of the week – but this can be done in bouts of 10 minutes of moderate activity. Active transportation is an ideal way to meet these recommendations: making a 15-minute trip to work, school, a shop, or a social visit and back by foot or by bike would fulfill daily requirements. This incorporates physical activity into a daily travel habits, and since it can serve as a substitute for auto trips, it may not require additional time commitment. Active transportation interventions have been shown to be more effective (i.e., more “sticky”) at increasing activity levels in the long term than going to the gym or jogging.



Environment

Replacing vehicle trips with active transportation improves the environmental quality of our community. Passenger vehicle travel is responsible for approximately 35% of BC's greenhouse gas (GHG) emissions (BC Government). GHG emissions are responsible for global warming, a phenomenon that is global in scale and with serious long-term implications. Active transportation creates no GHGs and no airborne pollutants, such as carbon monoxide, nitrous oxide and particulates. Furthermore, it contributes no noise pollution, which has been linked to stress and myocardial infarctions (Go for Green).



Equity

Active transportation addresses the mobility needs of people of all ages. A significant portion of the population does not have the option to drive. Our youth, elderly and those with disabilities all rely on automobile alternatives to meet their transportation needs. Wider roadway widths at busy intersections make difficult crossings for pedestrians, especially children, older adults, and those with disabilities. By designing appropriate active transportation facilities, a community can fund transportation infrastructure that meets the needs of ALL community members.

Affordability

Encouraging active transportation and providing appropriate facilities allows community members to fulfill their transportation needs more inexpensively. It costs an average driver over \$7,000 annually to own and operate a small car (CAA, 2007). This can be a prohibitive expense for some community members, and once which others would rather eliminate. Active transportation modes such as walking and cycling require little to no capital cost and minimal on-going maintenance costs.



Land Use

How a community is designed, through by-laws and local zoning, can promote or discourage active transportation. Mixed land use and more compact development facilitate active transportation, as people where people can make shorter trips, or complete several errands in a single trip (PHSA, 2007). In rural settings active transportation links should focus on getting people to town centers and other common destinations. Creating links to recreational opportunities creates more convenient ways for kids and adults to be active. Having active transportation infrastructure (e.g., sidewalks) present in these centers and also along connections between them is crucial.



Transportation

Where active transportation serves as substitute for automobile travel, it will also result in reduced congestion along roadways, and reduced need for car parking facilities. Areas with higher levels of active transportation also have fewer vehicle collisions and fatalities (Go for Green). Research in Europe, the US, and Australia has demonstrated the concept of “safety in numbers” -- that the more pedestrians and bicyclists there are, the lower the risk of injury to pedestrians and cyclists from motor vehicles -- counter to what might be expected (Jacobsen, 2003). Increasing active transportation thus has a positive feedback cycle: as levels of active transportation levels increases, it also becomes safer.



3.0 Active Transportation in Burns Lake

3.1 About Burns Lake

The Village of Burns Lake is part of the Lakes District, located near the geographic centre of British Columbia and at the western edge of the interior plateau. It is accessed by the Yellowhead Highway (Hwy 16), approximately 225 km from Prince George to the east and 500 km from Prince Rupert to the west.



The area is home to some of BC's largest freshwater lakes, including Babine Lake, Francois Lake and Ootsa Lake. The Village is considered "The Gateway to Tweedsmuir Park", BC's second largest Provincial Park. The area is also home to six (6) First Nations, with two (2) located within the Village - the Burns Lake Band and the Lake Babine Band.

Burns Lake (the body of water) was "discovered" by the Borland Expedition as they travelled the Caribou-Cassiar Trail in 1869. Shortly before the Expedition arrived, a fire swept through the area, prompting members of the expedition to dub the body of water "Burnt Lake" - a name that over the years became "Burns Lake" (Chamber, 2008).

Burns Lake has evolved into a small, modern northern community, and is the largest village in British Columbia. The community is generally young, with a median age of thirty-four (34). See *Table 1*. The local economy is driven by the natural surroundings, with forestry, farming, and tourism being key industries.

Table 1. Burns Lake Age Characteristics, 2006

Age	Burns Lake	British Columbia
0 - 14	485 (23%)	17%
15 - 29	480 (23%)	19%
30 - 44	430 (20%)	14%
45 - 59	370 (18%)	23%
60 - 75	190 (9%)	13%
75+	155 (7%)	7%
Total Population	2,110	
Median Age	33.8	40.8

Source: Statistics Canada

Temperatures vary over the course of the year, with average July temperatures of 14 C and average January temperatures of -10 C, sometimes dipping as low as -40 C. Average annual snowfall is 186 mm. As with many northern communities, seasonal climate influences day-to-day living.

Burns Lake and Decker Lake are immediately adjacent the Village, and a number of smaller lakes are located within Village boundaries. Fishing is a common outdoor activity, as is boating, canoeing and kayaking. Boer Mountain, northwest of the Village, is home to one of BC's premier mountain bike parks and occasionally hosts competitions. The Omineca Ski Club is located six (6) kilometres south of the Village on Highway 35, and possesses world-class cross-country trails. The Village is also centrally located to Tweedsmuir Park and vast wilderness areas, and is commonly a starting point for outdoor activities such as hunting, fishing, hiking, snowmobiling, dog sledding and horseback riding, among others (Chamber, 2008). The vast outdoor recreational opportunities in Burns Lake's are the primary tourist appeal and perhaps it's greatest asset.



Outdoor recreation plays a central role in defining the character of Burns Lake.

3.2 Community Destinations

The Village of Burns Lake is approximately 7.17 m² in area and is comprised of neighbourhoods and specific destinations that define the parameters for travel within the community. General neighbourhoods include:

- > The downtown area that centres on Highway 16 and includes the majority of the commercial and civic land uses in Burns Lake;
- > Commercial and industrial lands at the southeast of the Village, centred on Highway 35 and Francois Lake Drive;
- > Community recreation and civic uses at the far southeast edge of the Village, bounded by Highway 35 on the west and Burns Lake on the south;
- > Residential areas immediately north of Highway 16 and the downtown area, approximately bounded by 5th Avenue on the north;
- > Residential areas northeast of Highway 16, approximately bounded by 8th Avenue on the south and the Lake Babine Band lands on the north;
- > Lake Babine Band lands at the northwest edge of the Village, north of 9th Avenue; and
- > Burns Lake Band lands south of Highway 16 and the CN Railway, adjacent to Burns Lake.

Burns Lake also consists of a number of specific destinations that the community is constantly travelling to/from and which influence travel characteristics. Specific destinations include:

- > Lakes District Secondary School and the College of New Caledonia campus are located along Highway 16 and attract students daily.
- > Rotary Ball Park is located on Government Street and consists of a football/soccer field and baseball diamond. This facility is well-used much of the year.
- > William Konkin Elementary School and Muriel Mould Primary School are located near the north edge of the Village and attract school children on a daily basis.
- > The Lakes District Hospital is located adjacent to Muriel Mould Primary School on 9th Avenue and is accessed primarily by vehicle.
- > Spirit Square is at the intersection of Highway 35 and Francois Lake Drive, and includes a public lake access and a free outdoor fitness circuit.
- > Tom Forsyth Memorial Arena is adjacent to Spirit Square and the Y2K Skateboard Park. The arena includes a full-size hockey rink used by both the community and the Burns Lake Braves, the local Senior Men's AA hockey team.
- > The Y2K Skateboard Park is adjacent to Spirit Square and Tom Forsyth Memorial Arena, and is well-used by youth in the summer months.
- > There are a number of community parks in Burns Lake that attract recreational use - Kinette Park, Immaculatta Park, Dick Schritt Ball Park, and 5th Avenue Park.
- > The Burns Lake Mountain Bike Park is a preferred mountain bike destination. It is located on Boer Mountain, beyond the Village boundary.



The Village recently installed a series of outdoor fitness stations at Spirit Square that are available for community use, free of charge.



The Burns Lake Mountain Bike Park includes over 100 km of cross-country trails, a skills park, and a network of downhill and freeride routes.

3.3 Existing Active Routes

Burns Lake is comprised of a number of existing sidewalks and trails that facilitate active transportation. The community does not currently include on-road facilities, dedicated cycling infrastructure, or public transit.

Sidewalks exist along much of Highway 16, Government Avenue, and Francois Lake Drive, as well as portions of Highway 35, Lorne Street, 9th Avenue, Carroll Street, and Aspen Street. Sidewalks are generally 1.5 to 2.0 metres wide, concrete surface, and separated from the roadway by a raised curb. There are a number of locations where sidewalks are in poor repair, with cracks and raised portions. Sidewalk locations are shown on *Map 1*.

Sidewalks on Highway 16 in poor condition (left) and a new sidewalk leading to Lakes District Secondary School (right).



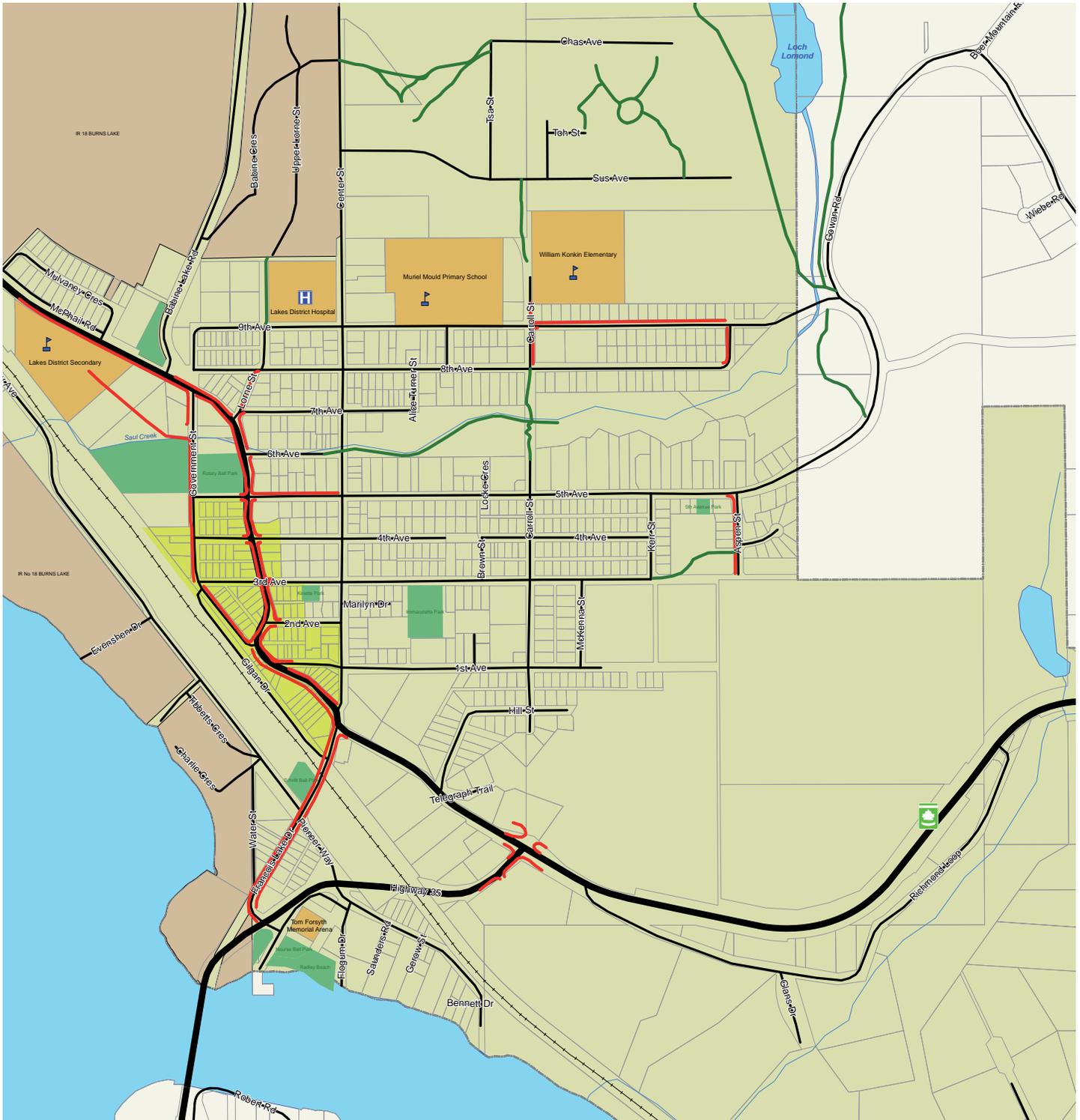
Burns Lake currently has two (2) formal public trails, with a number of informal pathways on both private and public land. Off-road trails are located adjacent to natural features and are intended for recreational use. They are typically narrow and constructed with a chip surface. Existing trails include:

1. The Eveneshen Trail follows the Saul Creek valley from the intersection of Highway 16 and 6th Avenue, to where Saul Creek crosses under 9th Avenue and links up with Rod Reid Nature Trail.
2. Rod Reid Nature Trail circles around the Loch Lomond wetland and bird-watching area, accessed at the northern-most point of the Eveneshen Trail, where 5th Avenue and 9th Avenue meet.

The Eveneshen Trail seen alongside Saul Creek (left) and at a trailhead on Centre Street (right).



Map 1. Existing Active Transportation Network



- Existing Sidewalk
- Existing Trail

3.4 Existing Programs / Services

Existing programs and initiatives operate in the community that, while not explicitly geared at active transportation, help facilitate sustainable travel and promote healthy lifestyles.

> The Omineca Ski Club boasts more than 300 members, offers cross-country ski lessons, and has hosted a variety of competitions. The Ski Club is located outside Village boundaries, but impacts active travel in Burns Lake. Omineca Ski Club operates a website - <http://www.ominecaskiclub.com/>

> The Burns Lake Mountain Bike Association (BLMBA) is a local organization seeking to establish Burns Lake as a world-class mountain biking destination. The BLMBA is working to preserve, develop and enhance trails in the Burns Lake area, including the Burns Lake Mountain Bike Park at Boer Mountain. The BLMBA maintains a website - <http://www.burnslaketrails.ca/>

> The Burns Lake Chamber of Commerce has developed an illustrative brochure highlighting hiking routes in and around Burns Lake. The brochure includes Eveneshen Trail, Rod Reid Nature Trail, and a Heritage Walking Tour of historic structures in Burns Lake. The brochure also identifies hiking routes beyond Village boundaries. The brochure is available on the Chamber's website - <http://www.burnslakechamber.ca/>

3.5 Opportunities + Challenges

Beyond the infrastructure and programs highlighted above, there are a number of inherent community qualities that support active transportation. The following opportunities are noted:

- > The Village is small in area, making most destinations within walking distance of one another;
- > The population is young and generally live active lifestyles, making uptake of active travel easier; and
- > Natural surroundings will continue to attract residents and tourists seeking recreation and willing to engage in active travel.

Despite the infrastructure/programs and inherent opportunities, there are a number of challenges to facilitating active transportation. Challenges have been identified through observation, consultation with residents, and in previous community plans. Many are consistent with those experienced in other communities. Some are the result of decisions made on infrastructure and development, some are the result of individual perception and not necessarily reality, and others are the result of external factors beyond the Village's influence. The following challenges are noted:

Connectivity

In general, Burns Lake is poorly connected. Much of this can be attributed to the historic location of the Village on major transportation corridors and settlement patterns relative to natural features. The following are locations of poor connectivity:

- > Highway 16 experiences considerable vehicle volumes, serves a steady stream of large commercial vehicles, and has few, poorly located pedestrian crossings.
- > The CN Rail line runs east-west and includes only two (2) crossing points at Francois Lake Drive and Highway 35.
- > Spirit Square is the primary civic space, but is disconnected from the downtown and much of Burns Lake. The only developed public access to Burns Lake is at Radley Beach.
- > William Konkin Elementary School and Muriel Mould Primary School, in particular, lack safe, attractive walking and cycling routes.
- > Carroll Street is divided by a steep ravine at Saul Creek.

Safety

There are perceived and, in some instances, actual safety issues associated with active transportation in Burns Lake. Pedestrians share the roadway with vehicles in many locations where vehicle speeds are high, especially on Highway 16. The weather and topography also make certain routes challenging in winter.

Safety issues were noted as one of the biggest barriers to active transportation.



Topography

Burns Lake is set within BC's interior plateau and, as such, possesses varied topography. Steep sections of town present a challenge to active transportation, particular to self-propelled wheeled modes. Specific instances include approaches to the residential areas northeast of Highway 16 along 3rd Avenue, 5th Avenue, 8th Avenue and 9th Avenue, as well as the informal crossing of Saul Creek at Carroll Street.

Burns Lake's steep topography presents a challenge to active transportation.



Climate

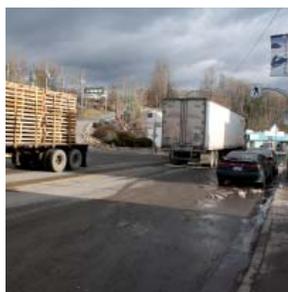
Burns Lake experiences severe winter weather, sometimes in excess of -40 C. Winter weather negatively affects both the comfort and safety of walking and cycling, something which was strongly stated in consultation with the community.

Design / Aesthetics

Infrastructure and buildings in Burns Lake have been traditionally designed to facilitate convenient vehicle access and command the attention of passing motorists. This has resulted in drive-thru facilities, wide roads with no sidewalks, large parking lots with no pedestrian connections, and generally an aesthetic that is oriented to the large, fast vehicle, and not the small, slow pedestrian. The existing automobile-oriented design of Burns Lake and the relatively slow rate of redevelopment will serve to reinforce automobiles as the preferred travel mode.

"Currently, there's nothing that draws me to stroll through downtown. I'd rather make tea at home and shop online."

- Burns Lake resident



Generally, Burns Lake has been designed to accommodate quick, convenient vehicle access, with little consideration for active travel modes.

Jurisdiction

Planning and development in Burns Lake is influenced by a number of organizations. The Ministry of Transportation and Infrastructure oversee Highway 16, CN Rail oversees the rail line and First Nations lands are governed independent of the Village. Jurisdictional cooperation will factor into future decisions around active transportation.

Convention

As with many North American towns, Burns Lake has an engrained automobile culture, with personal habits and the built environment reinforcing the automobile as the preferred travel mode. The downtown is designed to move vehicle traffic, not as a pedestrian-oriented downtown mainstreet. Little attention has been given to the up-keep of downtown buildings, and many storefronts are currently vacant as a result of recent competition on the periphery and in neighbouring communities.

4.0 Recommended Actions

This section presents the recommended actions of this study to help the Village work toward facilitating increased use of active transportation.

Recommended actions include:

- > Work toward the envisioned active transportation network consisting of routes with appropriate safety features, signage, paint markings and accessibility considerations.
- > Commit to an implementation plan that includes specific infrastructure improvements and budget implications to work toward the envisioned active transportation network.
- > Establish community-based programs and services that facilitate increase use of active transportation.
- > Alter Village policies and regulations to ensure Burns Lake evolves into a community that facilitates active transportation into the future.

4.1 Envisioned Active Transportation Network

The envisioned active transportation network identifies direct routes that facilitate self-propelled, purpose-driven travel to work, school, shopping and errand trips, as well as routes for self-propelled recreational travel, including potential circular routes. The envisioned network includes design considerations that allow for efficient, safe, accessible and comfortable self-propelled travel, identifying critical network locations that require care in design to ensure proper comfort, safety and continuity. The network addresses the community barriers highlighted in Section 3.0 and responds to transportation and trails policies/objectives in the OCP.

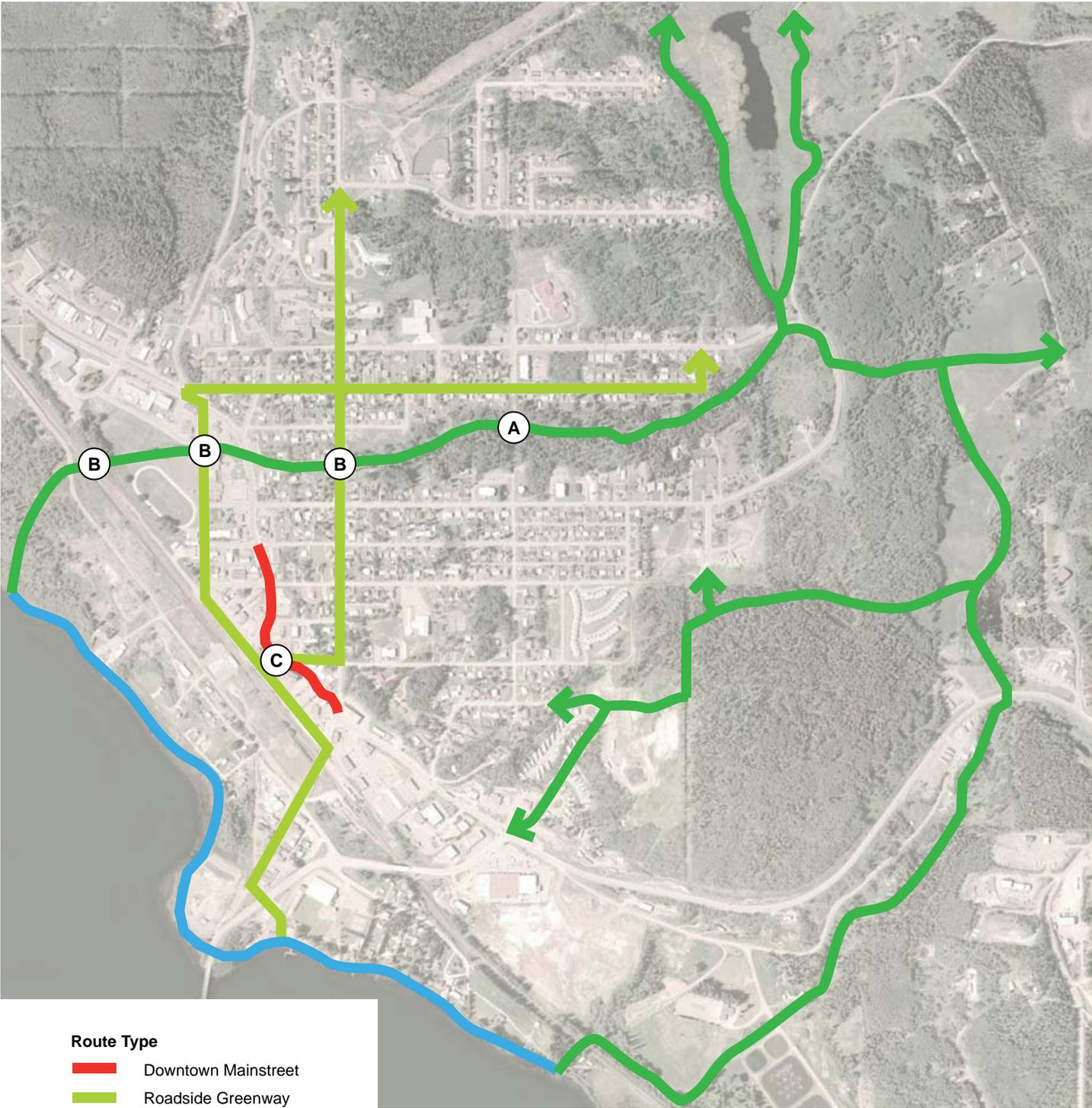
The envisioned active transportation network consists of both active transportation routes and critical locations, shown on *Map 2*. Each route and critical location has been considered separately on the following pages. Highlights of the overall network are as follows.

- > Revitalization of the downtown area through enhancements to Highway 16 to improve pedestrian conditions.

- > Improved connectivity in residential areas, including direct links to schools and recreation facilities, and improved design of specific problem areas.

- > A continuous 7-kilometre off-road walking loop of the Village which will provide connection between the downtown, schools, residential areas, recreation facilities and the Lake. This loop is something the Village could market as an attraction for visitors to the area.

- > Reconnection of Burns Lake to the rest of the community through the provision of a continuous lakefront walkway.



- Route Type**
- █ Downtown Mainstreet
 - █ Roadside Greenway
 - █ Lakefront Walkway
 - █ Off-Road Trail
- ? Critical Location

Map 2. Envisioned Active Transportation Network

Route I DOWNTOWN MAINSTREET

Route Type: "Downtown Mainstreet"

Length: 395 m

Estimated cost: \$4,000 per metre

The Downtown Mainstreet route is the proposed improvement of Highway 16 to become a walkable downtown mainstreet. The design maintains the Highway's utility as the main vehicular road through Burns Lake, but ensures that appropriate pedestrian facilities are provided. The end result is a downtown aesthetic that encourages locals to conduct their downtown activities as a pedestrian and encourages non-locals to get out of their vehicles and experience the natural and cultural features of Burns Lake. This will work towards a more lively public realm and have positive economic spin-offs for Downtown businesses. The route is to follow Highway 16, from 3rd Avenue to Centre Street, an area which was determined through workshops with Village Council. Highway 16 is to include a 2.0m sidewalk, a small landscaping area, on-street parking, and narrowed travel lanes. Over time, adjacent storefronts would be built up to the sidewalk edge to give definition to the street.



Examples of successful main streets from other Canadian communities, including Niagara-on-the-Lake, ON (top-left), Langford, BC (top-right), Sidney, BC (bottom-right), and Smithers, BC (bottom-left).



LEGEND

-  "Downtown Mainstreet"
-  Roadside Greenway
-  Route Junction

Route II
CENTRE STREET GREENWAY

Route Type: "Roadside Greenway"

Length: 1,310 m

Estimated cost: \$2,750 per metre

The Centre Street Greenway is envisioned as a continuous roadside route connecting the Lake Babine Band lands, William Konkin Elementary School, Muriel Mould Primary School, and Lakes District Hospital with surrounding residential areas and the downtown. A fully separate greenway will allow pedestrians and cyclists to use this route comfortably and safely.



At present, Centre Street is wide, with no separation between vehicles and non-vehicle users.



Examples of roadside pathways in other communities.

Route III

8TH AVENUE GREENWAY

Route Type: "Roadside Greenway"

Length: 1,175 m

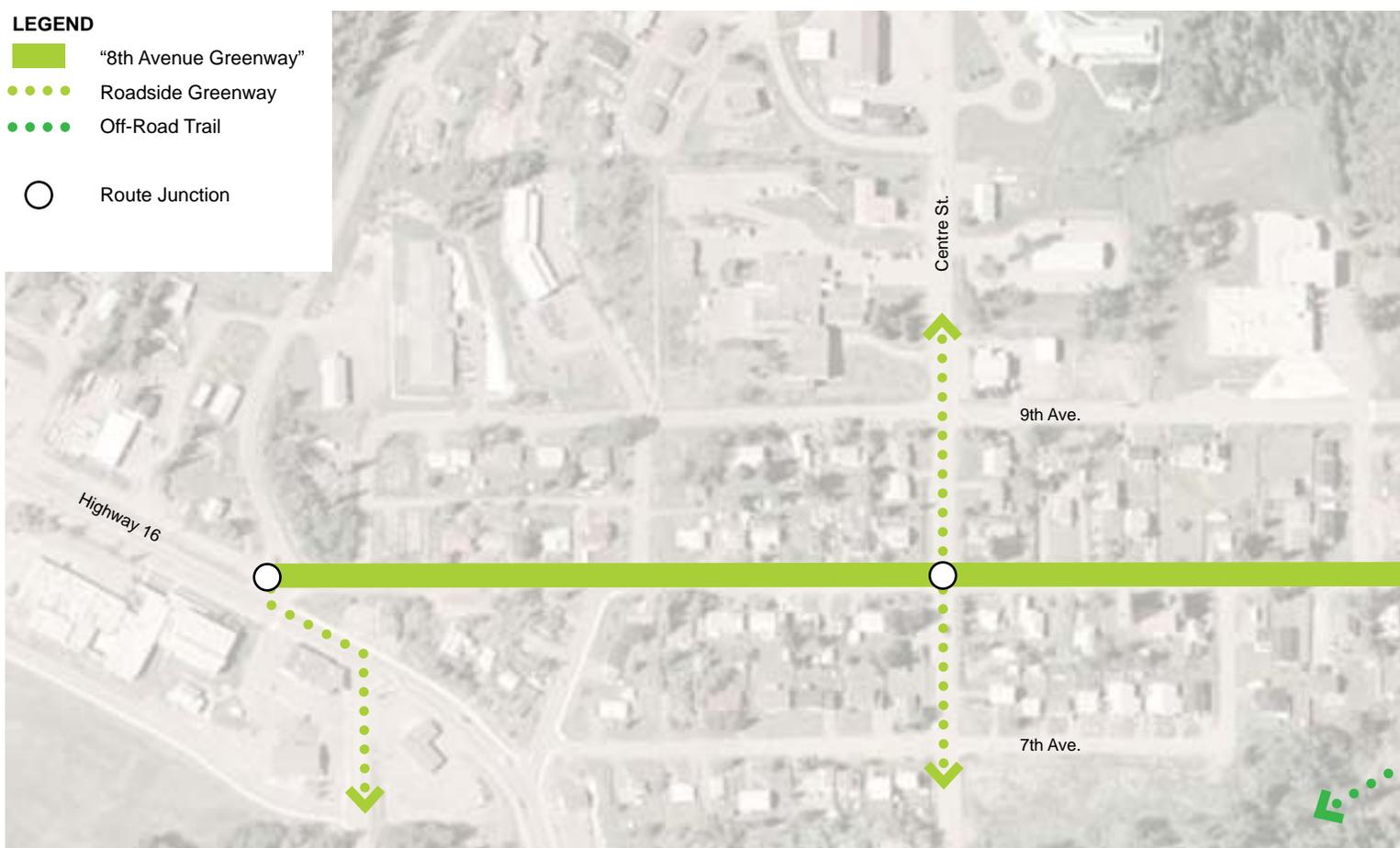
Estimated cost: \$2,750 per metre

The 8th Avenue Greenway is a direct roadside link from the northern end of Government Street and Highway 16, through to the intersection of 8th and 9th Avenue. The route is well travelled by residents at the east end of 8th and 9th Avenues and offers a significant upgrade over existing conditions.

Any planning or design of 8th Avenue should make reference to the "Greening 8th Avenue" streetscape plan that was developed to a conceptual design stage by the Village in 2008.

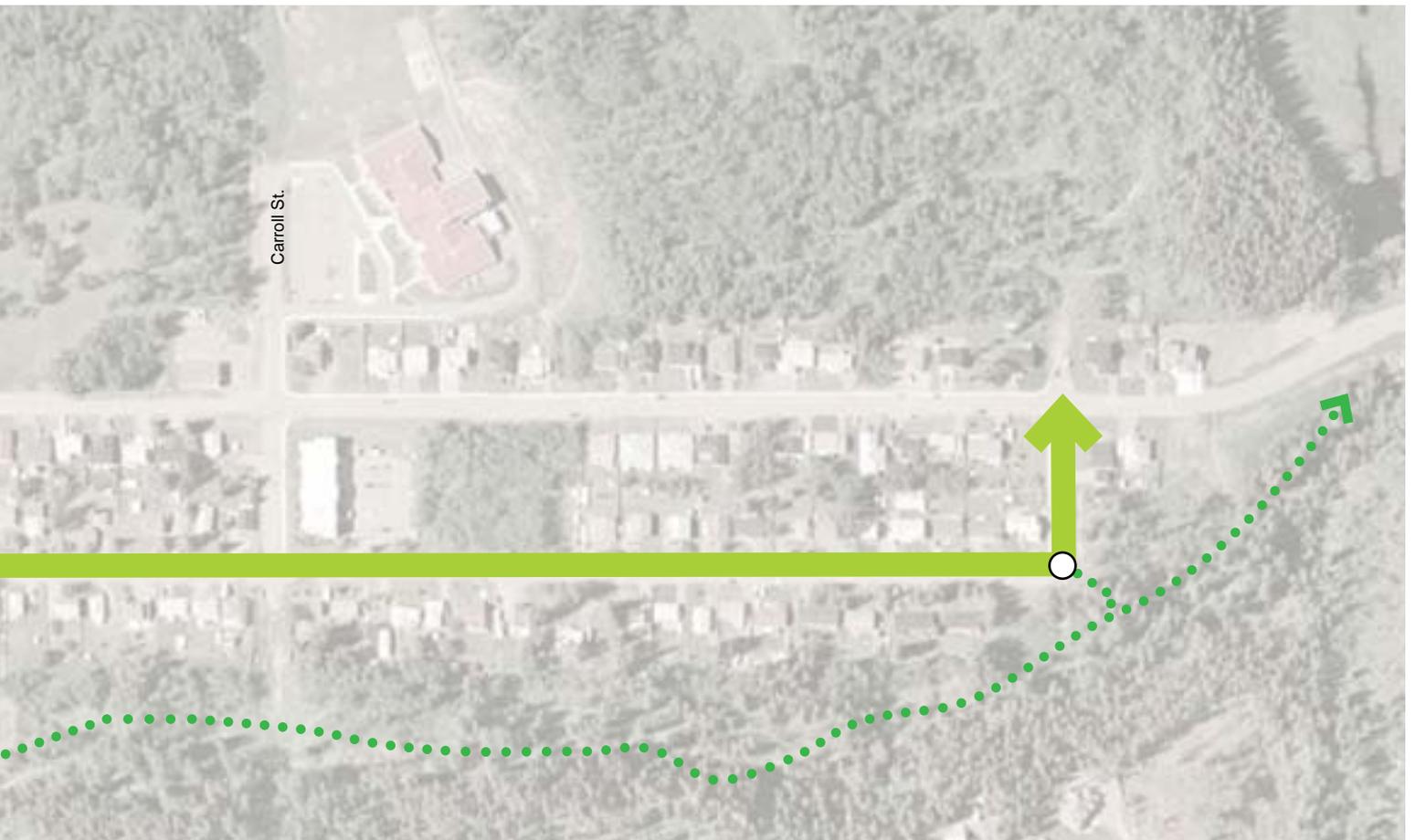
LEGEND

-  "8th Avenue Greenway"
-  Roadside Greenway
-  Off-Road Trail
-  Route Junction





Final design concept from the 2008 "Greening 8th Avenue" streetscape plan.



Route IV

GOVERNMENT STREET GREENWAY

Route Type: "Roadside Greenway"

Length: 1,350 m

Estimated cost: \$2,750 per metre

Government Street Greenway is envisioned as a roadside route connecting Lakes District Secondary School and the western end of 8th Avenue with downtown, and then Tom Forsyth Memorial Arena and Spirit Square. This continuous route would provide a dedicated non-vehicular alternative to Highway 16 for those travelling east-west through Burns Lake. The Greenway is considered in three (3) sections:

- a. Portions on Government street would make use of the existing sidewalks on the west side, perhaps with additional width to better accommodate cyclists and pedestrians in the same space. Formalized on-street parking may be accommodated adjacent to the Rotary Ball Park to accommodate Park users.
- b. Gilgan Road would be altered to include a multi-use corridor on the north side. The pathway would be connected to the southern end of the Government Street portion of the greenway and northern-most portion of Francois Lake Drive, as well as make connections to Government Street across from the Post Office and to Highway 16.
- c. Francois Lake Drive currently includes sidewalks on both sides. The proposed improvement includes additional sidewalk width and landscaped buffer on the west side of the road, with the pedestrian crossing of Highway 35 moved to the south side of the intersection with Francois Lake Drive.



Government Street currently includes a sidewalk adjacent to the Rotary Ball Park, but vehicles frequently park across the sidewalk forcing pedestrians onto the roadway. A separated walkway would prevent vehicles from parking on the sidewalk.



LEGEND

- "Government Street Greenway"
- Downtown Mainstreet
- Roadside Greenway
- Lakferont Walkway
- Off-Road Trail
- Route Junction

Route V

LAKEFRONT WALKWAY

Route Type: "Lakefront Walkway"

Length: 2,165 m

Estimated cost: \$575 per metre

The Lakefront Walkway is envisioned along the shoreline of Burns Lake. The walkway would connect Radley Beach, the Village's only significant public water access, with points to the east and west. The walkway is envisioned in two (2) sections:

- a. Beginning at Radley Beach and running west to approximately where Lakes District Secondary School is located, where it would connect with the proposed extension of Eveneshen Trail and under the CN Railway (Route VII).
- b. Beginning at Radley Beach and running east to the junction of Wardrop Creek and Burns Lake, and connecting with the proposed Wardrop Trails (Route VI).

The rationale behind the lakefront trail is two-fold. First, combined with the proposed Wardrop Creek Trails and Eveneshen Trail extension, it provides a complete off-road loop of the Village connecting the downtown, schools, residential areas, recreation facilities and the Lake. This loop is also something the Village could market as an attraction for visitors to the area.

Secondly, Burns Lake is perhaps the area's greatest natural asset, yet it is presently accessible to the public only at Radley Beach. A continuous waterfront route would reconnect the community with the Lake and possibly act as a catalyst for new development adjacent to the Lake.

A waterfront walkway at the edge of Burns Lake is something that has been proposed in the past and which is stated as an objective in the Village's current OCP. This idea is supported by this document. The development of a lakefront walkway would involve considerable coordination between a number of stakeholders and would be contingent on land acquisition for purposes of trail development. This document does not speculate on the likelihood of this occurring, only that it would be a considerable community asset and something that the Village should pursue.



Waterfront walkways are becoming increasingly popular in North American cities as a way to reconnect a town with its waterfront. Above are examples of waterfront walkways in Victoria BC, Hamilton ON, Halifax NS, and others.





Route VI

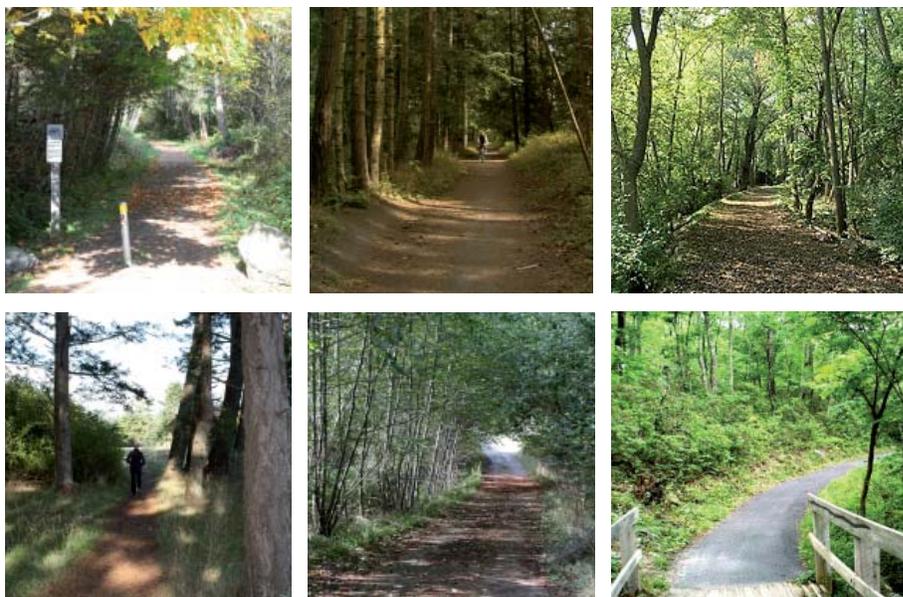
WALDRUP CREEK TRAILS

Route Type: "Off-Road Trail"

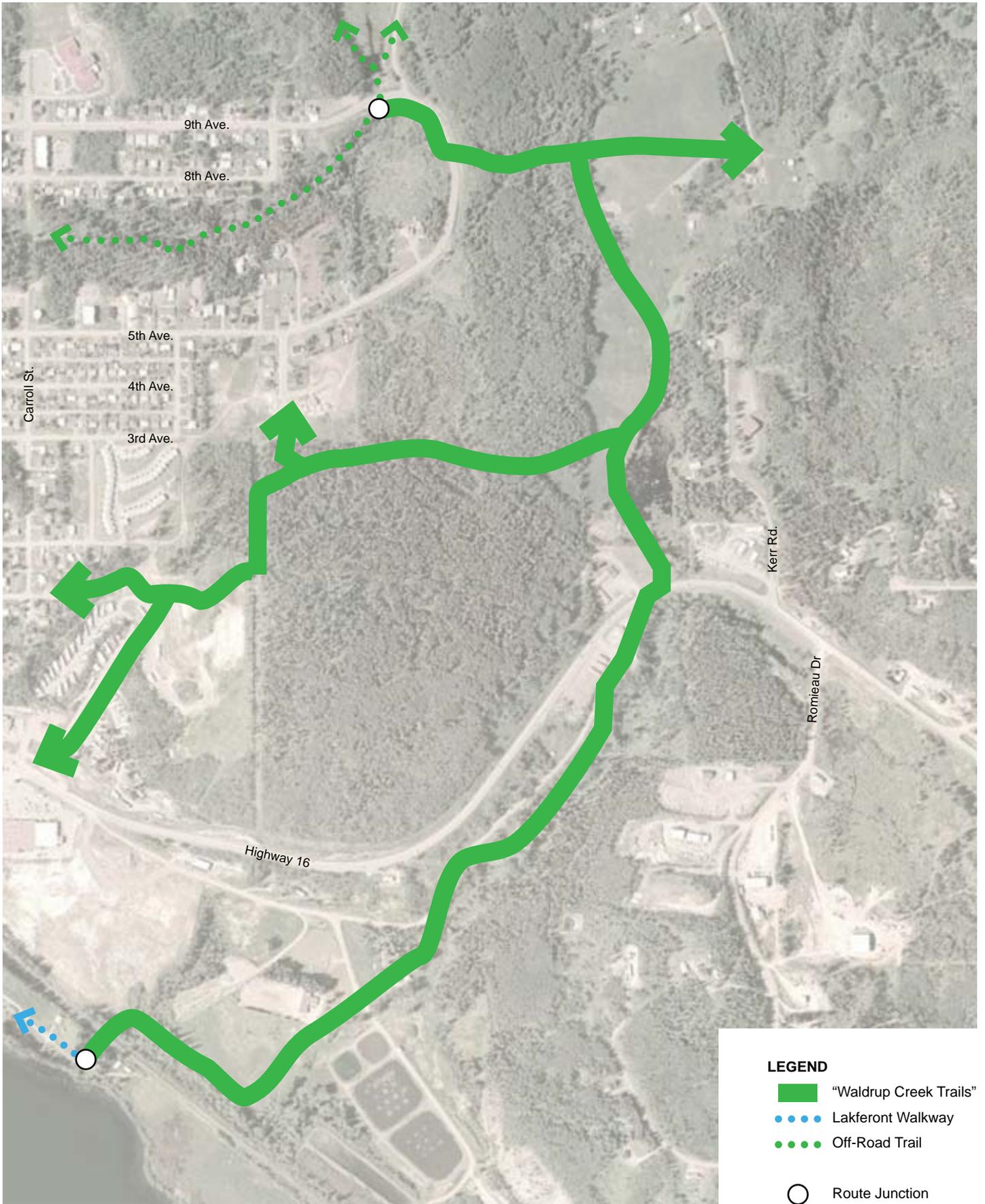
Length: 4,750 m

Estimated cost: \$215 per metre

The Waldrup Creek Trails are proposed as a series of off-road trails through properties immediately east of the downtown area. These trails would provide valuable recreational walking areas, connecting to the ends of the both the Eveneshen Trail and the Rod Reid Nature Trail, and linking with the proposed Lakefront Walkway, south of Highway 16. The Waldrup Creek Trail could also link up with Hill Street, 1st Avenue, Kerr Street, Aspen Street, and Gowan Road, which would increase pedestrian connectivity significantly in these residential areas. The full build-out of these trails would also serve to connect a loop of the Village, along with the proposed extension of the Eveneshen Trail and the Lakefront Walkway.



Examples of similar wilderness trails from other communities.



Route VII
EVENESHEN TRAIL

Route Type: "Off-Road Trail"
 Length: 2,125 m
 Estimated cost: \$215 per metre

The Eveneshen Trail is an existing off-road trail that follows Saul Creek much of its length through the Village. Currently, the Eveneshen Trail is developed between the east end of 6th Avenue, near Highway 16, and the east end of 9th Avenue, at the northeast of the Village.

An extension of the existing portions the Eveneshen Trail is envisioned. The extension would run from the end of the existing trail on 6th Avenue, near Highway 16, and connect to Burns Lake and the proposed Lakefront Walkway. The extension would provide connections to the College of New Caledonia, Rotary Ball Park, Lakes District Secondary School, and the Burns Lake Band lands. There are three (3) critical crossing locations explained in later sections.

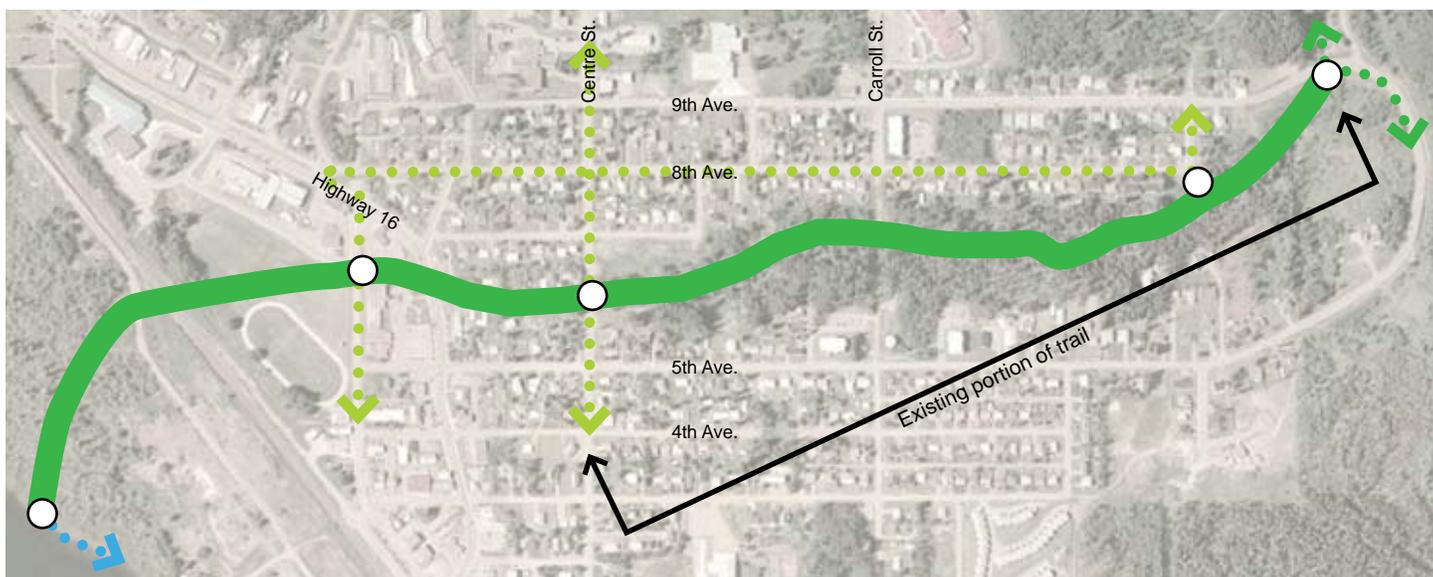
It is also worth noting that a number of Burns Lake residents stated a desire to improve existing portions of the Eveneshen Trail, noting that certain portions are overgrown, too narrow and surfaces in poor condition.



Images of existing portions of the Eveneshen Trail.

LEGEND

- "Eveneshen Trail"
- Roadside Greenway
- Lakferont Walkway
- Off-Road Trail
- Route Junction



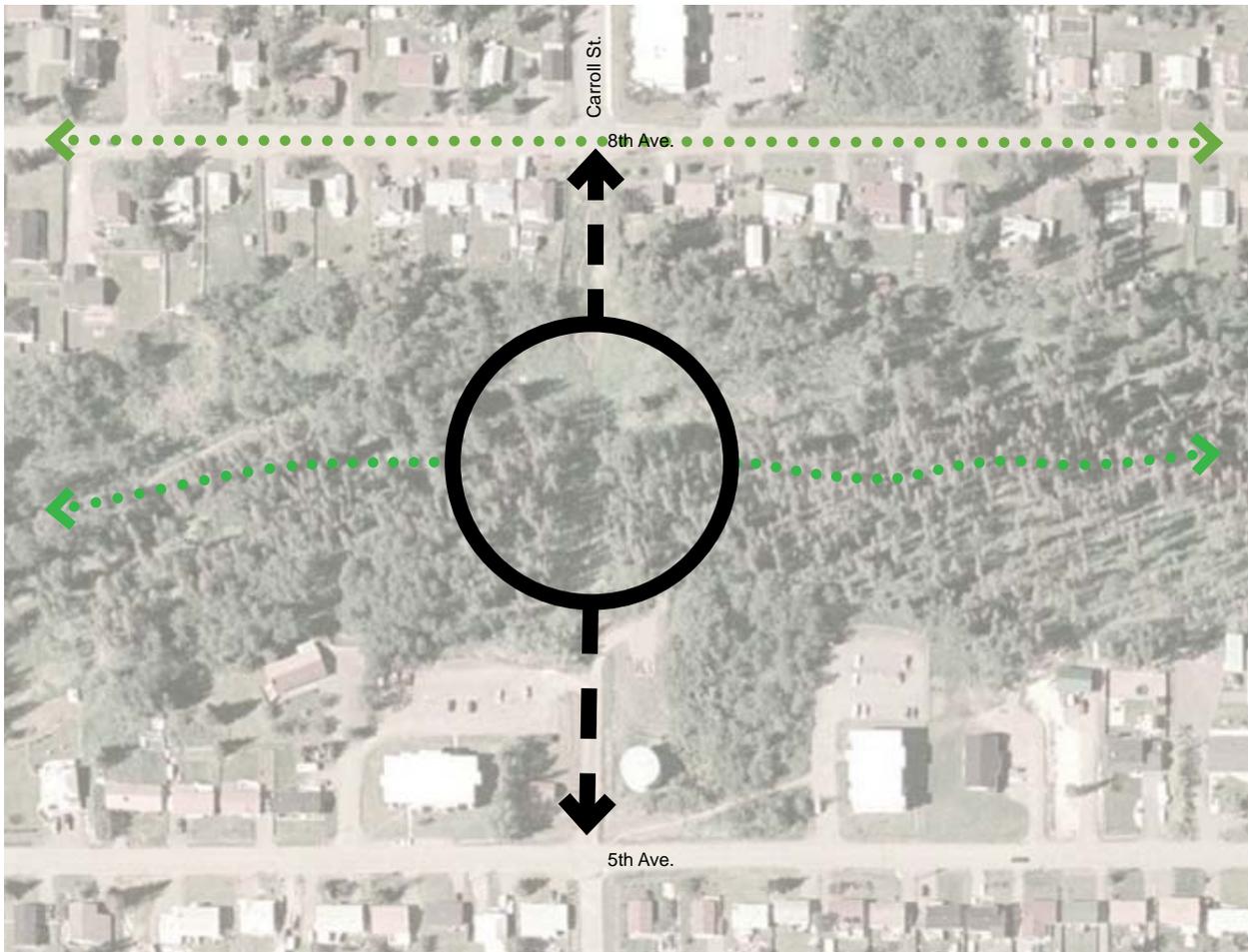
Location A
SAUL CREEK RAVINE CROSSING



There are a series of informal trails across the Saul Creek ravine, but they are steep and unsafe.

Carroll Street is disconnected by a steep ravine across Saul Creek. It is recommended that a crossing of the ravine is developed to permit access across Saul Creek and facilitate connection with the Eveneshen Trail and proposed improvements to 8th Avenue. Three (3) crossing options may be considered, depending on available budget:

1. A full 200 metre bridge spanning the Saul Creek ravine, connecting the two ends of Carroll Street with a 4m wide multi-use surface. Estimated cost: \$2.5 million
2. A formalized chip or gravel trail, with a series of formal switchbacks gentler grades than the existing trail, leading to a wooden bridge across Saul Creek. Estimated cost: \$175,000

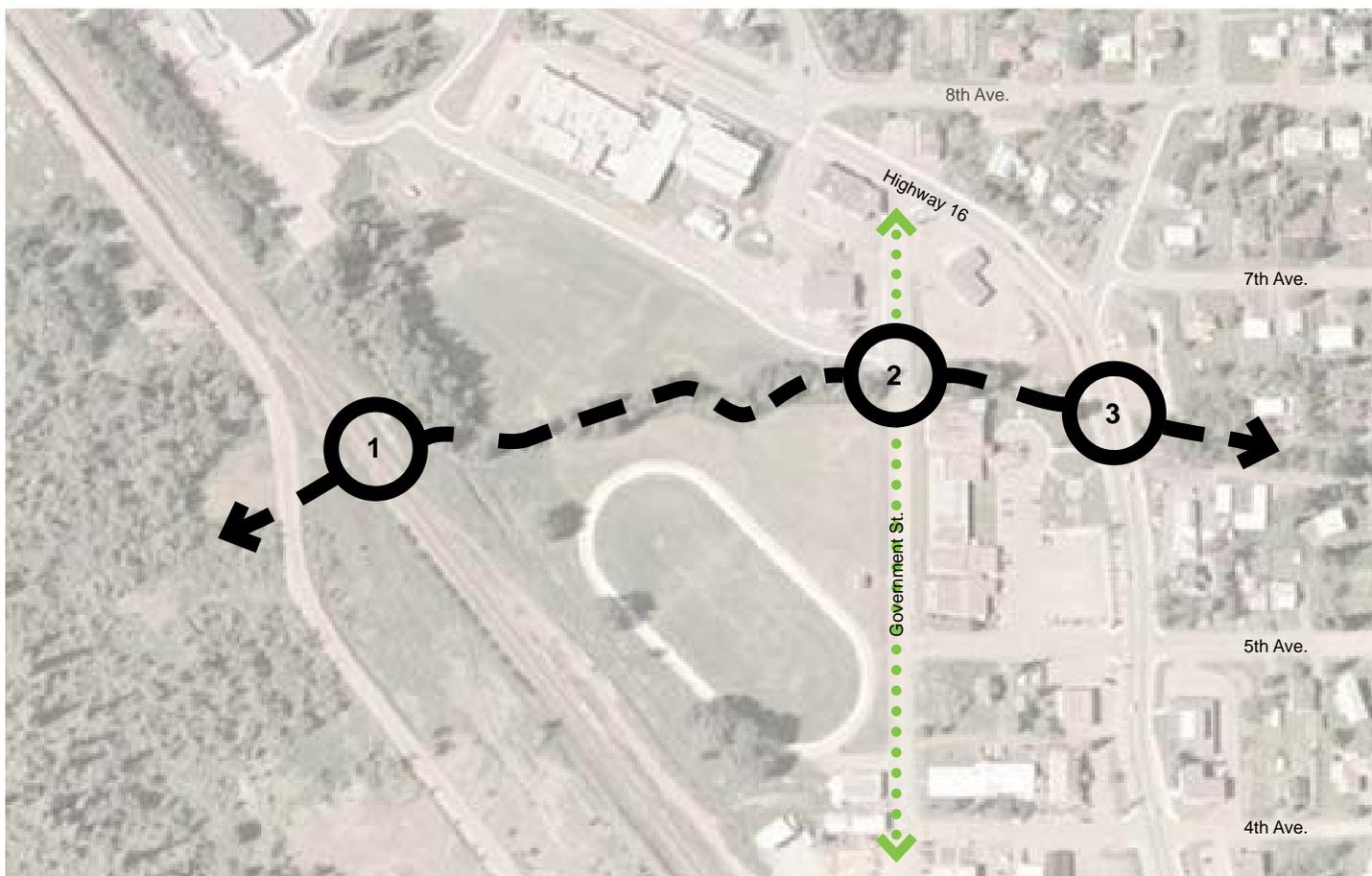


Location B

EVENESHEN TRAIL CROSSINGS

There are locations at the western end of the Eveneshen Trail that require consideration for appropriate crossings as the Trail is improved in the future. Three (3) crossing locations are noted.

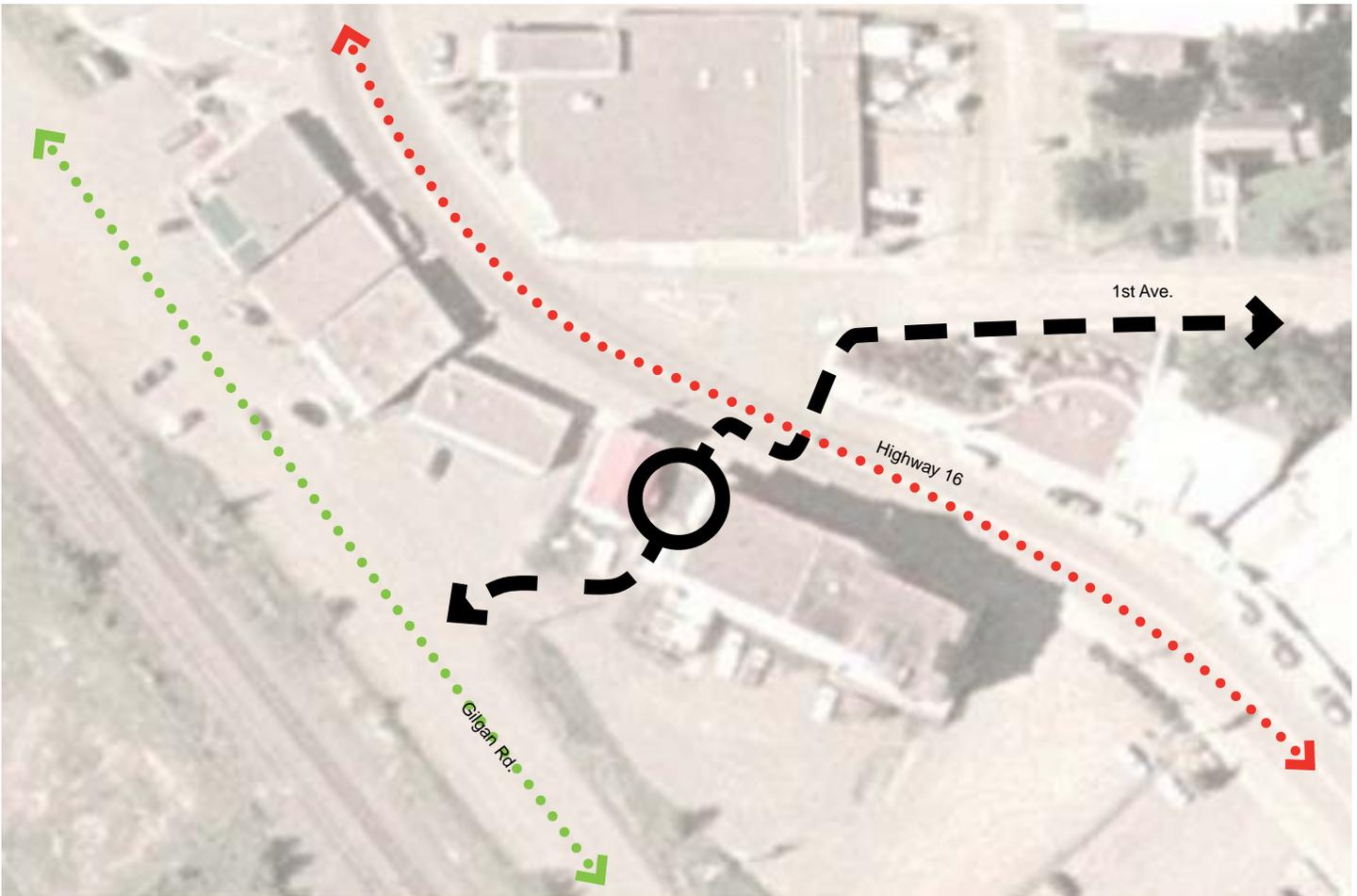
1. A formal crossing on the CN Railway is needed to connect the Burns Lake Band lands with Lakes District Secondary and the Rotary Ball Park. While any formal crossing type is appropriate, an overhead pedestrian walkway may be most feasible. Estimated cost: \$3.4 million.
2. A pedestrian crossing is needed across Government Street to ensure the continuity of the Trail.
3. A formalized pedestrian crossing of Highway 16 is needed to connect the developed portions of the Eveneshen Trail with the CNC campus.



Location C

MAIN STREET / GILGAN ROAD CONNECTION

A right-of-way existing between Highway 16 and Gilgan Road that could provide a valuable connection between three (3) of the proposed routes - Centre Street Greenway, Downtown Mainstreet, and Government Street Greenway. It is recommended that this linkage, shown below, is improved to facilitate pedestrian connections between the three (3) routes. Improvements should include adding a continuous paved surface, lining it with street trees to provide a visual connection, and include lights and signs to improve wayfinding and increase personal safety.



The location of the potential connection, as seen from Gilgan Road.

BICYCLE PARKING

Bicycle parking is an essential piece of the active transportation network that, by and large, appears to be currently missing from Burns Lake. It is essential that bicycle parking is incorporated into the community in key locations to facilitate cycling. Bicycle parking may be provided as one of two types:

1. Long-term parking is covered, secure, and weather protected. It is intended for employees and residents.
2. Short-term parking is a typical “bike rack”, and is intended for shoppers and residential visitors.



Bicycle parking is either intended for long-term (above) or short-term use.

Bicycle Parking in the Zoning Bylaw

The Village should alter the Zoning Bylaw to require all new multi-family residential, office, retail and institutional land uses to provide bicycle parking in new development. Suggested bicycle parking rates are below.

Multi-family Residential	One rack at the main entrance, plus 0.5 long-term spaces per unit.
Retail	One rack at the main entrance, plus 1.0 long-term space per 400m ² GFA
Office	One rack at the main entrance, plus 1.0 long-term space per 200m ² GFA
Institutions	One rack at each major entrance, plus a quantity of long-term spaces determined in consultation with Village staff.

Public Bicycle Parking

It is also recommended that the Village earmark funds to install public bicycle parking in a number of locations. It is recommended that the Village undertake an audit of existing facilities and ensure that they work toward ensuring each location identified on *Map 3* includes appropriate bicycle parking, to include:

- > Downtown on Highway 16;
- > Tom Forsyth Memorial Arena, Spirit Square, and Y2K Skateboard Park;
- > The Village’s offices;
- > All schools and the Lakes District Hospital; and
- > Entrance to community parks and trail systems.



Map 3. Locations for Public Bicycle Parking

4.2 Network Design Standards

Each of the routes and critical locations identified in Section 4.1 require specific design criteria to ensure they are constructed appropriately. The following standards should be applied in all design and construction of active transportation infrastructure, to include route types, sidewalks, cycling facilities, trails, signage and wayfinding, and issues of universal accessibility.

Universal Design

Universal design refers to the idea that the built environment should be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. The 1997 Principles of Universal Design are the generally accepted guidelines for universal design. Principles are as follows:

1. *Equitable Use*: the design is useful and marketable to people with diverse abilities.
2. *Flexibility in Use*: the design accommodates a wide range of individual preferences and abilities.
3. *Simple and Intuitive Use*: use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. *Perceptible Information*: the design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. *Tolerance for Error*: the design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. *Low Physical Effort*: the design can be used efficiently and comfortably and with a minimum of fatigue.
7. *Size and Space for Approach and Use*: appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

In terms of practical application, this means incorporating considerations into traditional infrastructure design standards that ensure the built environment is universally accessible. It is recommended that the Village refer to the Canadian Standards Association's "Accessible Design for the Built Environment" handbook in the design of all infrastructure.¹ The following are some of the key CSA standards.

- > Routes should have sustained vertical slopes of no greater than 5% (1:20) and cross slopes not exceeding 2% (1:50).
- > Routes should maintain a width of no less than 1.5 m free of all permanent or impermanent objects and, where adjacent to a roadway, should be separated by a curb, railing / barrier, or a detectable hazard indicator.
- > Stairs should have uniform riser heights of no greater than 18 cm, uniform tread depths of no more than 28 cm, include a horizontal strip at the edge of the tread, and contain no open risers.
- > Curb ramps should have a slope ratio of between 6.6% (1:15) and 10% (1:10), should be between 1.2-1.5 m wide, and include flared sides where pedestrians are likely to walk across them.
- > Signs should convey text in a sans serif font, have a width-to-height ratio of between 3:5 and 1:1, and contrasted from the background at least 70%. Tactile signs may also be considered.

Routes Types

Four (4) route types are identified on the future active transportation network plan. Each is described on the following pages.

¹ A good example of practical application of many CSA guidelines is available in the Maple Ridge / Pitt Meadows "Universal Design for Outdoor Spaces" document.

DOWNTOWN MAINSTREET

The Downtown Mainstreet cross section is envisioned along Highway 16 in the area determined to be the “downtown”. The design maintains the Highway’s utility as the main vehicular road through Burns Lake, but ensures that appropriate pedestrian facilities are provided. The end result is a Downtown aesthetic that encourages locals to conduct their Downtown activities as a pedestrian and encourages non-locals to get out of their vehicles and experience the natural and cultural features of Burns Lake. This will work towards a more lively public realm and have positive economic spin-offs for Downtown business.



ROADSIDE GREENWAY

Roadside Greenways are envisioned on roads currently travelled by a large number of pedestrians and cyclists, and leading to/from schools, parks and residential areas. The design provides for physical separation of the non-vehicular pathway from the roadway, improving comfort and safety, as well as providing opportunities for increased greenery and snow storage during winter months. Greenways are envisioned along Government Street and Center Street, as well as the preliminary design plan already prepared for 8th Avenue.



LAKEFRONT WALKWAY

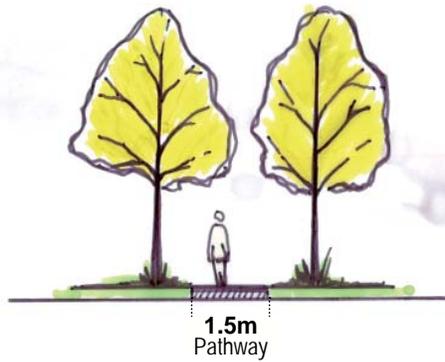
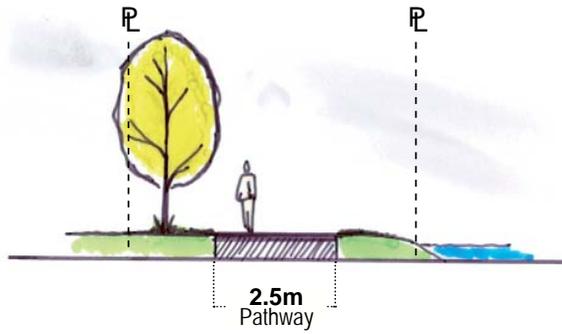
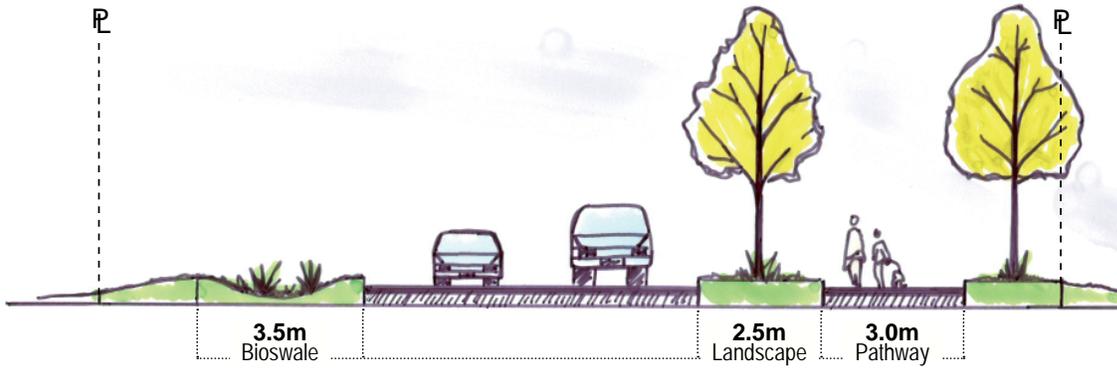
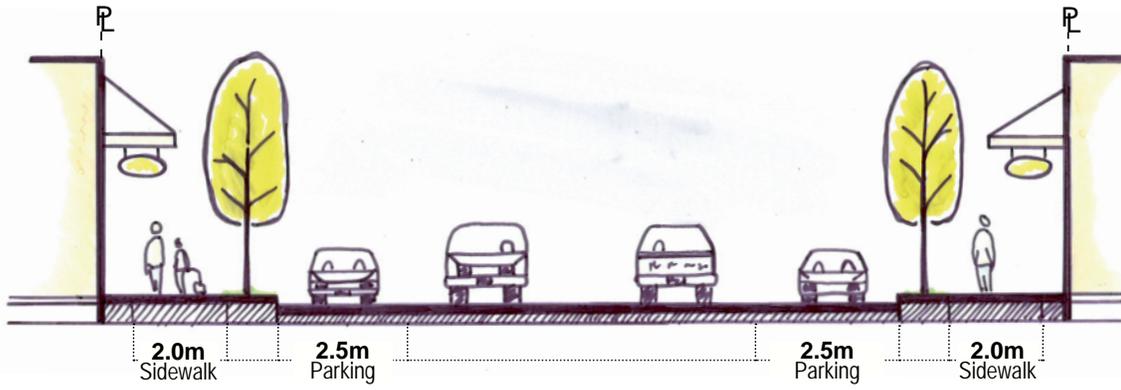
Burns Lake is the name-sake for the Village and is one of its most precious natural features, yet it is accessible to the public in very few locations. The Lakefront Walkway is an idea brought forth by the Burns Lake Band as an idea to connect Lake District Secondary to Radley Beach and points further east. The Walkway is envisioned as a 2.5m pathway that follows the shore of Burns Lake, with connections to key destinations along the way. The development of the Lakefront Walkway would be a long-term undertaking, requiring considerable property acquisition and multi-party cooperation.



OFF-ROAD TRAIL

Off-Road Trails are intended to provide connections between roadside facilities and access to natural features. Trails may be as wide as 1.5m where topography and natural features allow. Off-Road Trails are intended for both purpose-driven travel and recreational travel.





4.3 Implementation

The following is an ordered list of improvements toward realizing the envisioned active transportation network. Estimated costs are order-of-magnitude and do not include any land acquisition that may be needed. It is recommended that the Village approach each improvement in the order listed below.

	Description	Estimated Cost	
1.	Downtown Mainstreet	Streetscape improvements to Highway 16, from 3rd Avenue to Francois Lake. Improvements include wider sidewalks, landscaping, and street furnishings.	\$1.5 million
2.	Saul Creek Ravine Crossing	Improvements to the crossing of Saul Creek at Carroll Street. Options include a full bridge span (A) or an improvement of the existing crossing (B).	\$2.5 million (A) or \$175,000 (B)
3.	Centre Street Greenway	Addition of a dedicated roadside multi-use walkway at the eastside of Centre Street, connecting the Lake Babine Band lands and downtown.	\$3.6 million
4.	Main Street Connection	Connection of Highway 16 and Gilgan Road through narrow right-of-way, to include landscaping and an asphalt surface.	\$125,000
5.	8th Avenue Greenway	Redesign of the entire length of 8th Avenue to include a dedicated multi-use walkway and bioswale features at the roadside	\$3.3 million
6.	Eveneshen Trail (new section)	Completion of existing off-road trail to connect between Highway 16 and Burns Lake. Does not include costs associated with connections considered below.	\$300,000
7.	CN Railway crossing	Overhead crossing of the CN Railway at the proposed extension of the Eveneshen Trail, near Rotary Ball Park.	\$3.4 million

	Description	Estimated Cost	
8.	Lakefront Walkway, west of Radley Beach	Asphalt surface waterfront walkway adjacent to Burns Lake, connecting Radley Beach to the Burns Lake Band lands and a potential crossing of the CN Railway to the west.	\$900,000
9.	Government Street Greenway (Gilgan Rd.)	Improvement of Gilgan Road to include a roadside greenway to accommodate pedestrians and cyclists, and connect the downtown with Radley Beach and Spirit Square.	\$1.3 million
10.	Trails, from Burns Lake to 9th Avenue	Off-road trails completing a circular route of the Village, and providing recreational opportunities in lands immediately east of the downtown and residential areas to the north.	\$700,000
11.	Government Street Greenway (Government St.)	Improvement of Government Street to include a roadside greenway to accommodate pedestrians and cyclists.	\$1.2 million
12.	Waldrup Trails, connection to Hill St.	Off-road trails providing connections between main Waldrup Trail and residential streets.	\$350,000
13.	Government Street Greenway (Francois Lake Dr.)	Improvement of Francois Lake Drive to include a roadside greenway to accommodate pedestrians and cyclists. Francois Lake Drive already includes sidewalks and is lower priority than other routes.	\$1.25 million
14.	Lakefront Walkway, east of Radley Beach	Asphalt surface waterfront walkway adjacent to Burns Lake, connecting Radley Beach to the proposed Waldrup Trails and residential areas to the east.	\$400,000

4.4 Development Approaches

There are a variety of approaches that the Village may take to fund future development of active transportation infrastructure, including acquiring property or money through land development, accepting individual donations, and pursuing funds through Provincial or Federal grant programs. Each approach is explained below in detail.

Land Acquisition

Certain trails identified on the future network plan require public acquisition of private lands. To facilitate this, the Village should seek easements or statutory rights-of-way where valuable community trail connections exist on private property. Statutory rights-of-way may be negotiated completely independent of a proposed subdivision and the land owner always retains the right of refusal on all negotiations.

Statutory rights-of-way should *not* be confused with expropriation, a strategy not employed by the Village.

Funds Through Land Development

The Local Government Act (LGA) is the enabling legislation allowing the Village to undertake long-range planning and regulate land development. The LGA includes a number of opportunities for the Village to leverage funds for active transportation infrastructure through land development. The Village should consider the following approaches.

- > Section 938 permits the Village to require the provision of sidewalks located and constructed in accordance with standards established in a Bylaw.

- > Section 933 permits the Village to impose development cost charges (DCCs) to assist in paying the capital costs of infrastructure needed to service the development for which the charge is being imposed. The Village must have a formal DCC Bylaw in place that states the intent to levy DCCs and a schedule outlining the amount of each applicable charge.

- > Section 906 allows the Village to establish a Bylaw permitting a land developer to offer money to the Village in-lieu of off-street parking spaces required in the Zoning Bylaw. Monies received are put into a reserve fund and used to develop public off-street parking or transportation infrastructure that supports walking, bicycling, public transit or other alternative forms of transportation.

> Section 941 states that any land owner subdividing their property into 3 parcels or more, where at least one parcel is less than 2.0 ha, must provide the Village with a park provision, either 5% of the property to be subdivided or a payment equal to the value of the required contribution. The Village may decide the form of the contribution, providing the OCP contains clear policies.

> Section 904 permits the Village to grant a private land developer the right to increase the achievable density of their parcel in exchange for amenity contributions that are above and beyond what is required. The Village may use these amenity funds to develop active transportation infrastructure.

Individual Donation

It is common-place for residents or organizations to donate property and/or funds toward community infrastructure as a form of philanthropy. Any donations, either land or funds for facilities, will help the Village work toward the future active transportation network. There are a number of ways the Village may facilitate this process by making it simpler and more attractive to potential donors.

> The Village should establish an active transportation or trails endowment fund to instill confidence in potential donors that their contributions will be used for the intended uses.

> The Village may issue official donation receipts for the appraised fair market value of donated property or facilities, which the donor may use as a Federal or Provincial tax credits.

> The Village should promote the donation process so any potential donors are clear on the process and aware of the benefits to them.

> Donors should be recognized in the media to honour donors and develop a sense of pride around community development. Suggested medias include the Burns Lake District News and the Village's "Village News", and the various community interest websites.

Grant Programs

There are a variety of Provincial and Federal infrastructure grant programs that the Village may pursue as a source of funding for active transportation infrastructure. Many such programs are targeted specifically at sustainable infrastructure and rural communities, which is directly related the projects highlighted in this plan. The Village should remain active in seeking out new Provincial or Federal funding initiatives that may be used for to develop active transportation facilities. The following is a sampling of the grant programs currently available.

- > LocalMotion is a Provincial initiative providing funds for capital projects, including cycling routes, walkways, trails and accessibility improvements.
- > Towns for Tomorrow funds are intended for initiatives that address climate change and improve the health, sustainability and livability of communities.
- > The LiveSmart BC Green Cities Awards is a program offering funds to leading-edge communities for initiatives aimed at making them greener and healthier.
- > The Active Communities Initiative Grant Program is a BC Parks and Recreation initiative providing funds to assist communities in the planning and/or development of walkways, trails and bikeways.
- > The Cycling Infrastructure Partnerships Program (CIPP) is a Provincial cost-share program for the construction of new cycling infrastructure.
- > ActNow B.C. is the health promotion platform that is helping British Columbians live healthier lives, for example, by being more physically active.
- > The Canada/BC Municipal Rural Infrastructure Fund is a grant program committing \$102-million for infrastructure in communities with populations less than 250,000 with the purpose of improving municipal and rural infrastructure to ensure that communities are sustainable, competitive and healthy centers of economic growth.
- > The Building Canada Fund, specifically the Communities Component, provides funding for communities with fewer than 100,000 people to develop infrastructure that meets environmental, economic and quality of life objectives.
- > The Canadian Gas Tax Fund provides support toward infrastructure that contributes to cleaner air and reduced greenhouse gas emissions.

4.5 Programs / Initiatives

Community-based programs and initiatives are Village-led strategies that encourage the community to try new travel modes. They include a variety of approaches, each with the goal of changing travel habits toward more active modes. The following strategies are recommended.

Annual Events

There are a number of well-established annual events that challenge the community to try new travel modes. Each event typically has a website for the community or Village staff to reference information. While they only represent behavioral change for a single day or week, they begin to develop momentum for alternative travel modes and work to alter individual attitudes toward non-vehicular travel options. It is recommended that the Village promote the following events:

- > Bike to Work Week, mid-May
- > Bike to School Week, early May
- > Car-free Day, mid-Sept
- > Earth Day, late-April
- > International Day of Climate Action, late-Oct

The Village may also consider establishing events that are unique to Burns Lake. There are a variety of creative approaches to doing so, which may include:

- > A employer commute challenge that pits businesses against one another to see who can log the most walking and/or cycling travel over the course of a week.
- > A travel challenge between Councillors to see who can travel the fewest vehicle kilometres over a certain period of time.

Organized and publicized public bike and/or walk events, where a large group of cyclists/walkers follow a set route at a given time.

Community Clubs

Outdoors clubs, such as walking groups, cycling groups, and community improvement groups, all play an important role in improving active transportation in Burns Lake. To facilitate such activity groups, the Village may consider making small budgets available for community organization with a mandate and regular activities that increase active transportation in Burns Lake.

Bicycle Skills

The Village should consider improving community cycling awareness and confidence through community education on cycling behavior. The Village may hold a bicycle skills course, free to the community, perhaps in cooperation with the Burns Lake Mountain Bike Association. The Village may also consider developing an informational package to distribute to residents explaining proper cycling techniques and identifying local cycling opportunities.

Coordinated Bicycle Rentals

The Village should consider creating programs that make use of available bicycle rentals businesses in Burns Lake. This may include tours and/or events that rely on cycling rentals. It is not common practice for a municipality to advertise local businesses, but it is felt that the provision of a rental service is helping the Village work toward a key community objective.

Walking School Bus

A number of communities have established “walking school bus” programs, where students of an elementary school gather at points along a certain route and travel together to reach the school. A parents or school representative would lead the group, using a safe, direct route to the school.



Outdoor Events

Outdoor events can be a public market, cultural expressions, outdoor movies, recreation events, or a variety of other events. The important thing is that outdoor events have a tendency to attract users to travel via non-vehicular modes. One such event to consider is a “car-free” event, where a street is closed to vehicle traffic to host the event. Government Street, between Highway 16 and Gilgan Road might a suitable street for impermanent closures.

4.6 Maintenance / Operations

There are a number of maintenance and operations actions that the Village should take to ensure active transportation is facilitated in the community. Generally, the objective of these actions are to ensure that walking, cycling, and other active modes, are treated with the same level of importance as vehicles. The following actions are recommended.

Snow Clearance

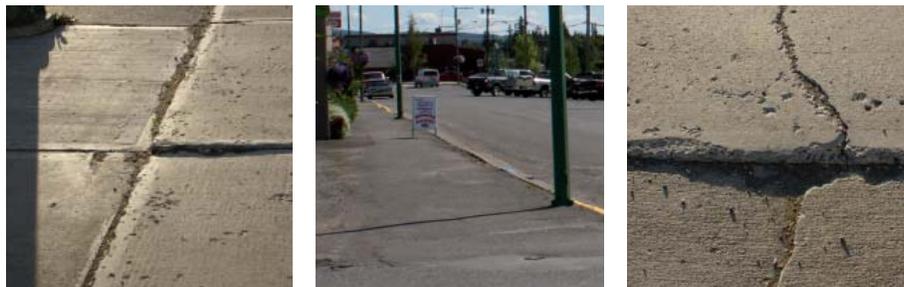
Considerable community feedback was received stating that walking and cycling are made difficult by winter conditions and poor snow clearance. The Village maintains a snow clearing policy for municipal roads, streets, sidewalks, public parking lots and public open spaces, with a stated order of importance as follows:

1. Hospital transportation corridor – Lorne Street from Highway 16 to 8th Avenue, 8th Avenue from Lorne Street to Centre Street, and Centre Street from 8th Avenue to the Hospital;
2. Major municipal roadways - 8th Avenue, 9th Avenue, 5th Avenue, Centre Street, Hill Street, Carroll Street, 1st Avenue, 3rd Avenue and the 5th Avenue/9th Avenue connector;
3. Other municipal streets with significant road grades - completion of 1st Avenue, 2nd Avenue, 3rd Avenue, and 4th Avenue (between Highway 16 and Centre Street);
4. Downtown public parking lots;
5. Remaining municipal local streets and lanes;
6. Public sidewalks in business corridor; and
7. Other public open space, as time and resources permit.

It is important that snow clearing practices are changed to put greater importance on pedestrian and cycling routes. It is recommended that the Village take a more comprehensive look at the current policy, in consultation with various Village departments, to determine opportunities to put greater emphasis on active transportation routes. This entails increasing the importance of downtown sidewalks, as well as stating a need for clearance of sidewalks as municipal roadways are cleared.

Sidewalk Maintenance

Community observations revealed a number of locations where public sidewalks were in poor condition. Cracks, uneven surfaces, and protruding weeds pose a safety hazard to sidewalk users and generally detract from downtown aesthetics. It is recommended that the Village place greater priority on sidewalk maintenance.



Poor sidewalk conditions were observed in many locations throughout Burns Lake.

Parking Enforcement

It is commonplace for vehicles in Burns Lake to park illegally across sidewalks and block key pedestrian routes. Government Street, adjacent to Rotary Ball Park, was noted as a common location. To prevent blocking pedestrian routes, it is recommended that the Village become more diligent in their parking enforcement, issuing tickets for such behavior.

Landscaping

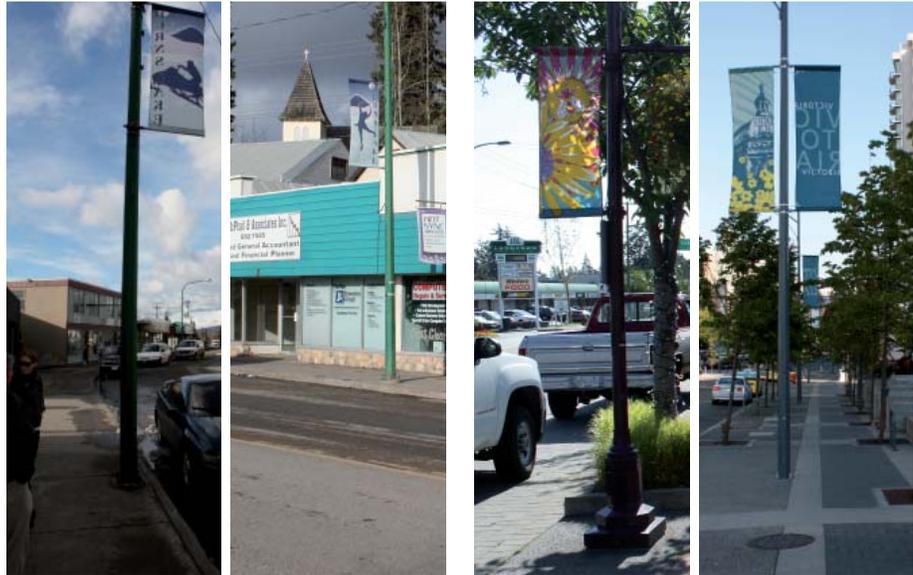
Burns Lake is located within a beautiful natural setting, surrounded by mature, old-growth forests. Yet the downtown area has incorporated very few natural elements and areas set aside for trees and landscaping are poorly maintained. Parking lots are particularly troubling, as they have been built to accommodate the maximum number of vehicles possible, with little consideration for their aesthetic impact. It is recommended that the Village integrate landscaping into the design of public transportation facilities where possible (streets, trails, parking lots) and encourage landscaping in appropriate locations as part of any private land development.



Examples of ways in which other communities have incorporated landscaping into transportation facilities.

Banners

Currently, Burns Lake has a series of banners on the street lights along Highway 16. Banners depict images of the Village and add an element of public art to the downtown. However, the Village's banners are currently located six (6) to eight (8) metres from the ground, out of view of pedestrians at sidewalk level and suggesting that they are to be enjoyed by highway drivers. It is recommended that Village continue installing banners in the downtown area, but install them at a pedestrian scale, no greater than 4.0 m from the ground and with text and graphics at a scale intended for those observing it at ground-level, at a slow speed.



Examples of public banners from Burns Lake, scaled for enjoyment by passing motorists.

Examples of public banners scaled for enjoyment by people on the sidewalk.

“Walk the Walk”

The last point for the District to consider is the idea that the best organization to show leadership in adopting the active, sustainable travel habits recommended in the AT Plan is the Village itself. The Village should take every opportunity to encourage active transportation through their own actions. This might mean using bicycles for short-distance travel by staff, altering buying policies to reflect health or sustainability objectives, and general ensuring that the day-to-day operations of Village staff are in line with the objectives of the AT Plan and other community planning documents. The Village should also celebrate steps taken in this regard, informing the community of the exciting new approaches to operations and promoting them in the process.

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APPENDIX A:
Community Feedback

Generally, how would you describe self-propelled travel conditions in Burns Lake

Very Good	0
Good	0
Satisfactory	5
Poor	6
Very Poor	3

What do you think are the biggest barriers to utilizing AT modes in Burns Lake?

- > Winter weather
- > Highway 16 (few crosswalks, heavy traffic)
- > Money (limited funding, small tax base)
- > Topography
- > Sidewalks (too few, poor connectivity)
- > Cycling facilities (lack of)
- > Community buy-in (commitment, communications, etc.)

How would you prioritize AT routes identified on the “Envisioned AT Network”?

Route	Average	Priority
Downtown Mainstreet	1.8	1 st
Lakefront Walkway	4.7	6 th
Center Street Greenway	2.4	2 nd
Government Street Greenway	4.5	5 th
Carroll Street Greenway	6.5	7 th
8th Avenue Greenway	4.0	3 rd
Eveneshen Trail	4.2	4 th
Wardrup Creek Trail	7.0	8 th

Are there any routes not shown on the “Envisioned AT Network” map that you feel would facilitate further use of AT modes?

- > From Hwy 16 along Hwy 35 to Spirit Square, then north along Francois Lake Dr.
- > 3rd Ave continuing through to the railway tracks (proper crossing of tracks) and hooking up with a boardwalk that follows the Burns Lake shoreline
- > Connect Eveneshen Dr to 3rd Ave and make a “circle” route down to Highway 16, along Francois Lake Dr, down to the boardwalk, along the lake, and back up to Eveneshen Dr.
- > Bridge across Saul Creek

Additional Comments:

- > We need to get folks from out of town to stop, both those on train and in cars.
- > Need an obvious place to converge and park with interesting shops/amenities to attract.
- > It would be a much better town if there were a lot of trees, walkable streets, cute stores, convenient boutiques and public transportation for students.
- > Since we have wonderful lake around us, we should build lakefront parks.
- > They should get rid of all the run down vehicles that are in between Overwaitea and the Highway so it gives a more clean and inviting look.
- > More flowers and trees, better defined walkways, parking lots, etc.
- > Make the sidewalks clear of snow a bigger priority, and also sanding and salting. They can be treacherous.
- > Need a sidewalk from the CIBC to the mall (that side of the street).
- > Do you have any say in the mall parking lot? A poor design for cars and pedestrians, move the cars away from the building, don't allow them to drive adjacent to it and make a pedestrian friendly entrance zone.
- > There are shortcuts all over town that everyone uses i.e. Superstore Gas to the Superstore, add a gravel path and handrail to these areas.
- > Map out a route around town that you may need to do business on your lunch hour, instead of driving your car you walked and post the distance and calories burnt. Business to business would have a distance & a calorie and it could be added up.
- > Route heavy traffic alongside the railroad tracks. Big trucks bring noise, dirt, stink and a certain level of danger. I swear I'll be sitting at the window seat in the New Leaf Cafe when a B-train plows through.
- > More Greenery / nice spots to sit, more bike lanes and bike lock-ups.
- > Promote 'sidewalk sales' and street parties.
- > Pedestrian controlled crossing of Highway 16, more parking off of the highway.
- > I think bike lanes and more sidewalks would help offer better access to roadways for

pedestrian and bike traffic. But they would take longer to develop and cost far more than trail development.

> Smithers has a perimeter trail which received upgrade dollars through the LocalMotion program. It has been a huge success and sees a lot of traffic. Other places I've seen success with urban trails include Terrace, Port Coquitlam, Chilliwack, and Victoria.

> Giving people a place to walk their dogs, stroll along more natural pathways, and bike in a more enjoyable atmosphere over traffic roadways is a cheaper option and offers more than a lane to travel it gives an experience that will ultimately get more people out and moving.

> Safety wise, trails away from vehicle traffic greatly reduce the statistics on injury to cycle and pedestrian traffic. Anytime vehicles are using the same access numbers of injuries and degree of injury increase.

> I personally believe it would be a fantastic benefit to the community if a trail from the intersection by Mulvaney's leading up and through the Village property between Wanakeena and 5th Ave, looping around 5th to 9th and linking the Rod Reid trail. Then an upgrade to the Eveneshen trail starting with a link directly from Rod Reid parking area down to 6th avenue and out past the College. If a bike lane could be established on Government Ave and adjacent the railway to utilize the existing rail crossing by A&W and continue down to Spirit Square could be one possible perimeter trail. The far end of Rod Reid also goes through a section of Burns Lake-owned land purchased to secure that section of Rod Reid Trail. That land could also have a trail that could link into and see an upgrade to an existing trail through Lake Babine Nation land and the Burns Lake Band section of land directly behind the Rainbow Motel, this could be another further link to a perimeter trail.

> Urban trails was a big part of Mark Schmidt of IMBA Canada's assessment of Burns Lake back in 2005. I believe that a large part of the community would enjoy the use of quality sustainable trails built to the Whistler Trail Standard "Level 2" community trail quality. I think such a trail would promote commuter use of bikes and walking in a very cost effective manner.

> If developed correctly, and keeping in mind how a trail could be used in a land use design so it enhances future development in the area, trails can be an incredible selling feature to land owners.

> It would also give mountain bike tourists an opportunity to park at hotels in town and be able to bike across town, up to Rod Reid, link on the Magee Connector directly to the bike park, onto the Kager Connector and access to Boer Mountain without ever using a road (except to cross).

> Burns Lake has much of the makings for a “go to” destination. Aside from the obvious of our spectacular bike park, we have world class fishing and lakes to support all varieties of water sports. We have phenomenal cross country ski trails in the winter and the surrounding area offers the big mountain experience.

> We are on a major transport route that will only increase in traffic flows. Towns such as Smithers and Terrace have ski hill developments in the works. This brings people to the area, increases real estate values and draws attention. This is great, however many people do not want to pay the premium dollar for Smithers real estate and are looking for a quiet wilderness town that offers appeal. The lakes district is perfect for this, however Burns Lake is missing out on this right now. People’s impression is made when they drive through town to go to Smithers. At present it is scary. There are condemned buildings, empty houses and dirty shops. There is a general run-down look from the main corridor that people see as they drive through town. This will not entice people to stop and have a look around.

> The downtown area is the highway corridor. It has been common (especially in the past) to design our living space around the automobile. Burns Lake is a prime example of this. The downtown area has very little pedestrian space, and can be scary on a bike or on foot due to the fact that you are always dodging the 18-wheelers that occupy most of the space in the ‘downtown area’. I recommend that highway traffic gets routed around town. It has been my experience that highways and downtowns do not mix well. Lets make the main downtown area a more desirable place to hang out.

> We have a lakefront as part of our town. This is rare and has potential to attract lots of people. Right now the lakefront is not a desirable place to congregate. I picture shops that face the lake, large wooden boardwalks along the lake, cleared beach access, more trees, more grass. Radley Beach is a start, however this needs to be cleaned up and should be expanded to become part of town.

> Most of the streets in the residential areas have no sidewalks, no trees, and power-lines everywhere. I would love to see more green space, walking areas, and buried power lines (they are an eye soar). Last winter I walked just about everywhere in town. What I noticed is that roads were usually plowed, and the sidewalks downtown were not. Often the road plows would push snow on to the sidewalks forcing me to walk on the street (Hwy 16). This is not fun and downright dangerous. I can’t image trying to get around with a baby stroller. Again this contributes to my argument of separating driving space and walking space.

> I lived in Golden and Revelstoke about 7 years ago. Both of these places went through the same thing, and have since taken steps such as the ones that I have outlined. They have transformed their town and waterfront into a beautiful place, we could do the same.

- > History from the Beautification Committee shows talk about a historical walkway that they would like to construct within the community. Could this or should this idea be stated in the plan? There is no defined locations for the walkway but it was mentioned to start at Pioneer Park and loop up to a possible location for a historical park near Hill St.
- > Is the area near Wardrop Creek stimulating enough, besides being a green belt to incorporate a trail here, or should it come though the 60 acre land that the Village owns to minimize the red tape issue? This then could be planned with the development of the area (Possible location for Rec Center or Public Works yard).
- > It was discussed at a few Beautification meetings about a route that helps RV'ers find parking. From these spots it would be good to incorporate pathways that linked up with specific areas and/or other trails.
- > I was a little surprised to see the proposed boardwalk begins/ends in front of homes on Pioneer Way. Initially I thought that the intent would be for it to begin at Radley Beach? This would affect the Wardrop Cr. issue as well.
- > Snow removal; Yes the question behind all these designs is “do you want the town to be safe for pedestrians and to look good?” I think there is a second question that is there two. “ Are you ready to spend more of the municipal budget on snow management?” Our crew can do it, but it takes more time and staff to clear snow from these features.
- > The other greenpaces, Personally I love them but at present personnel issues becomes a problem again. I am not sure of the possible time scheduled for implementation for this plan but if one goes to incorporate these into our town we already have an increased maintenance schedule for grass and green space due to Spirit Square. I feel that Management would have to look at a possible increase of employees to look after these new spaces. Council would again have to look at the increased cost and employment to the maintenance to trails and green spaces.
- > We need to market our community for what it is - lakeside, rustic, rural with rich arts, culture and heritage
- > The network should include a roadside cycling route to the mountain bike park. I hope council is able to support / find the funding.
- > Focus on replacing single occupant vehicle travel (not a focus in our area): Distances from work to home to recreation can't be walked or cycled to over 6 – 7 months of winter conditions! I'd be interested to see what you think would replace a single occupant vehicle. I've been involved in this very aspect since 1966! Urban transportation units work for urban areas but we are a rural area and Burns Lake needs to accommodate the rural resident.

- > We need a connection between A&W and the downtown core up to the Mall.

- > More signage telling visitors and locals what we have – advertise we have a beach, playground and camping in one location 2 blocks off of Hwy 16, a world class cross-country trail system, bike trails, etc.

- > Plant more deciduous trees on the moonscapes (along Rexall, Superstore, etc.) Local licensees could help fund the planting and we could get volunteers (like me) to put them in. What a great Earth Day Celebration!

- > Burns Lake has potential, I do see it. If we make it quaint we're more than likely to get travellers to stop. It was interesting to hear how my visitors (mostly American and Vancourites) have mentioned these same things. It's embarrassing since this is the ugliest town I've lived in. It's affordable, the folk are genuine and Smithers is close so that's what keeps me here. Besides the recreation, I'm not too keen on convincing people to come and visit. I'd rather leave and go visit them. When I think of the people who do come to visit myself and friends, the first place we take them is to Smithers. We've never offered a walk through down town. I'm a sucker for stopping in cute towns on my travels, otherwise it's the gas station that will only see my business.