Merritt
FLOURISH UNDER THE SUN

Active Transportation Plan

City of Merritt

May 7 2021

Prepared For

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1 Introduction

The City of Merritt is committed to making it safer, easier, and more enjoyable to walk, bicycle, and use other forms of active transportation. By being a leader in promoting active transportation and developing a safe and connected network of sidewalks, pathways, and bicycle facilities, Merritt can increase physical activity, improve public health outcomes, enhance equity, independence, and social connections, and reduce automobile dependence, infrastructure demands, and greenhouse gas (GHG) emissions.

To work towards this commitment, the City has created this **Active Transportation Plan**, which provides direction for the development of an attractive and well-connected active transportation network that is safe, convenient, and user-friendly. The Plan will guide Merritt's investments in active transportation over the next 20 years.

What is Active Transportation?

Active transportation includes any form of human-powered transportation, such as walking, cycling, or rolling using a skateboard, in-line skates, scooter, wheelchair, and other modes. It may also include winter-based active modes (e.g., cross-country skiing and snowshoeing), water-based active modes (e.g., canoe, kayak, and stand-up paddle boarding), and even horseback riding. There are also several new and emerging transportation modes that can fit in this category and may use the same trails and pathways, such as e-scooters, electric skateboards, and other small, one-person electric vehicles.

The Active Transportation Plan has been divided into five sections:

Section 1: Introduction highlights the overall purpose, process, and community engagement activities that have taken place to develop the Active Transportation Plan.

Section 2: Setting the Context outlines the considerations that shaped the plan's themes and actions. This includes understanding demographic and land use trends, connections to other relevant programs and policies, and existing conditions for walking and cycling in Merritt, including key issues and opportunities.

Section 3: Themes and Actions introduces the Active Transportation Plan's core themes of Connections, Experience, and Culture. It then outlines several action areas and specific actions for improving active transportation in Merritt.

Section 4: Implementation Strategy outlines a strategy for putting the themes and actions into practice, including prioritizing actions and active transportation facilities, laying out a timeframe and method of implementation, and identifying leaders to guide the implementation of each action. This section also outlines infrastructure cost estimates and funding strategies.

Section 5: Closing summarizes the plan and outlines the next steps for ensuring the Active Transportation Plan is successfully implemented.

The **Appendices** include the full existing conditions report, detailed survey summaries from all rounds of community engagement, a bicycle facility design guide, and cost estimates for the projects outlined in the proposed active transportation network.

Plan Purpose and Objectives

The Active Transportation Plan provides a course of action that reflects the community's priorities and available resources. It focuses on the cycling network in Merritt, looking at trails, off-street pathways, and potential on-street bicycle facilities. It also provides recommendations for making the City safer and more comfortable for people walking and rolling. The goal is to make Merritt even more sustainable, dynamic, equitable, and inclusive for people of all ages and abilities.

The focus of the Merritt Active Transportation Plan is on people walking, rolling, and cycling. This includes people of all ages and abilities using a variety of mobility devices (e.g., walkers, canes, wheelchairs, and mobility scooters) and bicycle types (e.g., bicycles with trailers, e-bikes, bicycles built for people with mobility challenges, and others). Considering all these active modes is crucial when planning the overall transportation network.

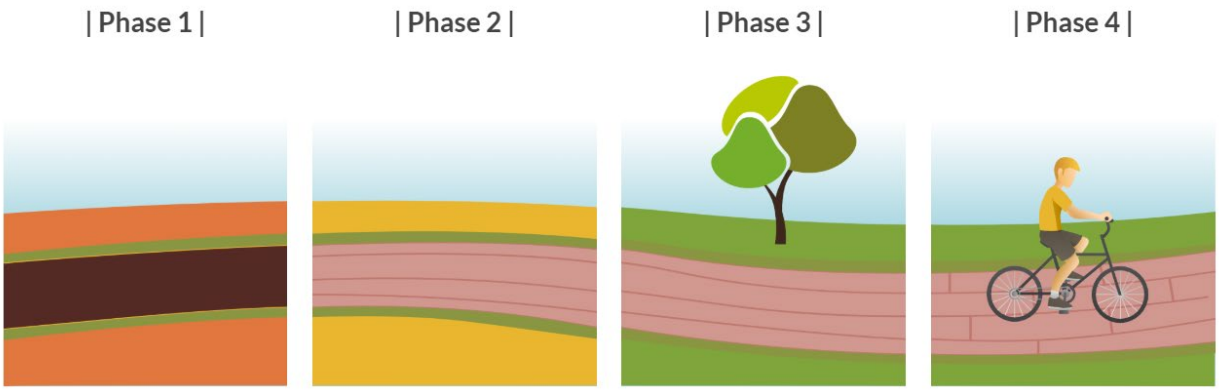
Key Objectives include:

- Outlining policies, actions, and amenities that will encourage healthy lifestyles and make active transportation a preferred way of getting around Merritt for both recreation and accessing daily needs.
- Creating multi-modal connections between neighbourhoods, key destinations, and the City Centre to provide greater transportation choices.
- Developing an active transportation network that is comfortable, convenient, safe, attractive, and accessible for people of all ages and abilities, whether they are 8 years old or 80 years old.
- Enhancing and better connecting Merritt's existing local and regional trails, including trails along the Nicola and Coldwater Rivers as well as the Kettle Valley Railway corridor and nearby hiking and mountain biking trails.
- Growing and expanding active transportation businesses, promoting bicycle tourism, and looking for other ways to strengthen the City's economy and revitalize the City Centre.

Plan Development Process

The Active Transportation Plan was developed over approximately eight months and involved four phases, as described below.

- **Phase 1: Project Launch (May - June 2020).** This phase included a project kick-off meeting between City staff and the consultant team, developing a communications and engagement strategy, collecting and reviewing background information and data, and conducting a community tour to explore existing conditions.
- **Phase 2: Understanding Existing Conditions (June - July 2020).** This phase included a review of existing related policy documents, policies, and transportation facilities, as well as engaging with the public to better understand existing issues and opportunities related to active transportation.
- **Phase 3: Setting Future Direction (July – October 2020).** This phase explored possibilities for the future of active transportation in Merritt. This included developing a draft active transportation network and identifying policies and programs to enhance active transportation for all and conducting a second round of community and stakeholder engagement.
- **Phase 4: Implementation and Reporting (October 2020 - February 2021).** This phase involved refining and prioritizing the draft content presented in Phase 3 and developing an Implementation Plan, including identifying project costs and funding strategies. The outcome of Phase 4 was this Active Transportation Plan.



Communications and Engagement

An effective and meaningful communications and engagement strategy is critical to the success of the Active Transportation Plan. The City set out to hear from a broad range of voices to ensure that the Active Transportation Plan would be inclusive, forward-thinking, and reflect the needs and desires of the community. During Phase 2 of the planning process, Merritt residents were invited to provide input on the challenges they face when using active modes of transportation in Merritt, as well as the opportunities for improvements.

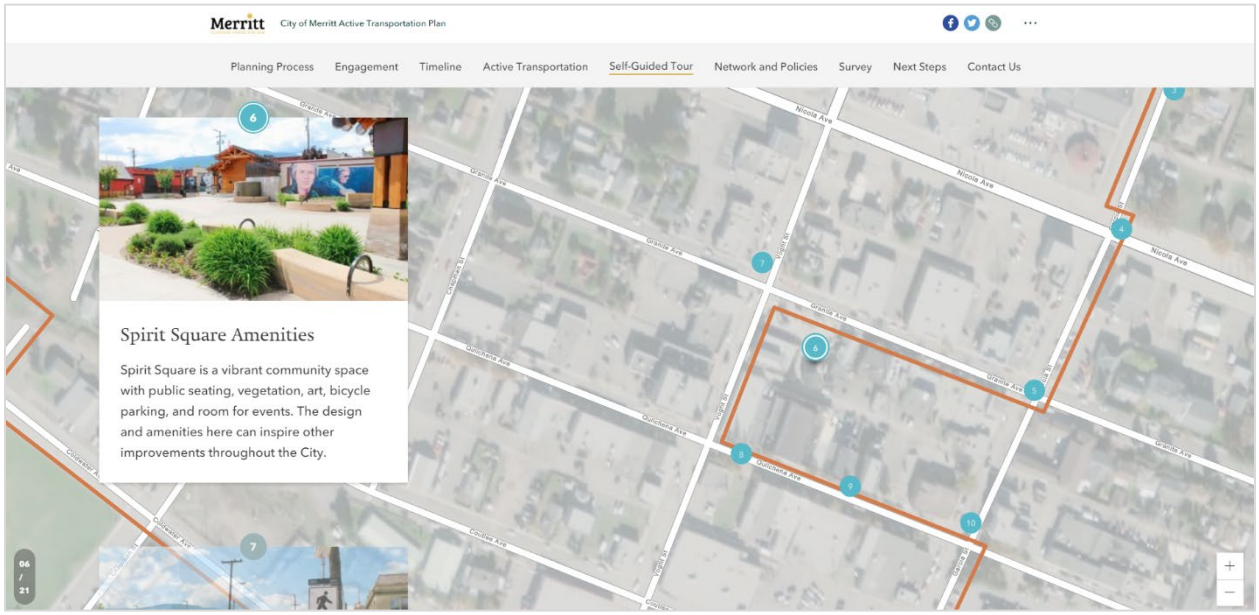
Due to the COVID-19 pandemic and the need for physical distancing, community engagement activities were held virtually to ensure the health and safety of resident, City staff, and other stakeholders. The City utilized a project website, social media, radio, and online surveys to safely capture feedback from the community. The three separate rounds of online engagement are described below.

- The **first round** of engagement took place from June to July 2020 and included an online survey asking residents to provide input on the challenges they face when using active modes of transportation in Merritt, as well as the opportunities for improvements. Because of the COVID-19 pandemic, many of the questions asked participants to consider their transportation before the pandemic began as many residents are now working/studying from home or not currently working/attending school. The survey was available through the City's website and promoted heavily through social media and other marketing tactics. In total, 164 responses were collected.
- The **second round** of engagement took place from September to October 2020 and included a follow up online survey where residents were invited to provide input and level of support for the action areas outlined in the draft Active Transportation Plan. In total, 75 responses were collected.
- Additionally, the City launched an online **StoryMap** in November 2020 to walk residents through the proposed active transportation network, programs, and policies in greater detail. The website included a brief survey and an interactive virtual tour, leading residents on a self-guided walking tour of many key active transportation enhancements proposed in the Plan.

Throughout the planning process, stakeholders including the Merritt Mountain Bike Association, Thompson Nicola Regional Trail Society, School District No. 58 (Nicola-Similkameen), and community members were invited and encouraged to provide input on the issues and opportunities related to active transportation in Merritt and the draft plan.

Additionally, Merritt's City Council was engaged throughout the planning process. Presentations were made to Council to seek direction and input on the proposed active transportation network and draft policies, ensuring that elected officials had the opportunity to help shape the future of active transportation in the City.

The results of all rounds of engagement are summarized in **Appendix B**. The suggestions and comments received during each round of public engagement have been considered alongside a technical review to prepare the Active Transportation Plan.



Screenshot from the StoryMap website, featuring a virtual self-guided tour of proposed improvements.

2 Setting the Context

This section describes the context for the Active Transportation Plan, including key demographic and land use considerations, barriers to active transportation, and connections to relevant plans and policies. It also includes a summary of existing conditions for active transportation in Merritt. Together, these elements of the community context have shaped the recommended improvement strategies for the Active Transportation Plan.

Further details regarding community context and existing conditions for active transportation in Merritt are outlined in the Existing Conditions Summary Report found in **Appendix A**.

Community Context

The City of Merritt is a vibrant community of 7,722 residents in British Columbia's picturesque Nicola Valley. The City sits at the confluence of the Nicola and Coldwater rivers, within the traditional unceded territory of the Nlaka'pamux and Syilx. Merritt serves as a regional hub to the Nicola Valley, offering access to nature and recreation, public services, education, health care, employment, social support, and many other benefits. The City boasts a favourable climate, including mild winters with little snowfall and warm, dry, sunny summers with long hours of daylight, creating ideal conditions for walking, rolling, and cycling. While the City has traditionally experienced a low growth rate, the population is projected to double over the next 25 years due to recent changes to zoning regulations and upcoming developments.

Demographics

Considering community demographics is crucial for creating an equitable transportation system that is safe, comfortable, and accessible for all. It is especially important to understand the transportation needs of marginalized populations, which may include women, seniors, the Black, Indigenous, and People of Colour (BIPOC) community, immigrants and refugees, the 2SLGBTQ+ community, and people who are socio-economically disadvantaged or experiencing homelessness or addiction.

Merritt is a diverse community. About 25% of the City's population identify as Indigenous, and there are six First Nations located near Merritt: Ntsla'tko (Coldwater), Nooaitch, Sxe'xn'x (Shackan), Shulus (Lower Nicola), Spaxomin (Upper Nicola), and Cook's Ferry. Additionally, about 10% of the City's population are immigrants and over 17% of the population was considered low income in 2015. Marginalized populations face unique and intersecting challenges when navigating the transportation system, including the threat of discrimination and violence, and they may not have the same level of access to motor vehicles or transit.

Furthermore, approximately 39% of Merritt's population is either too young to drive or are seniors. This percentage is expected to grow – the draft Housing Needs Assessment report has identified that the percentage of seniors in Merritt is projected to represent nearly one third of the total population by 2025, with youth under 15 representing another 13% of the population. All these groups benefit from safe and convenient alternatives to driving. Active transportation is an affordable transportation option that can help all residents participate fully in society.

Geography and Land Use

Merritt is a compact community with relatively flat topography (aside from its steep hillside trails), making it ideal for active transportation. The City is composed of diverse neighbourhoods and distinct natural features, such as the Coldwater and Nicola Rivers, the hillsides filled with trails, and a belt of grassland

and ranchland. The City Centre is defined by walkable local streets with a 'small town' feel with several key destinations. The surrounding neighbourhoods include a mixture of low density residential, commercial, and industrial lands, along with community amenities, schools, healthcare facilities, and parks and natural spaces.

Barriers

Merritt's geography creates physical barriers that result in mobility challenges for people walking, rolling, and cycling. The Coldwater and Nicola rivers form north-south barriers as they snake through the City; there are limited crossings of each river, and many of these crossings are narrow and missing safe and comfortable active transportation facilities. The highways and major arterial roadways can also be challenging to cross and travel along for active transportation users. High motor vehicle speeds and volumes, along with a lack of comfortable walking and cycling facilities on many of these roadways, create a disconnect between different sectors of the City.

The surrounding hillsides and ranchland also serve to define movement patterns in the City, with the topography of the slopes in the benchlands area creating a potential barrier for some users. Finally, there can be a psychological barrier to the uptake of cycling in Merritt, with cycling sometimes perceived as a mode of last resort.

Related Programs and Policies

The Active Transportation Plan is closely linked to many other plans and policies that are guiding Merritt's growth and development. The following policies, plans, bylaws, and initiatives were reviewed to inform the development of the Active Transportation Plan.

Local Plans and Programs

Official Community Plan (OCP) (2011 and 2021 Update): The City's current OCP envisions a community where residents and visitors can move freely through the City by walking and cycling, both on streets and trails. It highlights the need to install new sidewalks, enhance accessibility, and connect all neighbourhoods to the City Centre. In early 2020, the City initiated an update to the OCP. The 2020-2021 OCP Background Report (2020) notes that the recommendations in the Active Transportation Plan will be incorporated into the OCP update and will be further supported by the Zoning Bylaw update, BC Transit's Transit Futures planning program, and additional land use and transportation planning and policies that focus more development in established areas with lowered levels of motor vehicle dependence. The report also notes that this could be further supported by the creation of a full Transportation Master Plan, strengthening the zoning and development bylaws to incentivize denser, taller, mixed-use development in the City Centre, improving the transit network, and implementing the recommendations in the Active Transportation Plan.

- **Parks, Recreation, and Culture Master Plan (2017):** The Parks, Recreation and Culture Master Plan focuses on providing a system of inclusive, accessible, and diverse parks, trails, recreation, and cultural opportunities, which promote a healthy and active lifestyle for residents and attracts visitors. The plan includes several recommendations and a proposed trail network that has been reviewed and incorporated into the Active Transportation Plan.
- **Zoning Bylaw (2020):** The recently updated Zoning Bylaw includes updated short- and long-term bicycle parking requirements as well as guidance on electric mobility scooters, e-bikes, push scooters, and similar active transportation modes. The bylaw will be further revised based on the Active Transportation Plan recommendations.

- **Traffic Bylaw (2008):** The City's current Traffic Bylaw identifies an area within the City Centre where people on roller skates, inline skates, skateboards, foot-propelled scooters, and other small apparatuses are not permitted. It also notes that no person shall ride a bicycle on a sidewalk or walkway. It does note that light carriages and chairs that are for children or used as mobility aids can be operated in a bikeway.
- **City Centre Improvement Plan (Updated 2008):** The City of Merritt completed the "City Centre Improvement Plan" in July 2005 and it was updated in 2008. The plan highlights the opportunities and barriers for enhancing active transportation within the City Centre including, walking tours, adding bicycle parking, furnishing features, streetscape enhancements, and sidewalk upgrades (widening and adding a boardwalk style esthetic). It also recommends investigating the potential for a City Centre staging and a service point for touring on the KVR trail.
- **Thriving Communities (2020):** The Thriving Communities project surveyed 570 residents to understand Merritt's unique labour market characteristics. The report found that there is opportunity to further expand pedestrian infrastructure in Merritt and to improve awareness of walking. It emphasized that Merritt's 2016 walking to work mode share is higher than the provincial average and also found that of participants surveyed in 2020, walking to work was the third most preferred mode of transportation. The report notes that improving walking infrastructure could help to remove transportation as a barrier to the labour market and attract additional people to Merritt by marketing its walkability.
- **Other local plans** that were reviewed as part of the existing conditions review include the:
    - City Centre Asset Inventory Plan (under development)
    - Housing Needs Assessment (under development)
    - Tourism Inventory Report (2018)
    - Wayfinding Signage Strategy (2017)
    - Age Friendly Action Plan (2016)
    - Economic Development Action Plan (2015)
    - Integrated Growth Strategy (2010)
    - Voght Corridor Traffic Study (2005)
    - Subdivision and Development Servicing Bylaw (1987)
- **Local programs:** The City also has several programs, facilities, and information available that support active transportation, such as participating in Bike to Work and Bike to School Week, the Rotary Bike Park, and providing some short-term bicycle parking within the City Centre. The City also promotes mountain biking and hiking through its Tourism Department, including an information page on the Tourism Merritt website (https://tourismmerritt.ca/), the Nicola Valley Trail Guide, and City-produced hiking videos that are distributed on the City's social media channels.

Regional Plans and Studies

There are also several regional plans and documents that were reviewed to understand existing conditions and will be incorporated into the Active Transportation Plan. Many of these documents highlight the importance of promoting more transportation options. This includes promoting walking, cycling, and trail infrastructure to provide more recreational and tourism opportunities, and promoting more transportation events. The plans reviewed include:

- Climate Action Revenue Incentive (CARIP) Public Report from 2018
- Adventure Tourism Strategy for BC (2017)
- Value of Tourism, BC | 2007-2017 (2017)
- Mountain Bike Tourism BC (2015)
- Nicola Valley Tourism Plan (2014)
- Tourism Plan for Merritt and Nicola Valley (2014)
- Thompson Nicola Regional District's Growth Strategy (2013)
- Trail Strategy for BC (2012)

Active Transportation in Merritt Today

This section describes existing conditions in Merritt, including travel patterns, existing active transportation infrastructure, and traffic safety concerns. This information has helped shape the Active Transportation Plan and the development of recommendations that meet the context and needs of the community.

Travel Patterns

Merritt's compact community core means that most residents commute relatively short distances (15 minutes or less) to work and school. Based on Canadian Census Journey to Work census data from 2016, approximately 12% of residents in Merritt travel by foot to work and/or school, while 2% travel by bike and about 84% travel by motor vehicle (Figure 1). Census data does not take into consideration the number of trips made for recreational purposes, errands, and other daily tasks.

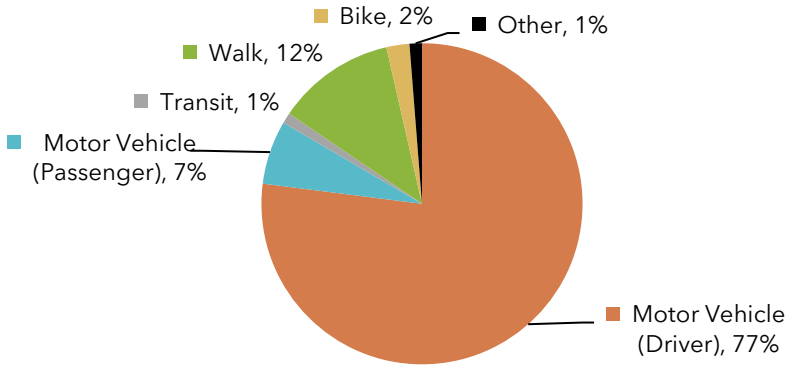


Figure 1: Journey to Work Mode Share, 2016 (Source: Statistics Canada)

The data collected through the first Active Transportation Plan survey found very similar results: when asked to specify their typical pre-pandemic mode of transportation for their daily needs (including commuting, going to an appointment, or picking up groceries), the breakdown was 84% driving, 8% walking, 7% cycling, and 2% other mode. The survey also found that of those people who use active transportation, about a quarter of their walking and cycling trips are for travelling to work or school. Meanwhile, accessing shops, restaurants, or services makes up over half (54%) of walking trips and 24% of cycling trips.

Impact of COVID-19 on Travel Patterns

It is important to note that the ongoing COVID-19 pandemic represents a serious new public health challenge that has impacted travel patterns in communities around the world, including Merritt. During the height of the pandemic in spring 2020, regular travel patterns were disrupted as people stayed home for all but the most essential trips, with many people still working or attending school virtually as part of the 'new normal'.

With COVID-19 impacting individuals in different ways, it was important to understand whether Merritt residents have changed their transportation habits because of the pandemic. The majority of those who participated in the survey (73%) indicated that their typical transportation habits have not changed because of the COVID-19 pandemic.

Those who answered yes were asked to specify how their transportation habits have changed. Of the 44 people who provided a response, 45% indicating that they are driving and commuting less due to working at home. Respondents also noted they have been walking, running, hiking, and cycling more (36%), while others have limited their travel outside of their home to only necessary trips (16%).

Existing Active Transportation Network

Merritt's existing active transportation network consists of sidewalks, multi-use paths, walking paths, and trails (Figure 2). Merritt has over 36 km of sidewalks, with good coverage in the City Centre and portions of East Merritt / Diamond Vale. However, there are significant gaps in the sidewalk network, with some neighbourhoods lacking sidewalks on one or both sides of most streets.

There are currently no on-street bicycle facilities in Merritt, with cyclists having to share the lane with motor vehicles or use the 3.6 km of multi-use trails through Central Park and along the Coldwater River. The City has added painted bicycle lanes along Voght Street that tie into the existing multi-use pathway on Voght Street and connect the neighbourhoods north of the Nicola River to the City Centre.

Merritt has an extensive network of over 150 km of trails on the outskirts of the City. These trails are well used by walkers, hikers, dog walkers, joggers, and cyclists, including mountain bikers. The primary biking trails in and around Merritt are Swakum Mountain, Coutlee Plateau, Iron Mountain, and Sugarloaf Mountain. Merritt's trail network also connects to a larger regional trail network, including the Kettle Valley Rail (KVR) Trail.

Merritt's active transportation network also ties in with the existing road network and transit network. Multi-modal integration is an important aspect of creating a convenient and attractive active transportation network. Active transportation users often utilize multiple different transportation modes throughout their journey, so it is important to ensure that all modes are safe, appealing, and convenient for all users.

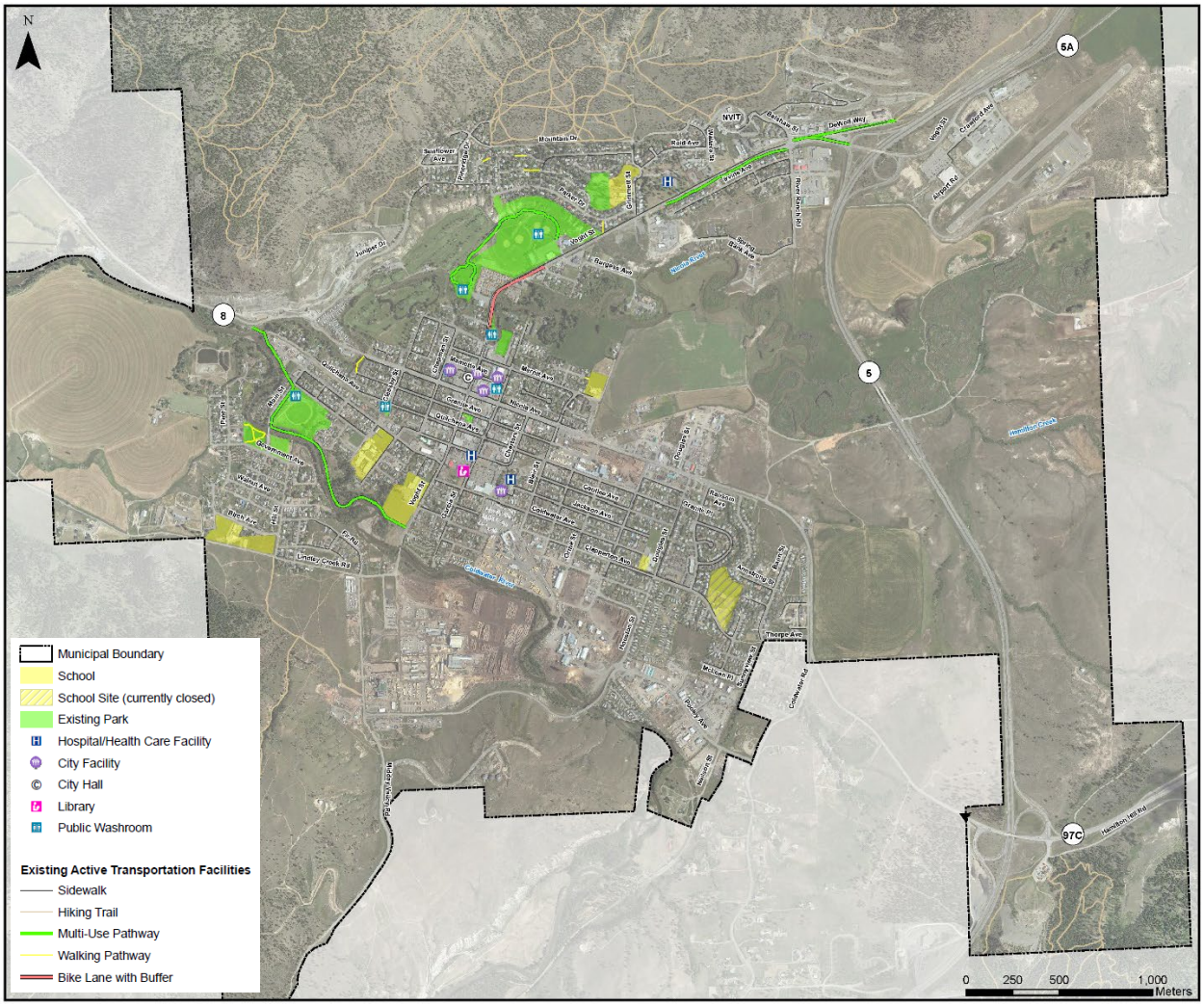


Figure 2: Existing Active Transportation Facilities

Active Transportation Amenities

Walking and cycling amenities are key to making active transportation convenient and accessible. Walking amenities can include benches and other seating, garbage and recycling bins, and public washrooms. There are several existing washrooms located at public parks and civic facilities throughout Merritt, as shown in Figure 3. The hours of operation for each facility varies depending on the day of the week and time of the day, with many of them closed in the evening and overnight. Locations with public washrooms include:

- Merritt City Hall
- Merritt Civic Centre
- Nicola Valley Aquatic Centre
- Nicola Valley Curling Rink
- Nicola Valley Memorial Arena
- Merritt Visitor Centre at the Baillie House
- Several local parks, including Lions Park, Rotary Park, Central Park, Fairley Park, and Voght Park

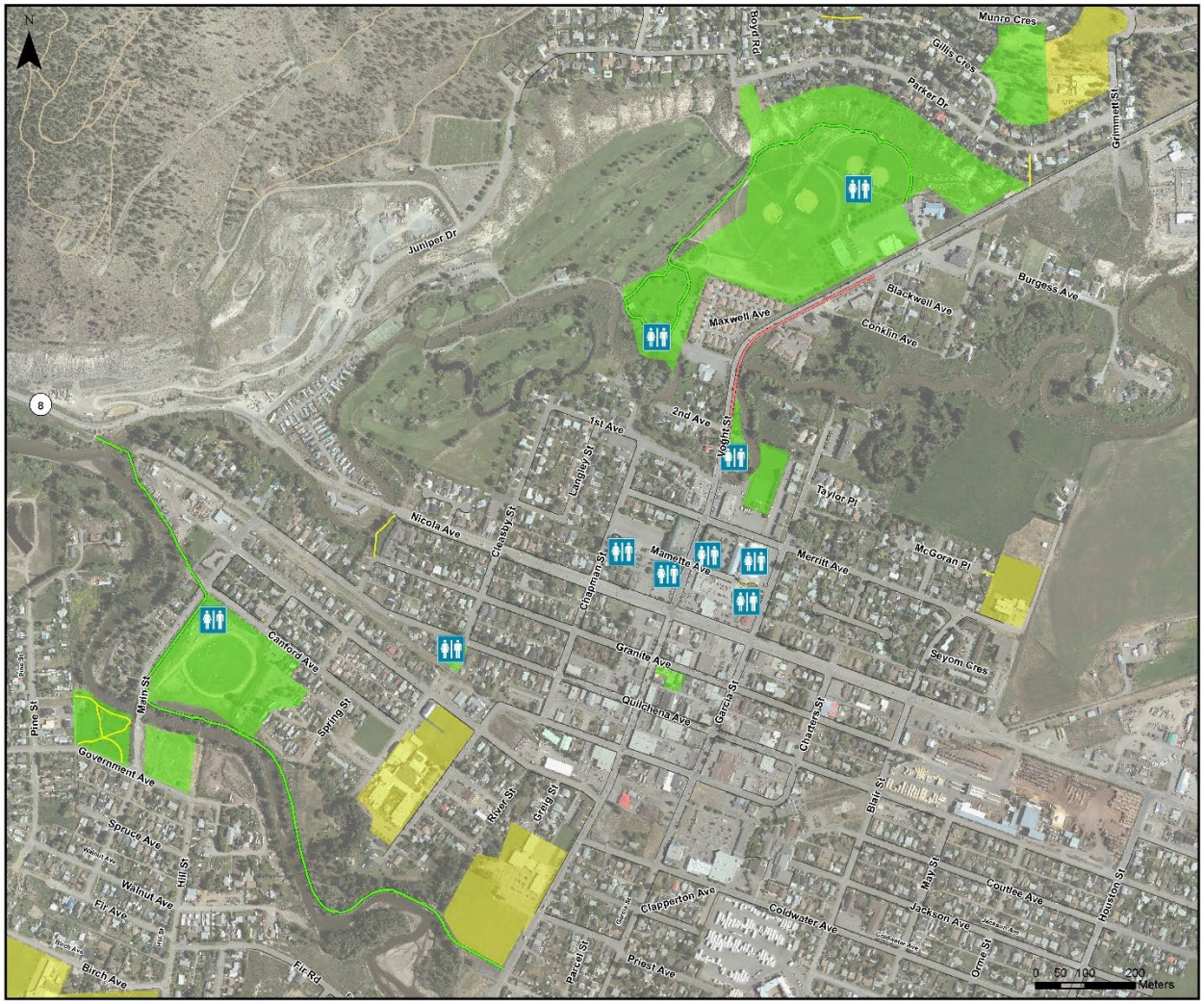


Figure 3: Existing Public Washrooms

Cycling end of trip facilities such as secure bicycle parking, showers, and change rooms can make cycling and multi-modal trips seamless and enjoyable. Bicycle racks are found throughout Merritt at key destinations, such as Spirit Square and the Nicola Valley Memorial Arena. The number of bicycle racks in the City Centre could be improved, especially adjacent to private businesses.

Traffic Safety Concerns

Transportation safety is a core consideration in the planning of a transportation system. A review of ICBC data found that between 2014 and 2018, there were a total of eight motor vehicle collisions involving a cyclist and 13 involving a pedestrian. Four of the 13 pedestrian-involved collisions occurred at the intersection of Voght Street and Quilchena Avenue, while another two occurred at Voght Street and Coldwater Avenue. Furthermore, a motorist hit and killed a pedestrian who was crossing the street at the intersection of Voght Street and Granite Avenue. The most common locations of cyclist-involved collisions were at Blair Street and Quilchena Avenue (2) and Chapman Street and Nicola Avenue (2).

Over the same five-year span, there were a total of 196 collisions between motor vehicles in Merritt that involved a casualty (injury or fatality). Twenty of these collisions occurred at the Highway 5 and Highway

5A interchange. Another 14 occurred at the intersection of Nicola Avenue and Voght Street in the City Centre. Within the City, Voght Street, Nicola Avenue, and Quilchena Avenue stand out as the highest casualty locations.

Safety Issues from Survey Respondents

Several safety issues were identified in the first Active Transportation Plan survey, especially regarding cycling. Half of respondents noted that they feel mostly or very unsafe when cycling in Merritt, compared to 37% of respondents who feel mostly or very safe cycling. By comparison, only 18% of respondents feel mostly to very unsafe when walking in Merritt, with more than half of respondents feeling mostly safe (64%) or very safe (12%) when walking.

Respondents noted that the lack of active transportation facilities made them feel unsafe, and that there are conflicts between people cycling and driving. When asked to identify three neighbourhoods where they would like to see active transportation improvements, residents identified the City Centre (86%), East Merritt/Diamond Vale (48%), and Bench (35%) as the top three locations.

Key Issues and Opportunities

Key issues and opportunities for active transportation were identified through the community engagement process and are summarized below.

Issues

In terms of issues or challenges for cycling in Merritt, the lack of bicycle routes separated from traffic and dedicated on-street bicycle lanes were identified by more than half of respondents (61%) as a main challenge (Figure 4). Of those who selected 'other', theft and a lack of cycling knowledge from drivers and cyclists were identified as additional issues/challenges. The main issues and challenges for walking in Merritt include a lack of trails (42%) and lack of sidewalks (40%) (Figure 5). Those who selected "other" identified feeling unsafe and lack of amenities as additional barriers to walking in Merritt.

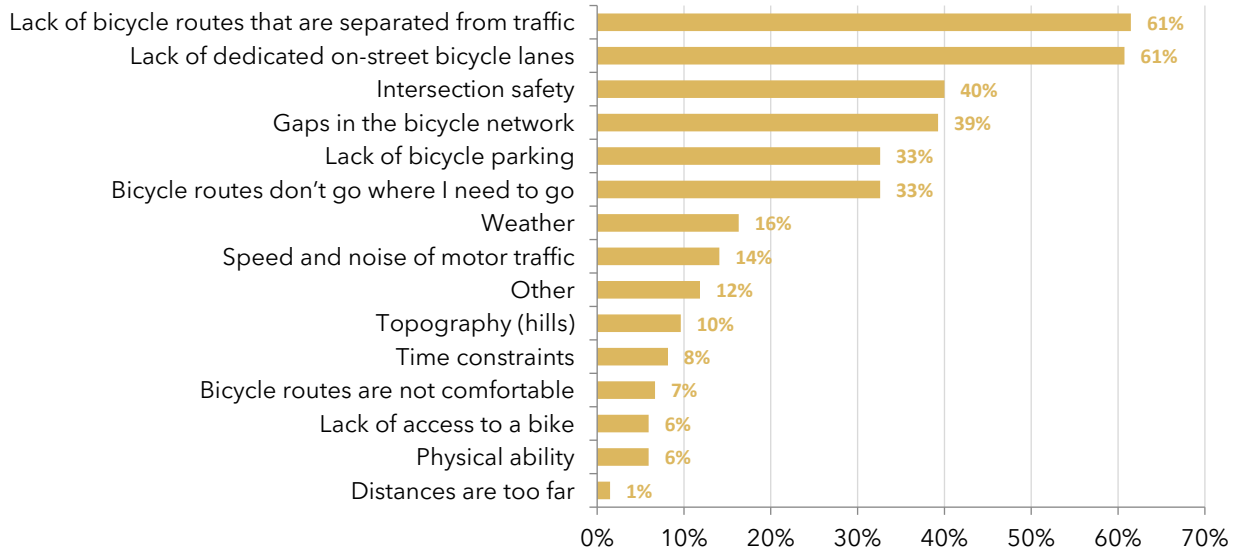


Figure 4: Main Issues or Challenges for Cycling in Merritt (Source: ATP Survey)

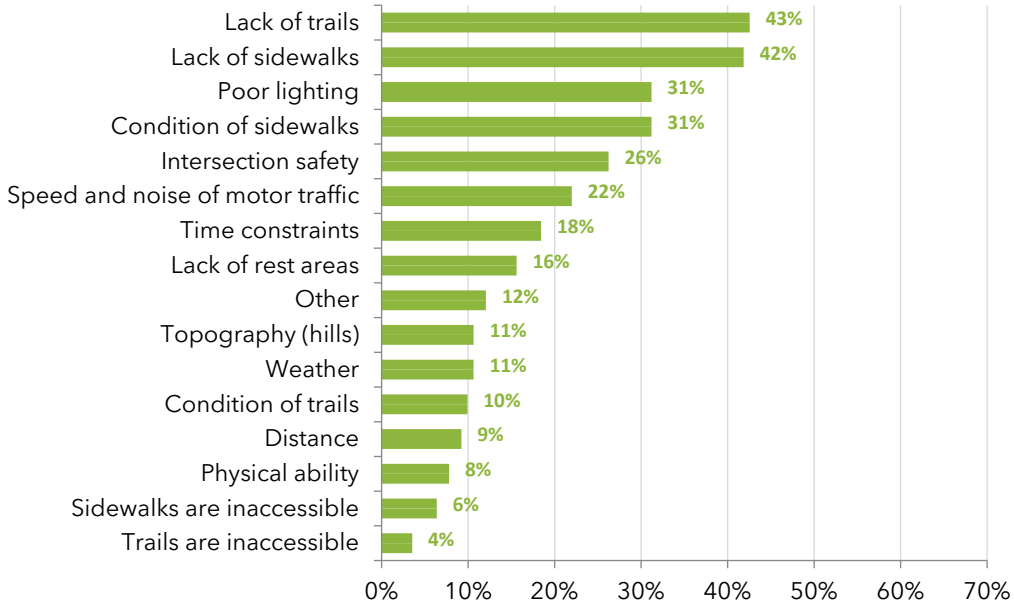


Figure 5: Main Issues or Challenges for Walking in Merritt (Source: ATP Survey)

Opportunities

Opportunities for enhancing active transportation in Merritt include adding sidewalks, prioritizing the trail network, and reducing conflicts between active transportation users and motor vehicles. Survey respondents also indicated a desire for safer routes to school and listed several other desired active transportation connections.

The survey results revealed that residents enjoy walking, rolling, and cycling for exercise and to enjoy nature and wildlife, so connecting to and expanding the City's multi-use pathway and trail network represents a significant opportunity. Building stronger regional connections can also help to strengthen the tourism sector while better connecting Merritt with its neighbouring communities, including First Nations.

Providing additional end-of-trip facilities (bicycle parking, lockers, and showers) is another way to enhance cycling. Additionally, ensuring that new neighbourhoods and key destination – such as residential, commercial, and transit destinations in neighbourhoods outside the City Centre – are connected to the City Centre can help ensure a well-connected City and a vibrant City Centre.

Finally, there is an opportunity to promote active transportation as a regular, convenient, and enjoyable mode of daily transportation, helping to reduce the stigma of walking and cycling as a primary transportation mode. At the same time, the City must support marginalized populations who rely on active modes, and it must ensure that people of all ages, abilities, genders, ethnicities, and other identifying factors feel safe and comfortable when travelling throughout the City.

3 Themes and Actions

The framework of the Active Transportation Plan consists of three overarching themes: **Connections**, **Experience**, and **Culture**. Each theme contains three core action areas and several individual actions that provide a detailed roadmap to enhancing active transportation in Merritt.

The sections below introduce the themes and actions. Next, **Section 4** provides an implementation strategy that prioritizes and outlines costs and funding strategies for each action. See **Appendix C** for a full summary of the themes, actions, and prioritization. The table in Appendix C also includes a list of the steps required to implement the action.

Connections

The **Connections** theme includes actions that will help create a safe, complete, and connected network of active transportation facilities that is integrated with land use, transit, and other projects and trails in the region and province. Specific action areas include **network** improvements, **integration**, and **safety**.

Action Area 1: Network

Developing a complete, comfortable, and connected active transportation network is the foundation of the Active Transportation Plan and is critical for supporting and encouraging active transportation in Merritt. It is important that walking and cycling routes are direct, intuitive, and form links between destinations and neighbourhoods.

Merritt's proposed Active Transportation network will include several different active transportation facilities, including sidewalks, bicycle lanes, multi-use pathways, and trails. Expanding and enhancing Merritt's active transportation network will require a combination of strategies, including adding new infrastructure and upgrading existing facilities to improve safety, fill gaps in the network, and ensure that new neighbourhoods and infill areas are connected.

Several network actions are introduced below, followed by a more detailed description of the proposed active transportation network.

Network Actions

1.1 Develop a pedestrian infrastructure plan and prioritize locations for increasing sidewalk coverage. Assess existing conditions by creating a GIS inventory of the existing sidewalk network that includes information about location, width, material, and quality of the sidewalk. Once the inventory is complete, identify gaps in the pedestrian network and propose new sidewalk projects. In addition, develop a sidewalk improvement program to widen or replace sidewalks that do not meet minimum standards and/or are in poor condition. To aid decision making, develop a prioritization matrix and build a prioritized list of projects, focusing on providing accessibility to key destinations such as schools, transit stops, businesses, healthcare facilities, and other community destinations. Finally, based on the priorities identified, create a sidewalk implementation plan that will guide the future implementation of new sidewalks and upgrades.

1.2 Implement a complete and connected city-wide pedestrian network through a phased implementation approach. This takes the proposed sidewalk implementation plan created in Action 1.1 and puts it into action, creating improved pedestrian access throughout the City.

1.3 Implement a complete and connected city-wide cycling network for people of All Ages and Abilities (AAA) through a phased implementation approach. The proposed active transportation network, including design principles, facility types, and proposed routes, is introduced in detail below and in Figure 10. **Section 4** provides detailed guidance on implementation.

1.4 Review and upgrade existing multi-use pathways and trails, as required. The proposed active transportation network outlined below includes locations where pathway upgrades are proposed (Figure 10). Over time, the City will continue to monitor the quality of existing pathway infrastructure and inventory locations where upgrades are needed.

1.5 Consider the impact of new mobility technologies on the active transportation network and facility design. Ensure new active transportation facilities are designed for all intended users, recognizing that the operating envelopes and speeds of new mobility technologies may impact facility design (e.g., facility width and the need for users to be separated). Explore the feasibility of creating a bikeshare or scooter share program in Merritt.

1.6 Review the Traffic Bylaw and update to align with best practice standards that support active transportation. Conduct a best practice precedent review of peer municipalities to identify active transportation supportive legislation and work to update Merritt's bylaw based on the findings. Update the Traffic Bylaw to allow the use of roller skates, inline skates, skateboards, foot-propelled scooters, and other small apparatuses (including small, one-person electric vehicles such as electric scooters and skateboards) within the City Centre. These active transportation modes should be permitted in designated bicycle facilities, but not on sidewalks where they may interfere with pedestrians (consideration should be given to allowing children to cycle on the sidewalk, based on the results of the best practice review). Updating the Traffic Bylaw will enable a more inclusive active transportation network for a larger variety of users.

Network Principles

When planning the active transportation network, the needs of all active transportation users must be considered, including people of all ages and abilities using a range of transportation modes. The following planning principles were used when developing the long-term active transportation network:

- **Complete:** The active transportation network should provide City-wide coverage, ensuring that most residents in Merritt are within proximity (approximately 400 metres) of a designated bicycle route. This is important for making cycling an accessible and convenient option for all residents. Likewise, the future pedestrian infrastructure plan will ensure a complete network of sidewalks to compliment Merritt's existing and proposed multi-use pathways and trails.
- **Connected:** Connecting key destinations with walking and cycling facilities is an important component of making active transportation a convenient transportation choice. The proposed active transportation network is designed to provide direct, high quality connections between each of Merritt's existing neighbourhoods and future growth development areas (including the proposed Neighbourhood Nodes identified in the Official Community Plan), as well as key destinations such as the City Centre, schools, parks, and community facilities.
- **Comfortable:** The active transportation plan focuses on developing an All Ages and Abilities ("AAA") bicycle network supplemented by supporting facilities (Figure 6). AAA facilities are designed to be comfortable and attractive for everyone, regardless of their cycling ability and experience. They offer practical route options for those who are interested in cycling but may not be comfortable riding on busy streets with high traffic volumes and speeds. Where AAA facilities are not feasible, supporting facilities are provided. These facilities help provide important connections in the active transportation network but may feel less comfortable, especially for inexperienced cyclists.

Figure 6: Merritt Bicycle Facility Types

Facility Types

Merritt's proposed cycling network includes three types of AAA bicycle facilities:

- **Neighbourhood Bikeway:** Streets with low motor vehicle speeds and less traffic that are comfortable for people of all ages and abilities to ride. Neighbourhood bikeways may include treatments such as curb extensions or traffic circles to help slow down motor vehicles.
- **Protected Bicycle Lane:** A bicycle lane that is physically separated from motor vehicles, making it safer and more comfortable. Protected bicycle lanes are also separated from the sidewalk, ensuring separation between cyclists and pedestrians. Protected bicycle lanes may be placed on one or both sides of a street, and they may be designed for one- or two-way bicycle travel. There are many types of protected bicycle lanes, offering varying types of treatments to provide protection. Types of separation include flexible delineator posts, wheel stops, planter boxes, raised or landscaped medians, and concrete barriers (Figure 8). A combination of these treatments can be used along a corridor, for example flexible delineators can be mounted on top of wheel stops to enhance visibility of the barrier. Planters can be placed along the facility to provide separation and used at intersections to create curb extensions. There are several ways these treatments can be used to enhance the comfort and safety of the active transportation network.

Figure 7: Examples of Neighbourhood Bikeway and Protected Bicycle Lane

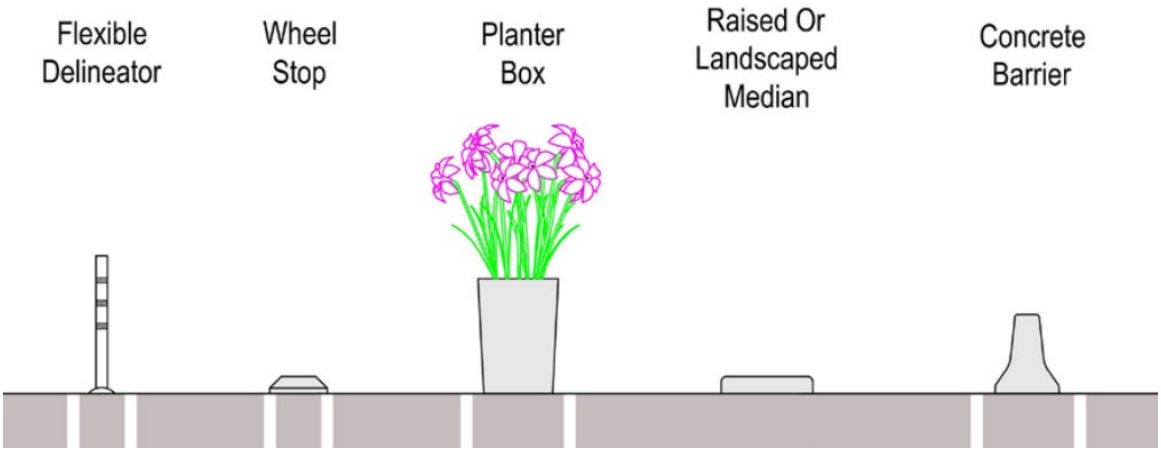


Figure 8: Types of Protected Bicycle Lane Separation (Source: B.C. Active Transportation Design Guide)

- **Multi-Use Pathway:** Off-street pathways that are physically separated from motor vehicles and shared between people walking, cycling, and using other forms of active transportation, like wheelchairs, skateboards, and scooters. Merritt's multi-use pathway network is complimented by an extensive trail network, which consist mainly of unpaved trails used for recreational purposes.

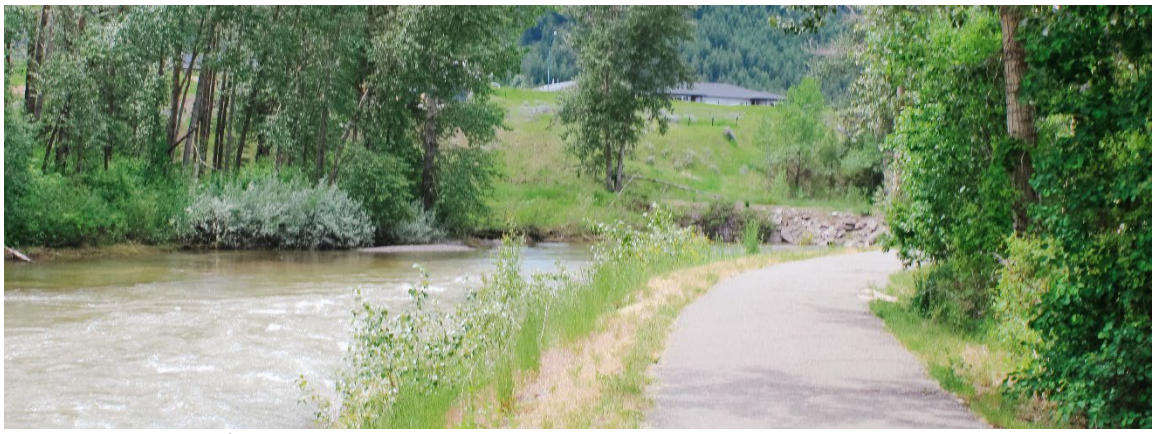


Figure 9: Example of Multi-Use Pathway

Proposed supporting facilities include:

- **Painted Bicycle Lane:** Separate travel lanes for bikes marked by a painted line, a reserved for bikes symbol, and signage.
- **Buffered Bicycle Lane:** A painted bicycle lane with extra painted lines that create a wider buffer between cyclists and motor vehicles.

Each of the bicycle facilities outlined above will be designed and implemented based on the best practices outlined in the **Merritt Bicycle Facility Design Guide**. See **Appendix D** for more details.

Proposed Network

The proposed long-term active transportation network is shown in Figure 10. A full-size version of this map is provided in **Appendix E**. The proposed network includes new infrastructure and upgrades to existing facilities, with AAA facilities proposed wherever feasible. Several proposed future connections were also identified in areas that are currently under development or that require additional study. **Section 4** of the Active Transportation Plan outlines a proposed implementation plan for building out the proposed active transportation network.

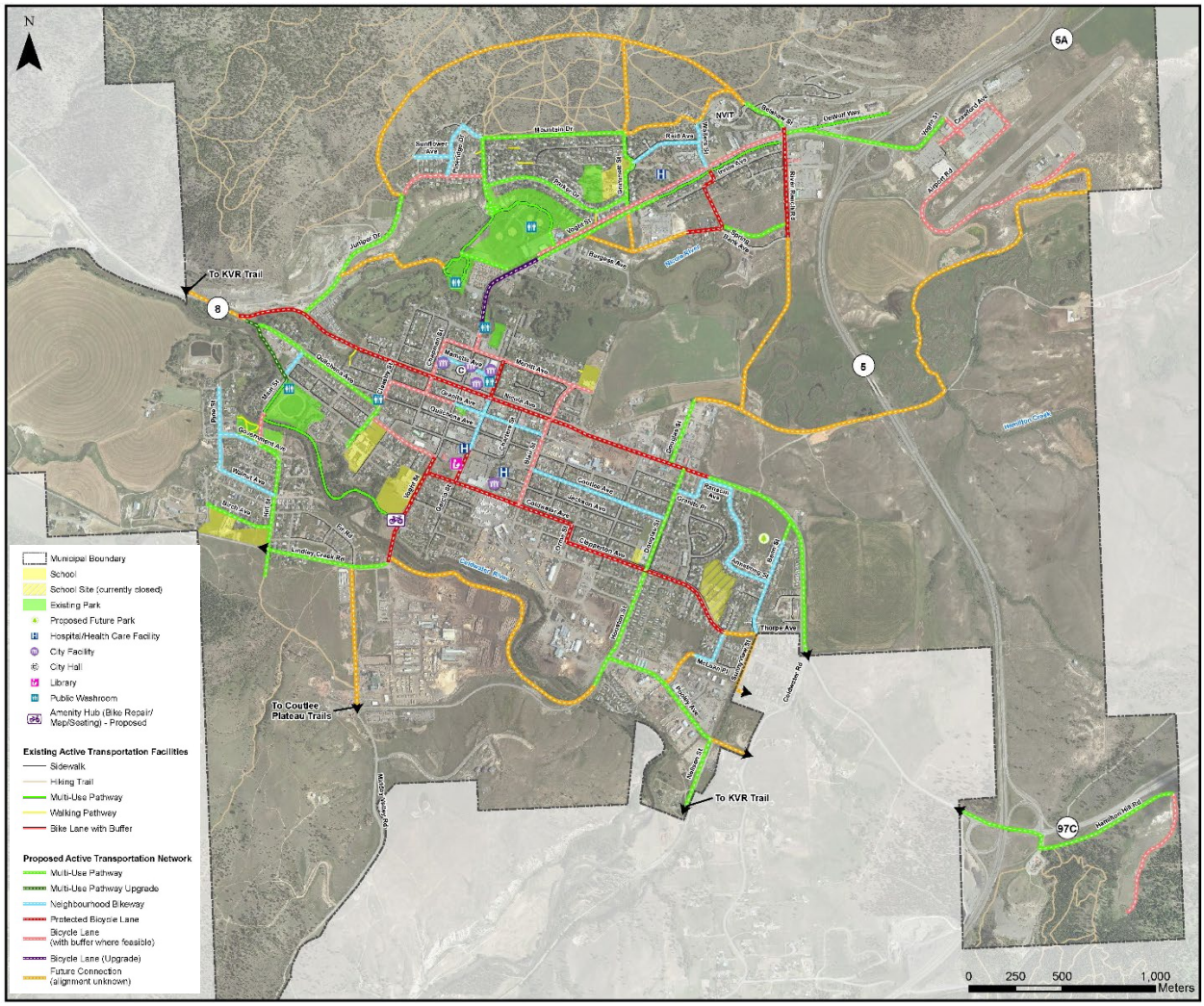


Figure 10: Proposed Active Transportation Network

Action Area 2: Integration

The integration action area seeks to seamlessly connect active transportation planning, policies, and infrastructure to other plans and projects that are happening in the City and region. This will ensure effective application of the Active Transportation Plan and efficient use of financial resources. Integration requires coordinating with other local plans to make sure that land use and transportation are integrated. Key plans such as the Official Community Plan and Our Merritt: Age-Friendly Action Plan (OCP) were outlined in **Section 2**.

Integration also means coordinating with regional and provincial levels of government to connect neighbouring communities and make it easier to walk and bike to transit. Investing in these areas will help to make walking and cycling a more practical, attractive, and convenient option for day-to-day travel.

To help integration happen, the Plan proposes establishing an internal working group at the City to make sure active transportation is top of mind during the development of all City plans, developments, and infrastructure projects. Additionally, the Plan suggests creating a reserve fund to make sure projects can get built. Projects should also integrate best practice design guidance.

Integration Actions

2.1 Work with regional partners to provide well-integrated active transportation connections to adjacent communities and regional trails. This includes conducting ongoing stakeholder meetings with First Nation communities, neighbouring municipalities, and the Thompson-Nicola Regional District, as well as meeting regularly with the Ministry of Transportation and Infrastructure to provide high quality walking and cycling infrastructure on roads under their jurisdiction.

2.2 Ensure land use policies support and encourage active transportation. This will be done by incorporating the recommendations of the Active Transportation Plan into other plans and policies, including the OCP, the Zoning Bylaw, and neighbourhood development plans, recognizing the important relationship between land use and transportation.

2.3 Ensure all new plans, projects, and developments integrate with the active transportation network. Seek opportunities to implement new pedestrian and cycling facilities in conjunction with other projects, plans, and developments. Ensure future development projects include active transportation infrastructure (including new sidewalks, bicycle facilities, multi-use pathways, and amenities) and are connected to the active transportation network in Action Area 1 above (Figure 10). Develop a list of reference criteria for reviewing new plans, developments, and infrastructure projects.

2.4 Improve transit integration by providing direct and accessible walking and cycling connections to local transit stops, regional bus connections, and the airport. Create a GIS inventory of all existing transit stops that includes information about location, shelters, seating, and accessibility (e.g., accessible landing pads, sidewalk connections, and crosswalks and curb ramps at nearby intersections). Develop a transit stop improvement program to upgrade transit stops, working towards ensuring all transit stops are accessible. Develop a prioritization matrix and build a prioritized list of transit stop improvements, focusing on providing accessibility to key destinations (e.g., places of employment, healthcare facilities, businesses, etc.). Continue to work closely with BC Transit and other partners and prioritize the implementation of active transportation infrastructure that connects to transit stops, regional bus connections, and the airport.

2.5 Create an internal Active Transportation, Trails, and Accessibility Working Group. This will ensure that representatives from across departments meet regularly to find ways to integrate active transportation in an efficient and effective manner across all municipal operations. Review existing Council Committees and consider the development of an active transportation committee.

2.6 Create a Future Alternative Transportation Infrastructure Reserve Fund. Create a unique reserve funds bylaw for "transportation infrastructure that supports walking, bicycling, public transit or other alternative forms of transportation," as outlined in the Local Government Act (LGA 906 (7)). This will ensure that funding is set aside to implement the Active Transportation Plan and other sustainable, multi-modal transportation projects.

2.7 Incorporate design best practices from the Merritt Design Guide for Bicycle Infrastructure and the B.C. Active Transportation Design Guide into the Merritt Subdivision and Development Servicing Bylaw. Review and update the Merritt Subdivision and Development Servicing Bylaw to include cross-sections and design best practices from the City's Design Guide for Bicycle Infrastructure (**Appendix D**) and the B.C. Active Transportation Design Guide. Review sidewalk requirements on roadways and update to reflect best practices in the B.C. Active Transportation Design Guide. This will ensure that all new infrastructure is built to provincial best practice standards, creating a consistent and comfortable active transportation network.

Action Area 3: Safety

Creating a safe and resilient active transportation network involves a thorough understanding of areas where safety is a concern, including intersections, crossings, and areas with poor visibility or maintenance concerns. Community input is important to understanding and addressing various safety concerns and perspectives. Improving safety can include a range of strategies, from lower speed limits and traffic calming to improved lighting and sightlines.

Additionally, there are new safety considerations due to the impact of COVID-19 on transportation. This includes physical distancing requirements, which have meant people need more space when walking, cycling, and waiting for transit. It has also changed how and when people move around a community. New funding opportunities tied to COVID-19 have been made available to implement projects that promote community resiliency.

Safety Actions

3.1 Continue to conduct safety studies of collision locations involving people walking, cycling, and using trails to understand, monitor, and address safety concerns. Review data reported to the City and collected by ICBC, the RCMP, and Interior Health to monitor collisions, near misses, and other safety concerns. Identify and implement safety mitigation measures on a case-by-case basis.

3.2 Improve safety along active transportation facilities by considering visibility, sightlines, and access where appropriate. Continue to implement the actions outlined in the Age Friendly Action Plan (Action 1.3), which called for complimentary safety improvements. Continue to audit intersections and crossings for pedestrian safety and accessibility, and make improvements as required. Develop a program to inventory and inspect crosswalks throughout the City to ensure they are well maintained, marked, and painted to enhance visibility. Ensure sightlines are unobstructed by vegetation, parking, and other potential obstructions. Provide enhanced pedestrian crossings in the City Centre and in other areas of high pedestrian activity, and identify additional pedestrian and bicycle crossings where warranted or where they connect segments of the active transportation network. Improve crossing treatments where multi-use pathways intersect with a roadway in accordance with current best practices. Inventory the location of curb ramps and accessibility features at intersections and develop a prioritization plan for enhancing existing crossings, including providing accessible curb ramps with tactile features at all intersections.

3.3 Continue to explore the feasibility of reducing speed limits, in conjunction with traffic calming and traffic diversion. Identify opportunities for installing infrastructure features such as speed humps, curb extensions, traffic circles, and traffic diversion to help reduce motor vehicle speeds and volumes.

3.4 Enhance lighting along sidewalks, pathways, trails, and intersections where appropriate. Conduct an inventory of existing lighting, including information about location and lighting type. Review lighting locations (including referencing the results of previous Merritt Business Walk Reports) to identify locations and consider the installation of more lighting where warranted. Work with BC Hydro to seek opportunities to provide additional lighting throughout the City. Ensure additional lighting is appropriate within the context, pedestrian scale, and dark sky compliant.

3.5 Track and monitor the impacts of COVID-19 and look for opportunities to create a safe and resilient active transportation network. Seek to rapidly implement projects identified in the Active Transportation Plan through tactical urbanism approaches using low cost, temporary, adjustable materials, with a goal of providing pedestrians with sufficient room to maintain proper physical distancing (2 metres). Look for opportunities to leverage COVID-19 stimulus funding to accelerate the implementation of the Active Transportation Plan.

Experience

The **Experience** theme ensures that all residents and visitors will have a comfortable, safe, and enjoyable experience when walking and cycling in Merritt. This includes designing and building accessible facilities, ensuring excellent maintenance, and providing key amenities that encourage active transportation. Specific action areas include **universal design**, **maintenance**, and **amenities**.

Action Area 4: Universal Design

Universal design is a fundamental design principle that ensures the built environment is safe and accessible for all, regardless of age, language, background, or any type of physical or cognitive impairment. Chapter B.3 of the B.C. Active Transportation Design Guide provides a more detailed overview of universal design. To understand barriers and the unique needs of all community members, its important that extra effort is made to engage equity-seeking groups as part of the planning and design process. Once their needs are identified, they should be prioritized in order to create an accessible active transportation network.

Universal Design Actions

4.1 Apply an intersectional, equity-focused lens to the planning, design, and implementation of all active transportation facilities, amenities, and programs to support equity-seeking groups. Identify and work with stakeholders, including marginalized and under-represented groups, to develop a checklist of the different lenses and factors that should be considered during the design and implementation of all active transportation facilities, amenities, and programs. Consider conducting a GIS spatial equity analysis, using Statistics Canada data, to identify areas of the City where the need for equity is greatest.

4.2 Conduct targeted communication and engagement regarding active transportation projects with equity-seeking groups to understand their unique needs and issues. Identify neighbourhoods, stakeholders, and marginalized and under-represented groups, then reach out to them and understand how they would like to be engaged. Actively involve the City of Merritt Communications Department and ensure targeted communication and engagement is conducted with groups that are typically under-represented in the planning and design process. After project implementation, monitor and check-in with equity-seeking groups to make sure the project is having the desired effect and that the design has not created unintended negative consequences for any group.

4.3 Ensure best practices in accessibility are considered for new transportation infrastructure projects. Review and revise the Merritt Accessibility Requirements for Persons with Disabilities guide to include requirements for active transportation facilities and based on input from the Age-Friendly and Accessibility Advisory Committee. Continue to ensure best practices in accessibility are considered for new transportation infrastructure projects.

4.4 Review and update pedestrian crossing times at intersections to provide adequate crossing time for all users. This includes reviewing signal phasing and considering the needs of all users, including those with reduced mobility. See Chapters B.4 of the B.C. Active Transportation Design Guide for information on accommodating various active transportation user speeds.

4.5 Reduce pedestrian crossing distances by providing narrower roads and lanes and considering curb extensions or median islands where feasible, particularly within the City Centre. This can increase pedestrian safety and comfort when crossing.

Action Area 5: Maintenance

To encourage a shift to active transportation, it is important that the active transportation network can be used year-round. This requires planning for the regular inspection and maintenance of sidewalks, bicycle lanes, and pathways, with special consideration for snow storage and removal. This also includes ensuring the active transportation network is accessible even during construction periods.

Maintenance Actions

5.1 Design active transportation facilities to provide adequate drainage, snow storage and removal, and sand and gravel removal. Follow guidance provided in the B.C. Active Transportation Design Guide and the City's Design Guide for Bicycle Infrastructure specific to maintenance considerations.

5.2 Continue to regularly inspect active transportation facilities (including sidewalks, pathways, trails, crosswalks, and bicycle facilities) to enhance accessibility and determine the need for maintenance, replacement, or new infrastructure. Make improvements as required. Additionally, continue to implement the actions outlined in the Age Friendly Action Plan (Action 1.2).

5.3 Review and update current maintenance and operating policies and procedures for active transportation infrastructure, including sidewalks, bicycle lanes, and multi-use pathways. Review existing debris, sand, gravel, ice, and snow removal requirements for walking and cycling infrastructure (including multi-use pathways) and provide additional guidance specific to on-street bicycle facilities. Consider re-prioritizing maintenance on streets with cycling facilities. Review and update procedures for maintenance and the removal of sand, gravel, snow, and ice on active transportation infrastructure, examining departmental responsibilities, employed contractors, and the existing fleet of machinery.

5.4 Ensure the City has appropriately sized equipment and operating funding to maintain all types of active transportation infrastructure. Review current maintenance funding and equipment levels required to maintain all planned and existing types of active transportation infrastructure. As more walking and cycling facilitates are installed, ensure the amount of funding available grows in accordance with the amount of infrastructure being added to the network.

5.5 Work with partners to revise and implement a sidewalk snow removal program as an incentive for able-bodied residents to help others in clearing snow. Promote the sidewalk snow removal program through the City's website and in the media in accordance with the City of Merritt Communications Plan.

5.6 Provide accessible detours for people walking and cycling during construction and maintenance. Review current construction detour policies and develop new guidelines for contractors and City departments to ensure that they represent best practice for accommodating all active transportation users during construction and maintenance.

Action Area 6: Amenities

The installation of amenities provides safety, comfort, and enjoyment to residents as part of their walking and cycling trips. This can be a combination of seating options, public art, landscaping, and waste/recycling bins to support users walking, and secure short- and long-term bicycle parking options at work or key destinations throughout the community.

The integration of public art can be a way to share community history and profile local artists. Consider guidelines for the installation of amenities as part of local projects and developments and identify an effective budgeting process to plan for these important placemaking features within the community.

Ensuring bicycle parking is provided at key destinations and as part of new developments is critical to make cycling a practical option. Updates to the City's Zoning Bylaw will help to ensure that secure bicycle parking is provided based on best practices and that accommodate various types of bicycles.

Amenities Actions

6.1 Support the installation of public amenities such as seating, landscaping, and public art. Develop guidelines for the installation of public amenities through capital projects and developments. Identify an annual budget for the installation of public amenities and consider developing a policy where a designated percentage of capital budgets for certain projects (municipal building projects, active transportation projects, parks development, and redevelopment projects) goes towards commissioning new and maintaining existing public art pieces. Develop a public art program that includes guidelines for partnering with local artists, provides opportunities for equity-seeking groups, and seeks opportunities for partnering with and celebrating the area's Indigenous Peoples.

6.2 Provide more public washrooms near walking and biking facilities. Expand on the existing network of public washrooms to make active transportation facilities more accessible for all.

6.3 Review requirements for short- and long-term bicycle parking and end-of-trip facilities. Ensure requirements support and encourage the use of e-bikes (i.e., charging and secure parking), cargo bikes, and other 'non-standard' types of bicycles. Review and update the City's Zoning Bylaw to ensure that ample secure parking is being provided based on best practices in similar communities, guidance from the B.C. Active Transportation Design Guide, and a review of existing bicycle parking utilization. Be sure to account for the space requirements for 'non-standard' bicycles. Amend the Zoning Bylaw to include guidelines for change rooms and shower facilities and include regulations or requirements for these facilities.

Short-term bicycle parking is typically outdoors and located in front of a building or within the public right-of-way**. Long-term bicycle parking** is typically indoors or covered and located within an enclosed space, making it more secure.

See **Appendix C: Bicycle Facility Design Guide** for more information on bicycle parking.

6.4 Demonstrate leadership by providing high quality bicycle parking and end-of-trip facilities at all City owned and operated facilities. Conduct an inventory of bicycle parking at City owned and operated facilities. Identify the type and quantity of bicycle parking and end-of-trip facilities required and appropriate for each of building. Ensure that the provision of both short- and long-term bicycle parking at civic facilities is generally consistent with requirements for new developments.

6.5 Develop a program to install short-term bicycle parking within the public right-of-way. Conduct an inventory of existing bicycle parking facilities within the City Centre and at other high activity locations, then develop a program to install bicycle parking in these areas. Install bicycle parking in the City Centre and at other high activity locations/destinations within the City. Ensure the program is also designed to support businesses and other partners in implementing more bicycle parking as desired. Identify an annual budget for the installation of bicycle parking facilities.

6.6 Work with partners to consider the feasibility of developing an on-street bicycle corral program on commercial streets within the existing right of way. Look for opportunities to increase on-street parking in strategic locations, working with businesses to make access more bike-friendly.

6.7 Develop a central hub for active transportation with a network map and information kiosk, protected bicycle parking, and other amenities in the City Centre. Identify a location for a central hub for active transportation. Install an information kiosk that provides covered bicycle parking, a bike repair station, maps, and information on the on-street and off-street cycling network, as well as other destinations within the city and region. Identify locations in high demand locations and as new infrastructure is installed for the installation of bicycle repair stations.

6.8 Work with event coordinators and partners to provide temporary bicycle parking at large community events (i.e., Bike Valet). Find community champions for this initiative or contract with an existing organization to ensure that supervised temporary bicycle parking is provided. Bike Valet services help make cycling a convenient alternative to driving for event participants.

6.9 Provide additional seating, end-of-trip facilities, and other amenities in parks and along pathways and trails. Install 'amenity hubs' including bicycle parking, bicycle repair stands, seating, waste disposal, and map kiosks at strategic locations in parks and/or along trails and pathways (e.g., an amenity hub is proposed for the eastern end of the Coldwater River Trail, just off Vought Street). Identify gaps between seating opportunities along key walking corridors and provide additional seating.

Culture

The **Culture** theme aims to make walking, cycling, and other forms of active transportation a fun and convenient way to travel in Merritt for all types of trips, whether it is recreation, exercise, shopping, or commuting. This includes making the street more inviting for people, making it easy to find your way, providing tips and encouragement through education and marketing. Specific action areas include **great streets**, **wayfinding**, and **education and encouragement**.

Action Area 7: Great Streets

Streets that are designed to be inclusive, attractive, comfortable, and safe for all users and all modes will encourage more people to walk and cycle. Complete street design principles can ensure that all modes are considered in the design of the roadway and public realm. Reallocating road space by transforming travel lanes or parking spaces into wider sidewalks, bicycle lanes, or public patios can transform the function and appearance of a street, creating an engaging and welcoming environment. This can have economic benefits while also creating new community gathering spaces. These transformations can be done on a temporary, seasonal, or permanent basis, and the City can work with businesses and showcase examples from other communities to build support.

Great Streets Actions

7.1 Explore the development of a Parklet/Patio Program. Work with interested businesses and other stakeholders to explore the development of a Parklet/Patio program and explore opportunities for partnership. Consider a temporary pilot project using tactical urbanism elements and temporary materials to test ideas and elicit community feedback, adapting the project as needed. Update bylaws as necessary to facilitate permanent installation.

7.2 Explore opportunities to create pedestrian-only streets, either temporarily, seasonally, or permanently. Identify potential locations and engage with businesses and stakeholders on the level of interest and support for such initiatives. Prepare case study examples and in advance of discussions.

7.3 Create a Complete Streets Guidelines for city streets. Explore best practices and existing guidance, then develop a custom approach for Merritt. Ensure that all new road projects incorporate complete streets designs and principles.

Action Area 8: Wayfinding

Wayfinding is crucial for both residents and visitors, as it helps people understand directions and distances to key destinations, features, and amenities. It also allows user to discover new routes and trails while supporting tourism. Cohesive and consistent wayfinding makes for a safer and more enjoyable walking and cycling experience for all.

Wayfinding Actions

8.1 Review and update the Merritt Wayfinding Signage Strategy to include guidance for wayfinding for active transportation and add signage as new infrastructure is implemented. Follow the direction of the updated Merritt Wayfinding Signage Strategy, which has created a cohesive brand identity for signage in the city. Monitor the implementation of new active transportation facilities and add new signage when facilities open or are updated.

8.2 Continue to update the Merritt & Nicola Valley Trail Guide to include new facilities and infrastructure. Work with partners to keep the guide up to date with information on active transportation connections to trails, amenities, and other useful information. This will ensure that more residents and visitors are able to discover the local and regional trail network.

8.3 Create online and printed Merritt Cycling Network maps showing local routes, trail connections, and regional connections, and continually incorporate new routes into the map. Developing both online and printed versions in an easy-to-read format will make the Cycling Network Map accessible to the widest possible audience, ensuring that people interested in cycling have access to the most accurate network information. Add the cycling network to the City's online GIS site and update the Cycling Network Map as new infrastructure is installed.

Action Area 9: Education and Encouragement

The actions under this area focus on finding ways to educate and encourage active transportation. Providing opportunities to practice road riding and bicycle repair skills are critical to building confidence in people of all ages. Developing a culture around education for cycling and pedestrian safety is important for building skills and creates opportunities to celebrate individual achievements and installation of new facilities, programs, and initiatives.

Promoting tourism will ensure that active transportation is promoted to both visitors and residents as a great way to explore the community and learn about local history and destinations. Collaborating with key partners will ensure that efforts in this area are a success.

Additionally, monitoring changes to walking and cycling is important to understand trends, the value of investments, and to identify priority projects. Understanding where and how many people are walking and cycling is critical to planning and fostering support for ongoing projects.

Education and Encouragement Actions

9.1 Support the development of a regional bicycle tourism initiative. Review and revise the Merritt/Nicola Valley tourism plan to include a strategy to promote cycling, hiking, mountain biking, and other activities in Merritt and the region. Continue to promote and update the existing hiking and biking resources on the City's website and social media channels. Partner with local organizations, the Thompson Okanagan Tourism Association, and Destination BC to promote active transportation options and activities for visitors. Work to encourage hotels and bed and breakfasts to invest in bicycles and umbrellas to lend to their patrons to support active transportation. Ensure all hotels and bed and breakfasts have copies of the Merritt Cycling Network Map and the Merritt & Nicola Valley Trail Guide available for distribution.

9.2 Continue to actively market and promote active transportation through various forms of media. Develop an Active Transportation Promotion and Education Strategy and implement the actions identified. This will help develop a culture of active transportation in Merritt. Consider allocating a portion of capital project funding to education, awareness, and encouragement.

9.3 Support the attraction of active transportation businesses to enhance the local cluster of businesses that provide active transportation services, products, and experiences. Actively recruit active transportation businesses to locate in Merritt, with an emphasis on tourism-related businesses such as bicycle and scooter share and mountain bike tour operators. Additional active transportation-friendly businesses include bike shops and other retail stores selling outdoor gear and accessories.

9.4 Celebrate the installation of walking and cycling facilities with grand openings and events throughout the year. Treat facility openings as a community celebration, building on the recommendations of the Active Transportation Promotion and Education Strategy. This can be done through website material, videos, posts on social media, and events that raise awareness and get people excited about the ongoing implementation of the Active Transportation Plan.

9.5 Work with partners to provide bicycle education and skills training for children, youth, and adults and promote active travel to work and school. Support the active and safe routes to school programming and initiatives and work with partners to provide bicycle education and skills training for students in elementary school. Support and encourage targeted community outreach programs for older adults. Partner with organizations in the development of road safety awareness and education campaigns for all road users.

9.6 Recruit and encourage volunteers to support active transportation related programs and initiatives. Celebrate one or more volunteers each year by interviewing them and presenting a small gift of appreciation. This will help develop community support and buy-in.

9.7 Develop an active transportation data collection and monitoring program, including a network of counters on cycling routes and trails to monitor activity. Develop an Active Transportation Data Collection Strategy and install automatic bicycle and/or pedestrian counters as part of all new infrastructure projects. Collecting data is key to understanding travel behaviours, making improvements, and showing the results of municipal investments.

9.8 Implement a reporting program to communicate results of the monitoring program on an annual basis. Develop a Transportation Report Card to track the implementation of the active transportation plan and to monitor the development of walking, cycling and transit activity in the community. Develop a five-year Active Transportation Action Plan and report on progress annually. This will build accountability into the process to ensure that the plan is prioritized by staff, elected officials, and community members.

4 Implementation Strategy

The Active Transportation Plan outlines several short- and long-term projects and policies to enhance and encourage walking and cycling in Merritt. These actions will require significant investment and coordination between municipal departments, other levels of government, and external agencies and stakeholders. An Implementation Strategy has been created to facilitate this process by identifying priorities, timeframes, and order-of-magnitude cost estimates for each capital project. The sections below provide more information on project prioritization, costs, and funding strategies.

Prioritizing Actions

Strategies for implementing each action identified in the Active Transportation Plan are outlined in Table 6 in **Appendix C**. The implementation plan outlines the following:

- **Priority and Timeframe:** Each action is identified as either short term/high priority (within 5 years), medium term (5-10 years), or long term/low priority (10 years and beyond). Many actions will be implemented on an ongoing basis. As noted above, these priorities may change over time and should be adaptable to maximize efficiencies and funding opportunities as they arise.
- **Method of Implementation:** This column identifies how each action will be implemented: as a capital project, through ongoing operations and maintenance, or as a policy or programming initiative.
- **Leadership:** Each action has been assigned one or more leaders to act as 'champions' responsible for implementation. Many actions have identified the City and a specific department as primarily responsible for these efforts, while some can be supported by external agencies or partners.

Network Prioritization

Priorities were identified for the active transportation network based on a range of factors, including:

- Focusing on a network-based approach to create north-south and east-west spines across the City and connect to existing facilities
- Connecting key destinations, including schools, parks, community facilities, and the City Centre
- Identifying lower-cost 'quick wins' for rapid implementation
- Applying input received through community engagement

Figure 11 shows the active transportation network priorities (see **Appendix E** for full size map). Network segments have been identified a high priority (implementation within 0-5 years), medium priority (5-10 years), and long-term (10 years and beyond). Certain segments have been highlighted as complex due to several factors, including facilities along provincially owned roadways, involving complex highway overpasses, or involving future land acquisition.

It is important to note that the Active Transportation Plan is intended to be a flexible, working document. The specific corridor, facility type, and level of priority may change over time as the City grows and develops. For example, if an opportunity arises to implement an action or infrastructure project identified as a longer-term priority, such as through a redevelopment opportunity or other capital project, the City should seek to maximize that opportunity. The City will continually review the feasibility and desirability of each infrastructure project regarding changes to the overall transportation network and will adapt the network as required.

The City should engage in further public consultation to implement many of the recommendations in the Active Transportation Plan. Many of the initiatives in the Plan require more detailed input, multi-jurisdictional coordination, and technical work. The City of Merritt will work closely with residents, stakeholder groups, and partner agencies to move forward with priorities identified.

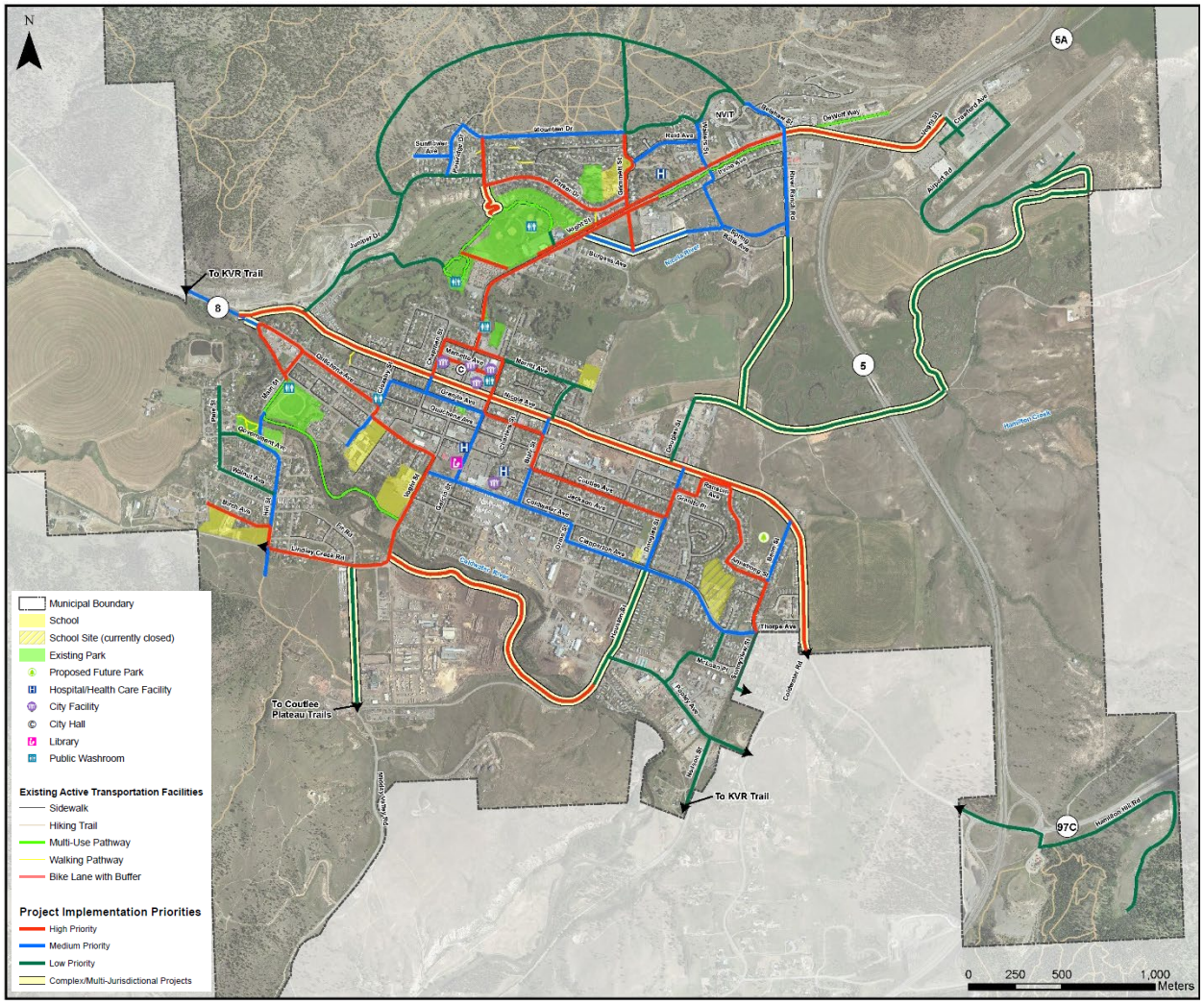


Figure 11: Active Transportation Network Implementation Priorities

Costs

Conceptual order-of-magnitude capital cost estimates (Engineering D Level estimates in 2020 dollars) for each proposed project are provided in **Appendix F**. These conceptual costs were developed based on the unit cost assumptions shown in Table 1, which represent typical unit costs and recent construction pricing in other similar sized communities in British Columbia. The cost estimates are based on retrofitting an existing right-of-way with a bicycle facility or installing a new multi-use pathway on an existing City-owned property, with minimal additional surface preparation and grading required. Any required land acquisition, structures, traffic control devices, burying hydro lines, and further engineering studies have not been included in the cost.

Table 2 provides more detailed cost estimates for protected bicycle lanes based on the type of physical separation used. Additionally, Table 3 provides cost estimates for several types of amenities, wayfinding elements, and intersection treatments. These costs are to be used to identify the relative cost between projects for planning purposes and should be refined for detailed budgeting. Projects such as intersection upgrades and grade separated crossings require a more detailed review to determine the cost for construction. As a result, the cost estimates for these projects have not been included.

Table 1: Active Transportation Facility Unit and Operating Costs

Facility Type	Capital Unit Costs	Operations Costs (includes year-round maintenance)
ON-STREET	**Cost per Km**	**Cost per Km**
Protected Bicycle Lane	$1,000,000	$60,000
Painted Bicycle Lane (Assume Painted Buffer)	$140,000	$5,000
Neighbourhood Bikeway	$40,000	$2,100
Future Connection (Alignment Unknown)	$1,000,000	$60,000
TRAILS*		
Multi-Use Trail (Adjacent to Roadway)	$800,000	$9,000
Multi-Use Trail (Off Street & Upgrade)	$550,000	$9,000

*Multi-use trail assuming 2.4-3.0 metres

Table 2: Protected Bicycle Lane Costs by Separation Type

Barrier Type	Flexible Delineator	Wheel Stop	Combined Flexible Delinator & Wheel Stop	Planter Box	Raised Median	Concrete Barrier
High-level Cost*	$180 per metre	$300 per metre	$480 per metre	Up to $1200 per metre	$1150 per metre	$700 per metre
Width of Buffer/ Space for Barrier Required	0.1m to 0.9m	0.5m to 0.9m	0.5m to 0.9m	0.25m to 0.9m	0.8m or less	0.9m or less

*Assuming uni-directional facilities (i.e., two barriers per corridor)

Table 3: Amenity, Wayfinding, and Intersection Treatment Costs

Facility	Unit Cost (Approximate)
Amenities	
Bicycle Parking	$300 to $1000
Bicycle Repair Station	$2,500 to $3,500
Benches	$500 to $1,500
Planters	$400 to $1200
Washroom (Fully Serviced)	$130,000
Wayfinding*	
Pedestrian Map Panel	$8,500 - $11,000
Pedestrian Kiosk	$18,000 - $20,000
Directional Signage	$1,800
Intersection Treatments	
Marked Crosswalk	$5,000
Rapid Rectangular Flashing Beacon	$20,000
Full Signal	$500,000
Curb Extensions	$10,000
Raised Crosswalk	$20,000

* Costs as per City Wayfinding Strategy (2017); costs may be subject to change

As summarized in Table 4 and Table 5, the total cost to implement all recommended active transportation facilities, as identified in Figure 10, is approximately **$33.5 million**. This total does not include amenities (e.g., bicycle parking, benches, public art, etc.) or the maintenance of active transportation facilities or amenities. This total also excludes other funding opportunities. Wherever possible, the City should work with other agencies and levels of governments to establish cost sharing agreements or to seek grant opportunities to off-set total project costs. Potential funding opportunities are outlined in the section below.

Table 4: Proposed Bicycle Network Breakdown (by Facility Type)

Facility Type	Length (KM)	Cost Estimate
Protected Bicycle Lane	6.8	$6,839,000
Multi-use Pathway	14.8	$11,460,000
Neighbourhood Bikeway	6.2	$262,000
Painted Bicycle Lane	8.6	$1,215,000
Future Connection (Alignment Unknown)	13.7	$13,705,000
Total	**50.2**	**$33,481,000**

Table 5: Proposed Bicycle Network Breakdown (by Priority)

Priority	Length (Km)	Cost Estimate
High Priority	19.2	$11,799,000
• *Standard*	*12.4*	*$5,528,000*
• *Complex*	*6.8*	*$6,271,000*
Medium Priority	10.3	$6,782,000
• *Standard*	9.6	*$6,142,000*
• *Complex*	0.7	*$640,000*
Low Priority	20.7	$14,900,000
• *Standard*	14.6	*$8,945,000*
• *Complex*	6.1	*$5,955,000*
Total	**50.2**	**$33,481,000**

Funding Strategies

Implementation costs for the actions listed outline in the Active Transportation Plan can be greatly reduced by securing external funding sources and partnership opportunities. This section describes some potential funding strategies and sources that the City may consider to help leverage its investments and maximize its ability to implement active transportation network, amenity, and policy improvements.

The City should regularly check with all levels of government to keep up to date on current funding opportunities. Merritt should pursue all available sources of funding for transportation facilities and programs, including the programs identified below. Note: as funding opportunities change regularly, the information in this section is subject to change.

General Revenues

Wherever possible, the City should incorporate the recommendations from the Active Transportation Plan into its financial plans to ensure that the projects are accounted for in the City's capital planning process. To accommodate this, the City may seek changes to its capital budget to fund the implementation of this plan over the medium and long term. The City should also seek to integrate transportation improvements with utility projects, parks and trails, or other capital projects.

Development

The City should leverage transportation investments through the planning process and rezoning of new development. The implementation of projects in the Active Transportation Plan can be encouraged through several developer-funded implementation tools, including public realm or frontage improvements, Community Amenity Contributions (CACs), density bonusing contributions, and requiring high-quality bicycle parking facilities in the Zoning Bylaw. Using revenues from parking cash in-lieu contributions is another mechanism to fund new active transportation and transit facilities.

The City should also consider formalizing or enhancing policies regarding developer required frontage upgrades (typically within the Subdivision and Development Servicing Bylaw), as well as exploring the opportunities of requesting CACs on a per unit basis for walking/cycling/transit infrastructure at the rezoning stage. Furthermore, the City's Development Cost Charges (DCC) Bylaw should be revised to designate funding for active transportation projects as part of all future roadway projects.

ICBC

ICBC provides funding for road improvements, including pedestrian and bicycle infrastructure, particularly where these have the potential to reduce crashes, improve safety, and reduce claims costs to ICBC. Funding is available through ICBC's Road Improvement Program. Other ICBC programs include the Speed Watch Program (through the Community Policing Centres), Speed and Intersection Safety Program, Counter Attack, Operation Red Nose and Road Sense Speaker Program for Schools. Funding is available annually, with the application deadline typically in February. More information can be found online at: www.icbc.com/about-icbc/community-relations/Pages/community-grants.aspx.

Community Support and Programs

Community groups and local businesses and organizations may also support the implementation of the Cycling Network Plan. Programs such as 'adopt-a-rack' (bicycle parking), trail maintenance and clean up, as well as bicycle training, celebration events, and parades can all be led by interested members of the community. An existing local example includes the City of Merritt Adopt-a-Road Program. Many small businesses and larger corporations also wish to be good corporate neighbours, to be active in the community and to promote environmentally beneficial causes.

Private Sector and Service Clubs

In addition to support from residents and businesses, many corporations wish to be good corporate neighbours – to be active in the community and to promote environmentally-beneficial causes. Bicycle routes and multi-use trails are well-suited to corporate sponsorship and have attracted significant sponsorship both at the local level and throughout North America. In many communities, service clubs (such as the Rotary Club) have been involved in funding and building bicycle infrastructure and facilities including pathways and bicycle parking. Regarding bicycle route maps, the City should continue to work with local business who are interested in providing advertising and therefore revenue to cover some or all the cost of advertising.

Federal Funding

Municipalities can benefit from seeking financial assistance opportunities to subsidize or cover the cost of active transportation investments. Grant and loan programs are available from various levels of government as well as other organizations.

At the federal level, there are several programs that provide funding for environmental and local transportation infrastructure projects in municipalities across Canada. Typically, the federal government contributes one third of the cost of municipal infrastructure projects. Provincial and municipal governments contribute the remaining funds, and in some instances, there may be private sector investment as well.

Green Municipal Funds

The Federation of Canadian Municipalities (FCM) manages the Green Municipal Fund, with a total allocation of $550 million. This fund is intended to support municipal government efforts to reduce pollution, reduce greenhouse gas emissions, and improve quality of life. The expectation is that knowledge and experience gained in best practices and innovative environmental projects will be applied to national infrastructure projects. The *Transportation Networks and Commuting Options* funding stream covers "Plans and Strategies, Studies, Pilot Projects, Capital Projects, Signature Initiatives." It is designed to support Canadian communities to develop transportation systems and networks that will encourage people to switch to less polluting transportation options.

FCM funding is available annually. Funding ranges from maximum $175,000-$500,000 up to 50% of eligible costs. Municipalities and partners with 20,000 people or less may quality for grants of up to 80%.

Loans between $5M-$10M cover 80% of project costs with a grant up to 15% of the loan. More information can be found online at: https://fcm.ca/en/funding.

Provincial Programs and Initiatives

Active Transportation Infrastructure Funding

The Provincial Government administers the Active Transportation Infrastructure Funding program (previously known as BikeBC). Funded projects promote active transportation to work, school, or errands. Funded projects can also generate tourism-related traffic based on their proximity to amenities and points of interest for tourists and through linkages to other communities. To ensure maximum success at obtaining grant funding, the City should have grant-ready concepts pre-developed for application.

The Province provides cost-share funding of up to $500,000 per project. Funding is offered based on applicant's community profile. Indigenous governments or partnership between local government(s) and an Indigenous government may apply for up to 80% of total projects. Municipal or regional governments may apply up to 70% of total eligible project costs depending on the community's population size. More information can be found online at:

https://www2.gov.bc.ca/gov/content/transportation/transportation-environment/active-transportation/funding/indigenous-local-governments.

Rural Dividend Program

The Provincial Government also administers the Rural Dividend Program, which is intended to help rural communities navigate changes to their economies and to recognize their contribution to the economic wellbeing of British Columbia as a whole. The Province is providing $25 million per year for four years to assist communities with fewer than 25,000 residents. The program funds a diverse range of projects that help build community capacity, develop the workforce, and promote community, economic and business sector development. The Rural Dividend Program is provided through the Ministry of Forests, Lands and Natural Resource Operations. This program is typically available each year, but it is currently suspended. It is recommended that the City stay up to date with this program should it reopen. More information can be found online at:

https://www2.gov.bc.ca/gov/content/employment-business/economic-development/support-organizations-community-partners/rural-economic-development/rural-dividend?keyword=culture

Investing in Canada Infrastructure Program - BC: Covid-19 Resilience Infrastructure Stream (CVRIS)

The Covid-19 Resilience Infrastructure Stream (CVRIS) supports infrastructure projects that provide retrofits, repairs and upgrades to local government and indigenous buildings; support development of active transportation networks; allow communities to improve their infrastructure to increase the resiliency and efficiency in preventing the spread of COVID-19 (including protective screens and measures to support physical distancing); and complete disaster mitigation and adaptation infrastructure projects. Examples of eligible projects include parks, trails, foot bridges, bicycle lanes, multi-use pathways, and street and park furniture.

Funding covers up to 100% of eligible costs to a maximum of $10,000,000. The application deadline for this program is January 27, 2021. More information can be found online at:

https://www2.gov.bc.ca/gov/content/transportation/funding-engagement-permits/funding-grants/investing-in-canada-infrastructure-program?keyword=culture

Union of BC Municipalities – Age-friendly Communities

The Age-friendly Communities program assists communities in BC to support aging populations by developing and implementing policies and plans, undertaking projects that enable seniors and Elders to age in place, and facilitating the creation of age-friendly communities. Project examples include active transportation planning, increased community accessibility, and some minor capital expenditures. Funding is available annually and grant cover up to 100% of eligible costs to a maximum of $25,000. More information can be found online at:

https://www.ubcm.ca/EN/main/funding/lgps/age-friendly-communities.html

Union of BC Municipalities – Community Works Fund

The Community Works Fund is one of three funding streams of the Renewed Gas Tax Agreement between Canada, British Columbia, and the Union of BC Municipalities. The fund provides predictable, long-term and stable funding to local governments for investment in infrastructure and capacity building projects. Project examples include public transit, active transportation, parks, trails, bicycle facilities, cultural infrastructure, and long-term infrastructure plans. Funding is delivered twice annually to local governments, with the amount of funding determined by a per capital formula. More information can be found online at:

https://www.ubcm.ca/EN/main/funding/renewed-gas-tax-agreement/community-works-fund.html

Southern Interior Development Initiative Trust (SIDIT) – Community Works Fund

The Southern Interior Development Initiative Trust (SIDIT) supports strategic investment in economic development projects in BC's Southern Interior, with the objective helping to grow and diversify the area's economy. In 2021-22, SIDIT will be focused on five priority areas: building economic development capacity, supporting business resilience and growth, developing human capital, innovating and advancing key sectors, and creating value for the economic development ecosystem. SIDIT is transitioning to new granting parameters and processes and will be launching a pilot funding project in 2021. More information can be found online at:

https://sidit-bc.ca/apply-funding/

5 Closing

The Active Transportation Plan provides a comprehensive approach to guide Merritt's progress and investments in walking and cycling over the next 20 years. This includes recommendations for improving active transportation-related policies, standards, infrastructure, and programs over the long-term, along with priorities over the short- and medium-term.

The Active Transportation Plan is just one step towards implementing the vision for walking and cycling in Merritt, and it is not the last. The themes and actions identified in the Plan are intended to lay the groundwork for implementation over the long-term. However, it is important to recognize that implementation will require investment and resources. This includes investments in new infrastructure, upgrades to existing infrastructure, ongoing maintenance of existing and new facilities, resources for development of new standards and policies, funding for new programming and public education, and staff resources. It will also require ongoing coordination between local planning processes and between various stakeholders and levels of government, especially when it comes to implementing inter-jurisdictional projects.

The Active Transportation Plan has been developed based on extensive technical work and engagement with the Merritt community over an 8-month period. Through this public engagement process, hundreds of community members provided input into the development plan at various phases. The City of Merritt would like to thank all community members for their participation in the process and their valuable input developing the Active Transportation Plan.

Appendix A

Existing Conditions Summary

City of Merritt Active Transportation Plan

Existing Conditions Summary

July 2020

Merritt
FLOURISH UNDER THE SUN

Contents

1 Introduction

The City of Merritt is a vibrant community of 7,722 residents in British Columbia's picturesque Nicola Valley. The City sits at the confluence of the Nicola and Coldwater rivers, within the traditional unceded territory of the Nlaka'pamux and Syilx. Merritt serves as a regional hub to the Nicola Valley, offering access to nature and recreation, public services, education, health care, employment, social support, and many other benefits. The City boasts a favourable climate, including mild winters with little snowfall and warm, dry, sunny summers with long hours of daylight, creating ideal conditions for walking, rolling, and cycling.

The City of Merritt is committed to improving walking, biking, and other active mobility options. Merritt is now creating an Active Transportation Plan that will provide direction for City staff to develop a well-connected, attractive trails and cycling network that is safe, convenient, and user-friendly, no matter what mode of transportation people use. This Existing Conditions Summary is intended to set the stage for the development of the Active Transportation Plan.

What is Active Transportation?

Active transportation includes any form of human-powered transportation, such as walking, cycling, or rolling using a skateboard, in-line skates, scooter, wheelchair, and other modes. It may also include winter-based active modes (e.g. cross-country skiing and snowshoeing), water-based active modes (e.g. canoe, kayak, and stand-up paddle boarding), and even horseback riding. There are also several new and emerging transportation modes that can fit in this category and may use the same trails and pathways, such as e-scooters, electric skateboards, and other small, one-person electric vehicles.

The focus of the Merritt Active Transportation Plan is on people walking, rolling, and cycling. This includes people of all ages and abilities using a variety of mobility devices (e.g. walkers, wheelchairs, and mobility scooters) and bicycle types (e.g. bicycles with trailers, e-bikes, bicycles built for people with mobility challenges, and others). Considering all these active modes is crucial when planning the overall transportation network.

Active transportation facilities should be comfortable, convenient, safe, and attractive for everyone, regardless of age or ability. This is often referred to as All Ages and Abilities (AAA) facilities. Planning and designing for people of all ages and abilities is a national and international best practice that should be aspired to for all active transportation facilities in Merritt.

1.1 Study Purpose and Objectives

The Active Transportation Plan will provide a course of action that reflects the community's priorities and available resources. The Plan will focus on the cycling network in Merritt, looking at trails and off-street pathways as well as potential on-street bicycle facilities. It will also provide recommendations for making the City safer and more comfortable for people walking and rolling. The goal is to make Merritt even more sustainable, dynamic, equitable, and inclusive for people of all ages and abilities.

Key objectives include:

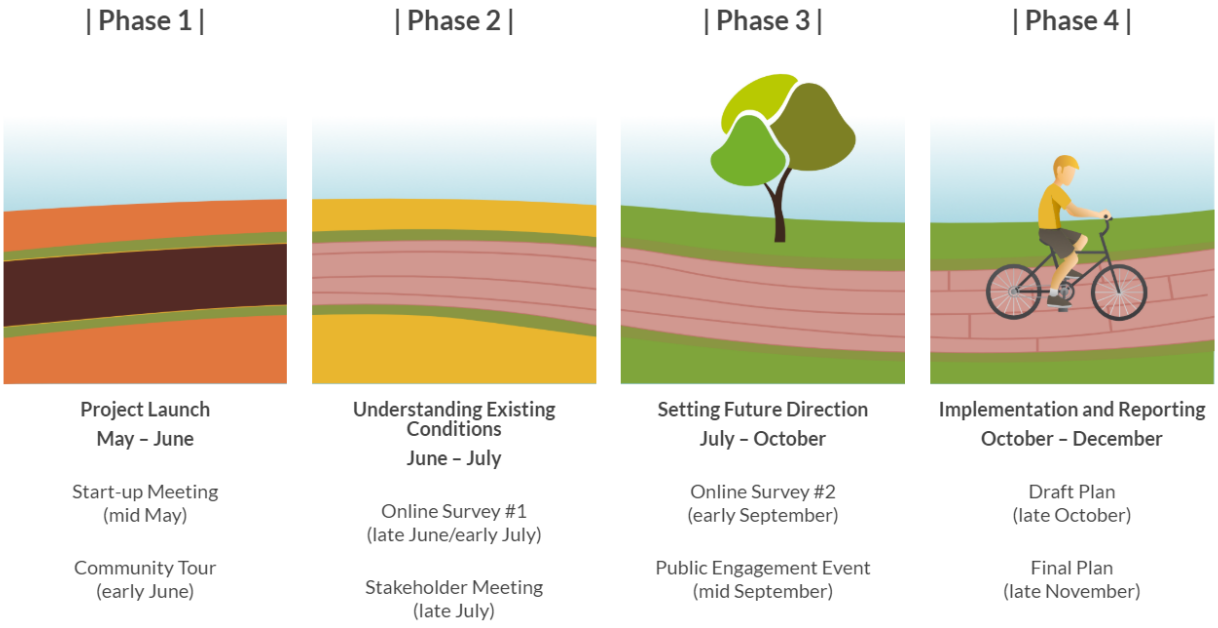
- Outlining strategies, recommended infrastructure, policies, and education to help enable and encourage active transportation as preferred modes of transportation.
- Preserving and enhancing cycling and walking trails along the Nicola and Coldwater Rivers, and connecting to the regional cycling network including the Kettle Valley Railway Corridor and nearby mountain biking trails.
- Connecting existing trails with neighbourhoods and key destinations within the City and ensuring cycling and trail infrastructure is integrated into new developments.
- Promoting safe and connected active transportation routes in the city centre to provide greater transportation options.
- Looking for opportunities to promote cycle tourism and other ways to promote and strengthen the City's economy, including revitalizing the downtown.
- Encouraging a healthy lifestyle by providing active transportation infrastructure and promoting cycling as a form of transportation and recreation.

1.2 Study Process

The Active Transportation Plan is being developed over approximately six months and involves four phases, as described below.

- **Phase 1: Project Launch (May - June 2020).** This phase involved the project kick-off meeting between City staff and the consultant team, collecting and reviewing background information and data, and conducting a community tour to explore existing conditions. This also included preparing a communications and engagement strategy for future phases of the planning process.
- **Phase 2: Understanding Existing Conditions (June - July 2020).** This phase focused on understanding the existing state of active transportation in the City, including a review of existing related policy documents, policies, and facilities, as well as engaging with the public to better understand existing issues and opportunities related to active transportation.
- **Phase 3: Setting Future Direction (July – October 2020).** This phase will focus on exploring possibilities for the future of active transportation in Merritt. This includes confirming the Active Transportation Plan's vision, goals, and key principles. It will then develop a draft active transportation network and identify policies and programs to enhance active transportation for all. Community and stakeholder engagement will take place to develop ideas and review the draft content.
- **Phase 4: Implementation and Reporting (October - December 2020).** This phase will involve refining and prioritizing the draft content presented in Phase 3 and developing an Implementation Plan, including identifying project costs and funding strategies. A final Active Transportation Plan document will be created and then presented to City Council for approval.

This Existing Conditions report summarizes the findings of the first two phases of the Active Transportation Plan process.



1.3 Communications and Engagement

An effective and meaningful communications and engagement strategy is critical to the success of the Active Transportation Plan. The City is keen to hear from a range of voices so that the final Active Transportation Plan is inclusive, forward-thinking, and reflects the needs and desires of the community. During Phase 2 of the planning process, Merritt residents were invited to provide input on the challenges they face when using active modes of transportation in Merritt, as well as the opportunities for improvements.

Engagement was initially scheduled for June and September. With the ongoing COVID-19 pandemic and the need for physical distancing, engagement activities in June were held virtually through an online survey and social media dialogue. The online survey was available through the City's website and promoted heavily through social media and other marketing tactics from June 19 to July 8, 2020. In total, 164 responses were collected. A separate Communications and Engagement Summary report has been created to outline the detailed engagement results (see **Appendix B**).

2 Setting the Context

This section describes key community features in Merritt that are relevant to the Active Transportation Plan. Understanding the geographic, demographic, and policy influences on walking, rolling, and cycling in Merritt will ensure the development of a Cycling Master Plan that meets the community's needs.

2.1 Benefits of Active Transportation

Promoting and providing more opportunities for active transportation can play an important role in enhancing the community's health, environment, and economy. It also ensures community members can safety move in and around Merritt. Key benefits of active transportation include:

- **Health Benefits:** Walking and cycling are some of the easiest and most affordable ways for people in Merritt to add exercise to their daily routines. Investing in active transportation has been shown to create more physically active communities, which can in turn improve psychological well-being, prevent weight gain and obesity, and reduce the risk of numerous chronic diseases.
- **Safety Benefits:** Properly designed active transportation facilities that provide dedicated spaces for active transportation users and make people more visible within the roadway have the potential to reduce the risk of collisions, creating a safer transportation system for all road users. Roads designed for slower motor vehicle speeds have been shown to decrease the probability of serious injury and death for active transportation users, and they are much more comfortable for people walking, rolling, and cycling.
- **Economic Benefits:** Neighbourhoods and destinations that are attractive and accessible for people walking and cycling can attract more visitors, who will in turn be patrons of local services and amenities. Investing in active transportation can result in a more balanced transportation system that is cost-effective and more equitable, making sure that people of all socioeconomic backgrounds are able to travel safely throughout the City.
- **Environmental Benefits:** Transportation is one of the largest contributors to greenhouse gas emissions in the province, with motor vehicles the main culprit. Active transportation can help to lower emissions while also reducing air pollution and motor vehicle congestion.
- **Societal Benefits:** Active transportation encourages social interaction, helping to build trust, respect, understanding, and a sense of co-operation amongst community members. Studies have shown that these important social interactions diminish when motor vehicle volumes increase and walking infrastructure decreases. These interactions are vital for people of all ages and abilities.

2.2 Community Profile

Merritt serves as a regional hub for the Nicola Valley, offering a diverse array of services and opportunities for residents, businesses, and visitors. Forestry, agriculture, ranching, and mining traditionally formed the backbone of the economy, but the City's diversifying economy now includes growing retail, high-tech, and tourism sectors. The City works closely with its neighbouring First Nations and is home to the Nicola Valley Institute of Technology (NVIT), BC's only Indigenous public post-secondary institution, which draws in students from across the province.

Demographics

Merritt is a diverse community of 7,722 people. According to Statistics Canada, the City grew by only 0.4% between 2011 and 2016, which is less than the Thompson-Nicola Regional District (TNRD) growth rate of 3.3%. In recent years however, the number of building permits and development applications for housing has increased and the City's population has grown.

The average age in Merritt is 43.9, which is nearly identical to the TNRD average of 43.3. Approximately 16% of Merritt's population are under the age of 15, while 22.5% are over 65 – slightly higher than the TNRD average of 20%. This means that about 39% of Merritt's population is either too young to drive or are seniors. Each of these groups benefit from safe and convenient alternatives to driving. Walking and cycling can provide a range of independent mobility options for those who do not have access to motor vehicles.

In 2016, 51% of Merritt's population was female and 49% were male. About 23% of Merritt's population identified as Indigenous, and another 10% were immigrants. Furthermore, over 17% of the population were considered low income in 2015.

Understanding community demographics is important for creating an equitable transportation system that is safe, comfortable, and accessible for all, regardless of their identity. It is especially important to focus on centering equity and supporting marginalized populations, which may include, but are not limited to, the following:

- Women
- Seniors
- The Black, Indigenous, and People of Colour (BIPOC) community
- Immigrants and refugees
- The 2SLGBTQ+ community
- People who are socio-economically disadvantaged
- People experiencing homelessness
- People experiencing addiction

Marginalized populations face unique and intersecting challenges when navigating the transportation system, including the threat of discrimination and violence. They may be uncomfortable walking, rolling, and cycling due to personal safety concerns. These populations – especially seniors and the BIPOC community – also tend to be overrepresented in traffic fatalities and serious injuries.

Additionally, these populations may not have the same level of access to motor vehicles or transit. Transportation costs are second only to housing as a percentage of household spending in North America, and transportation spending is disproportionately high among low- and moderate-income families. This lack of access to transportation services can limit individual economic development and cause social exclusion. Active transportation is an affordable transportation option that can help all residents participate fully in society, as long as their personal safety needs are met.

Land Use

Merritt is a compact community covering an area of 26 square kilometres. The City's relatively flat topography – aside from the steep hillsides – and it's compact form make it idea for active transportation.

A community overview with land use designations is shown in Figure 1. The City's 2011 Official Community Plan (OCP) – which is currently being updated – divides Merritt into eleven sectors. The City has two primary commercial areas – the main City Centre downtown and the service district in the Voght Street/North Entry sector, on either side of the Coquihalla Highway interchange. The Walmart Supercentre on the east side of the Coquihalla Highway is an important destination. The Voght Street/North Entry sector is also home to the Nicola Valley General Hospital.

Downtown Merritt is defined by walkable local streets with a 'small town' feel and a distinct country character, with deep connections to ranching. The City Centre includes several key destinations that generate active transportation trips, including City Hall, the library, Nicola Valley Memorial Arena, and various health services. The City is prioritizing revitalizing the City Centre and promoting tourism.

Residential sectors containing several schools surround the City Centre. A belt of parks, natural grassland, and ranchland dominate the eastern part of the City, running along the Nicola River. Popular parks such as Central Park and Rotary Park, as well as the Merritt Golf and Country Club, sit just north of the City Centre. Central Park contains a skateboard park, a multi-use sports box, and the Rotary Bike Park, a popular pump track that attracts cyclists – especially children – from across the City.

South of the Coldwater River, there is a residential neighbourhood called Collettville and industrial land, including the Merritt Green Energy Plant. Another strip of industrial land runs along the north side of the Coldwater River.

The East Merritt/Diamond Vale sector southeast of downtown has a mix of residential, commercial, and industrial lands. This sector of the City is lacking in community amenities, including parks and greenspace. Other sectors of the City are also lacking in amenities, which will be examined as part of the OCP update.

The benchlands to the north of the City comprise a growing residential neighbourhood, NVIT, and a hillside filled with grasslands, forest, and trails. The North Bench Neighborhood Development Plan is currently being developed. Most of the existing residential land use in this neighbourhood is lower density single family, however the OCP identifies higher density future developments. The City is ensuring that existing hillside trails remain in place. New developments in the southern parts of Merritt are also being planned around existing trails to ensure that residents maintain access to these valuable community amenities.

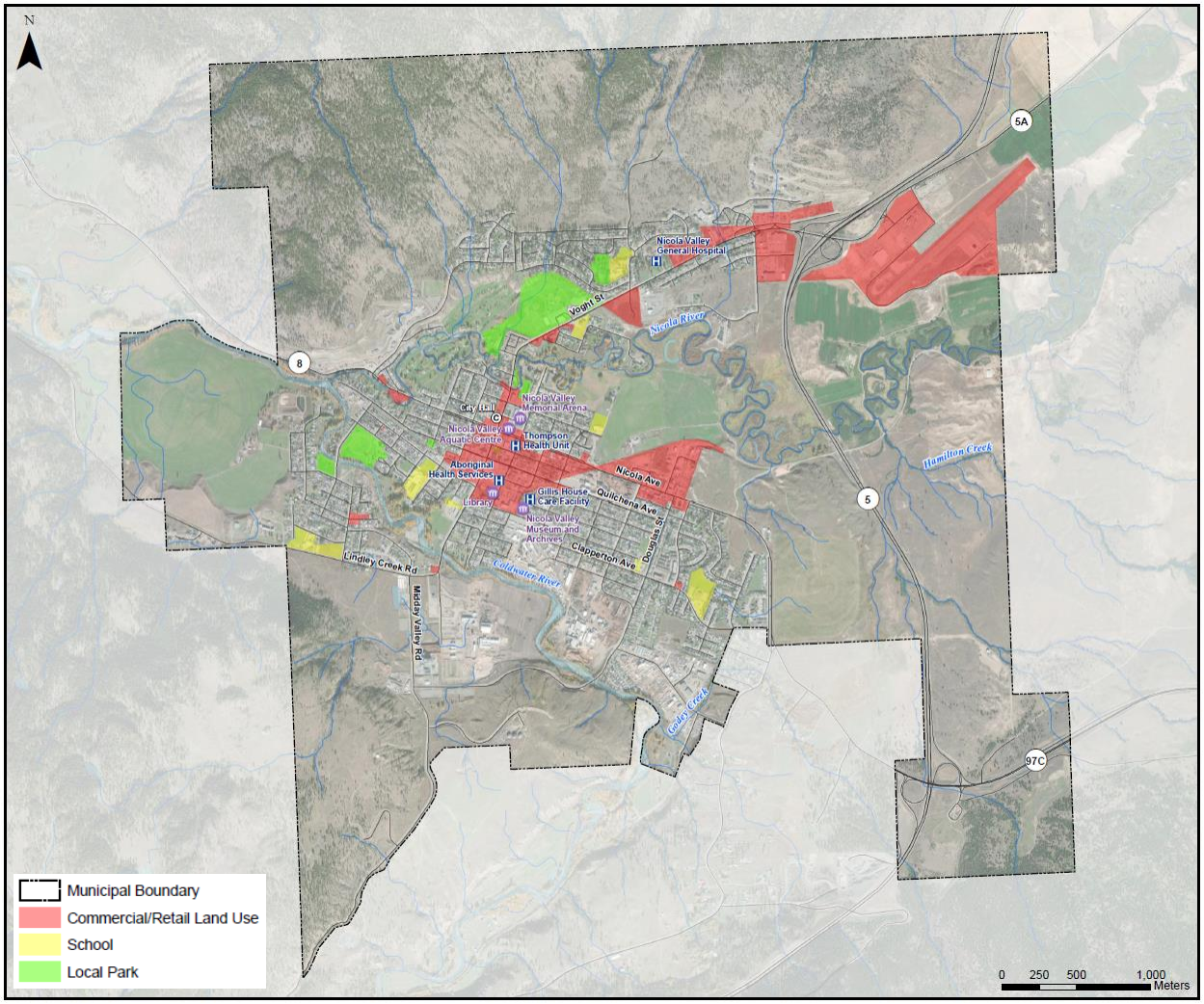


Figure 1: Merritt Community Overview and Land Use

Barriers

Merritt's geography leads to physical barriers that create mobility challenges for people walking, rolling, and cycling (see Figure 2). The Coldwater and Nicola rivers form north-south barriers as they snake through the City. There are limited crossings of each river, and many of these crossings are narrow and missing safe and comfortable active transportation facilities.

The highways and major arterial roadways can also be challenging to cross and travel along for active transportation users. Highway 5 (Coquihalla) runs along the eastern edge of the City but acts as a major barrier to the commercial area along Crawford Avenue next to Merritt Airport, which also contains the bus terminal for Merritt's regional bus service, operated by Ebus. Nicola Avenue and Voght Street are major arterial routes that run through the City. The high motor vehicle volumes and speeds along with a lack of comfortable walking and cycling facilities on these roadways creates a disconnect between different sectors of the City.

The surrounding hillsides and ranchland also serve to define movement patterns in the City, with the topography of the slopes in the benchlands area create a potential barrier for some users.

Finally, there can be a psychological barrier to the uptake of cycling in Merritt. Cycling is sometimes perceived as a last resort, reserved for those who cannot afford to drive. This negative perception needs to be addressed for cycling to become a more common choice for daily trips and commuting. The City is working on addressing this barrier through educational and promotional events, including past events such as Bike to Work Week.

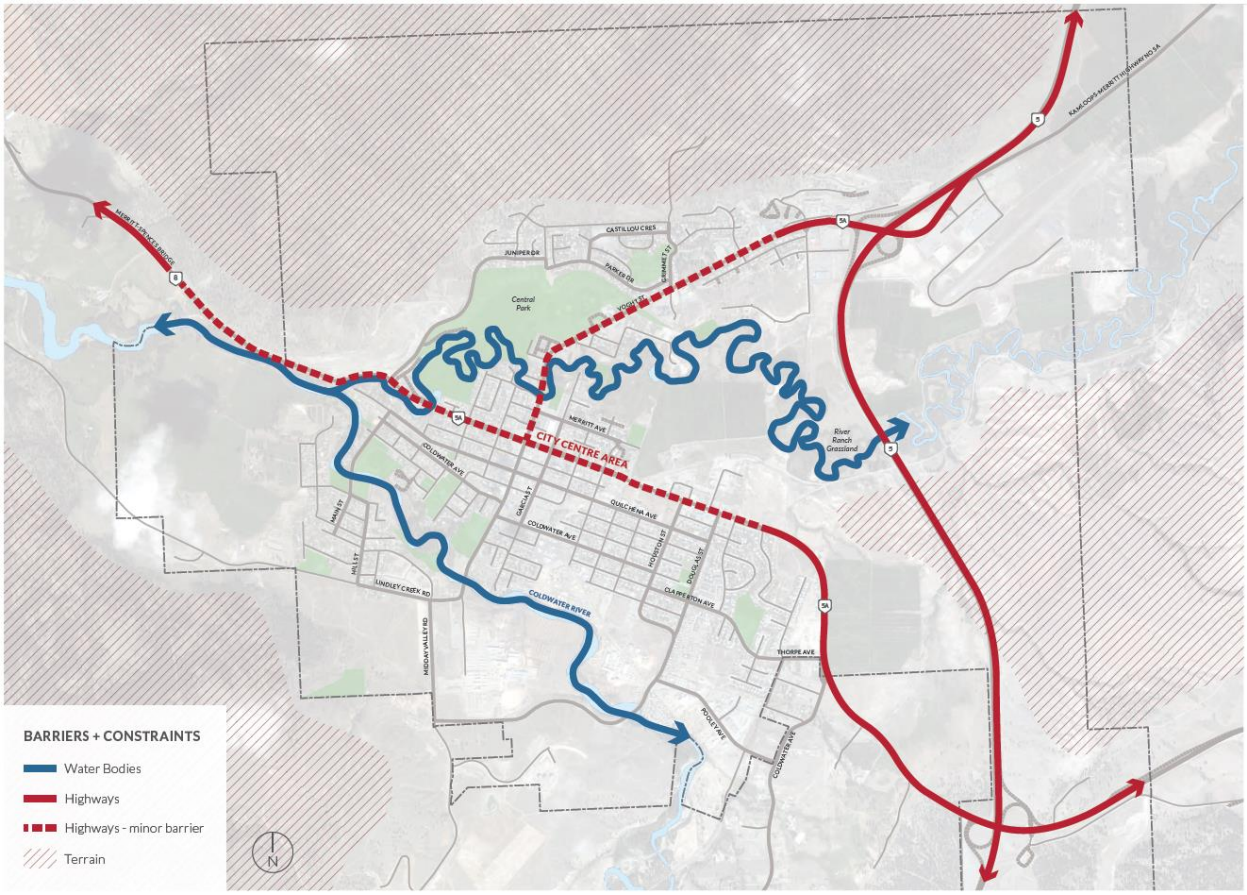


Figure 2: Barriers and Constraints (Source: Merritt Wayfinding Signage Strategy)

2.3 Related Programs and Policies

Several of the key plans and policies that are guiding Merritt's development and growth highlight the role active transportation plays in maintaining a healthy and sustainable community. The following policies, plans, bylaws, and initiatives were reviewed to help inform the development of the Active Transportation Plan.

Official Community Plan (OCP) - (2011)

The City's current OCP has several sections and policies that touch on active transportation and promoting more walking and cycling in Merritt. The community vision has a component that speaks to residents and visitors being able to move freely through the City by walking and cycling both on streets and trails. It also speaks to connections to regional trails and access to outdoor recreation. Some of the specific transportation related policies focus on the need to implement new and upgrade existing streets, pathways, and trails to facilitate safe and efficient movement of people throughout the

community. It highlights the need to install new sidewalks and enhance existing infrastructure to ensure they are accessible to all. It also identifies developing a city cycling and pedestrian trail plan that connects all neighbourhoods to downtown. In the spring of 2020, the City initiated an update to the OCP. The recommendations of the Active Transportation Plan will be incorporated into the OCP update.

Parks, Recreation, and Culture Master Plan (2017)

The Parks, Recreation and Culture Master Plan provides direction to the City regarding park use, facilities, and services. The plan's vision focuses on providing a system of inclusive, accessible, and diverse parks, trails, recreation, and cultural opportunities, which promote a healthy and active lifestyle for residents and attracts visitors. The plan notes that through discussions with community members and stakeholders, trails are considered a priority for residents and the use of trails is a popular recreational activity. The plan has several recommendations and a proposed trail network that will be reviewed and incorporated into the Active Transportation Plan.

Zoning Bylaw (2015)

The Zoning Bylaw includes bicycle parking space requirements based on building use and size. Requirements are included for both short-term and long-term bicycle parking as part of new developments. The number of bicycle parking spaces depends on the class of building. The City has completed a draft update to the Zoning Bylaw which includes updated requirements for bicycle parking and includes parking guidance on electric mobility scooters, e-bikes, push scooters, and similar active transportation modes.

Short-term bicycle parking is typically outdoors and located in front of a building or within the public right-of-way.

Long-term bicycle parking is typically indoors or covered and located within an enclosed space, making it more secure.

Traffic Bylaw (2008)

The City's current Traffic Bylaw identifies an area within the downtown where people on roller skates, inline skates, skateboards, foot-propelled scooters, and other small apparatuses are not permitted. It also notes that no person shall ride a bicycle on a sidewalk or walkway. It does note that light carriages, and chairs that are for children or used as mobility aids can be operated in a bikeway.

City Centre Improvement Plan (Updated 2008)

The City of Merritt completed the "City Centre Improvement Plan" in July 2005 and it was updated in 2008. The plan highlights the opportunities and barriers for enhancing active transportation within the City Centre including, walking tours, adding bicycle parking, furnishing features, streetscape enhancements, and sidewalk upgrades (widening and adding a boardwalk style esthetic). It also recommends investigating the potential for a downtown staging and a service point for touring on the KVR trail.

Other City plans that were reviewed as part of the existing conditions review include the:

- City Centre Asset Inventory Plan (under development)
- Housing Needs Assessment (under development)
- Thriving Communities (2020)

- Tourism Inventory Report (2018)
- Wayfinding Signage Strategy (2017)
- Age Friendly Action Plan (2016)
- Economic Development Action Plan (2015)
- Integrated Growth Strategy (2010)
- Voght Corridor Traffic Study (2005)
- Subdivision and Development Servicing Bylaw (1987)

The City also has several programs, facilities, and information available that support active transportation, such as participating in Bike to Work and Bike to School Week, the Rotary Bike Park, the promotion of mountain biking and hiking, and providing some short-term bicycle parking within the downtown.

Regional Plans and Studies

There are also several regional plans and documents that were reviewed to understand existing conditions and will be incorporated into the Active Transportation Plan. Many of these documents highlight the importance of promoting more transportation options. This includes promoting walking, cycling, and trail infrastructure to provide more recreational and tourism opportunities, and promoting more transportation events. The plans reviewed include:

- Climate Action Revenue Incentive (CARIP) Public Report from 2018
- Adventure Tourism Strategy for BC (2017)
- Value of Tourism, BC | 2007-2017 (2017)
- Wayfinding Strategy Report (2015)
- Mountain Bike Tourism BC (2015)
- Nicola Valley Tourism Plan (2014)
- Tourism Plan for Merritt and Nicola Valley (2014)
- Thompson Nicola Regional District's Growth Strategy (2013)
- Trail Strategy for BC (2012)

3 Active Transportation in Merritt Today

This section describes existing conditions in Merritt, including travel patterns, infrastructure, and key issues and opportunities.

3.1 Travel Patterns

Understanding the existing travel patterns in Merritt will allow for the development of an Active Transportation Plan that meets the context and needs of the community.

Mode of Travel

Merritt's compact community core means that most residents commute relatively short distances (15 minutes or less) to work and school. Based on Canadian Census Journey to Work census data from 2016, approximately 12% of residents in Merritt travel by foot to work and/or school, while 2% travel by bike (Figure 3). This does not take into consideration the number of trips made for recreational purposes, errands, and other daily tasks.

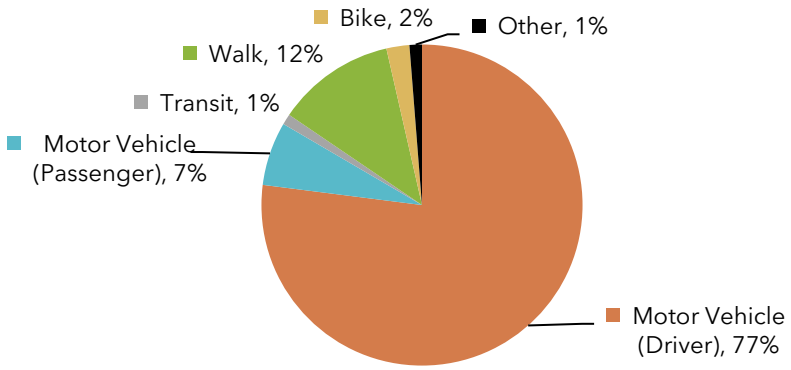


Figure 3: Journey to Work Mode Share, 2016 (Source: Statistics Canada)

In addition to Census Data, information collected through public engagement conducted in the first phase of the project (June-July 2020) has led to a greater understanding of travel patterns in Merritt. Survey respondents were then asked to specify their typical pre-pandemic mode of transportation for their daily needs, such as going to work, school, an appointment, or picking up groceries. As shown in Figure 4, more than 75% of respondents drive alone as their main mode of transportation. Transit was also provided as an option; however, those who participated in the survey did not choose this mode of transportation as their typical mode.

Weather is known to influence transportation mode choice, especially regarding active transportation. Over half (58%) of respondents noted that weather does not influence the mode of transportation they use, which may reflect the high percentage of respondents that typically drive.

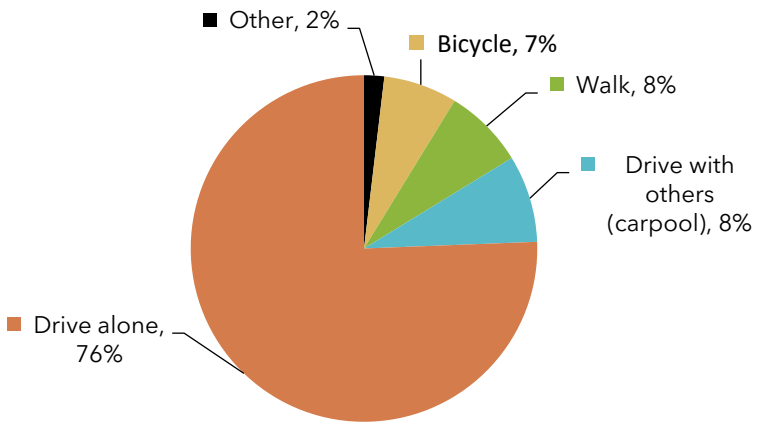


Figure 4: Typical Commuting Mode, pre-COVID-19 Pandemic (Source: ATP Survey)

Impact of COVID-19 on Travel Patterns

It is important to note that the ongoing COVID-19 pandemic represents a serious new public health challenge that has impacted travel patterns in communities around the world, including Merritt. During the height of the pandemic in spring 2020, regular travel patterns were disrupted as people stayed home for all but the most essential trips, with many people still working or attending school virtually as part of the 'new normal'. As a result, many of the survey questions asked participants to consider their transportation patterns before the pandemic began.

With COVID-19 impacting individuals in different ways, it was important to understand whether Merritt residents have changed their transportation habits because of the pandemic. The majority of those who participated in the survey (73%) indicated that their typical transportation habits have not changed because of the COVID-19 pandemic.

Those who answered yes were asked to specify how their transportation habits have changed. In total, 44 respondents provided a response, with 45% indicating that they are driving and commuting less due to working at home. Respondents also noted they have been walking, running, hiking, and cycling more (36%), and others have limited their travel outside of their home to only necessary trips (16%).

Trip Purpose and Frequency

People walk, roll, and cycle in Merritt for a variety of reasons and to many different destinations. According to the ATP survey, residents choose to bike for exercise (64%), to have fun (51%), and to enjoy nature, parks, and trails (49%). A quarter of respondents cycle to work or school, while 24% access shops, restaurants, or services by bike. The survey found that 30% of respondents ride a bicycle 1-4 days a month and 24% ride 1-3 days per week, while only 4% of respondents identified as daily bicycle riders. Approximately 32% of respondents never ride a bike.

The survey found that exercise (82%), enjoying nature, parks, or trails (69%), and spending time with family or friends (60%) were the most popular reasons for walking. Importantly, over half (54%) of respondents walk to access shops, restaurants, or services, while another 24% indicated that they commute to work or school by foot. About 37% of respondents walk daily, compared to 12% who either never walk or walk only a few times a month.

Survey respondents were also asked how they currently use Merritt's existing trail network, with walking or hiking listed as the most popular reason (76%). Enjoying nature/wildlife (44%), biking (43%), accessing a park (42%), and spending time with friends and family (42%) were also popular activities among respondents. The survey found that trails were used more frequently for recreation purposes than commuting.

3.2 Existing Transportation Network

Merritt's existing transportation network, including its roads, active transportation facilities, transit network, and end-of-trip facilities, are summarized below. Safety considerations are also outlined below.

Existing Road Network

Merritt's road network consists of a series of local, collector, and arterial streets, in addition to a provincial roadway that bisect the City. Figure 5 identifies the major roadways in Merritt. There are limited road connections to the North Nicola, Bench, and North Entry areas. Voght Street serves as a primary north-south connector, while Nicola Avenue is the primary east-west connector.

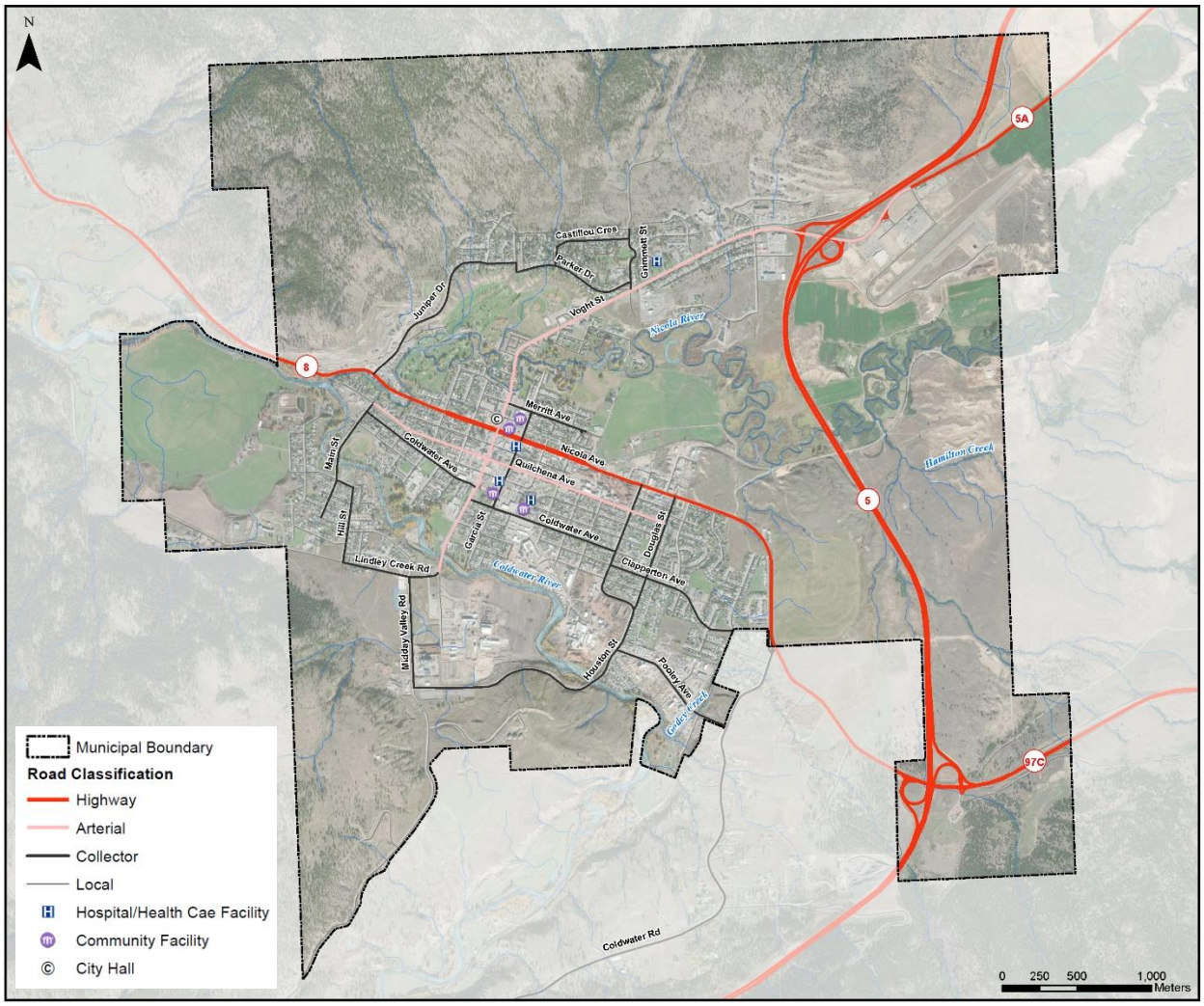


Figure 5: Road Classification

Existing Active Transportation Network

Merritt's existing active transportation network consists of sidewalks, multi-use paths, walking paths, and trails (Figure 6). Table 1 shows the total length and percentage of each active transportation facility. Merritt has over 36 km of sidewalks, with good coverage in the City Centre and portions of East Merritt/Diamond Vale. However, there are significant gaps in the sidewalk network, with some neighbourhoods lacking sidewalks on one or both sides of most roads.

There are currently no on-street bicycle facilities in Merritt, with cyclists having to share the lane with motor vehicles or use the 3.6 km of multi-use trails through Central Park and along the Coldwater River. The City is currently constructing painted bicycle lanes along Voght Street, which would tie into the existing multi-use pathway on Voght Street and connect the North Entry and North Bench areas to the City Centre.

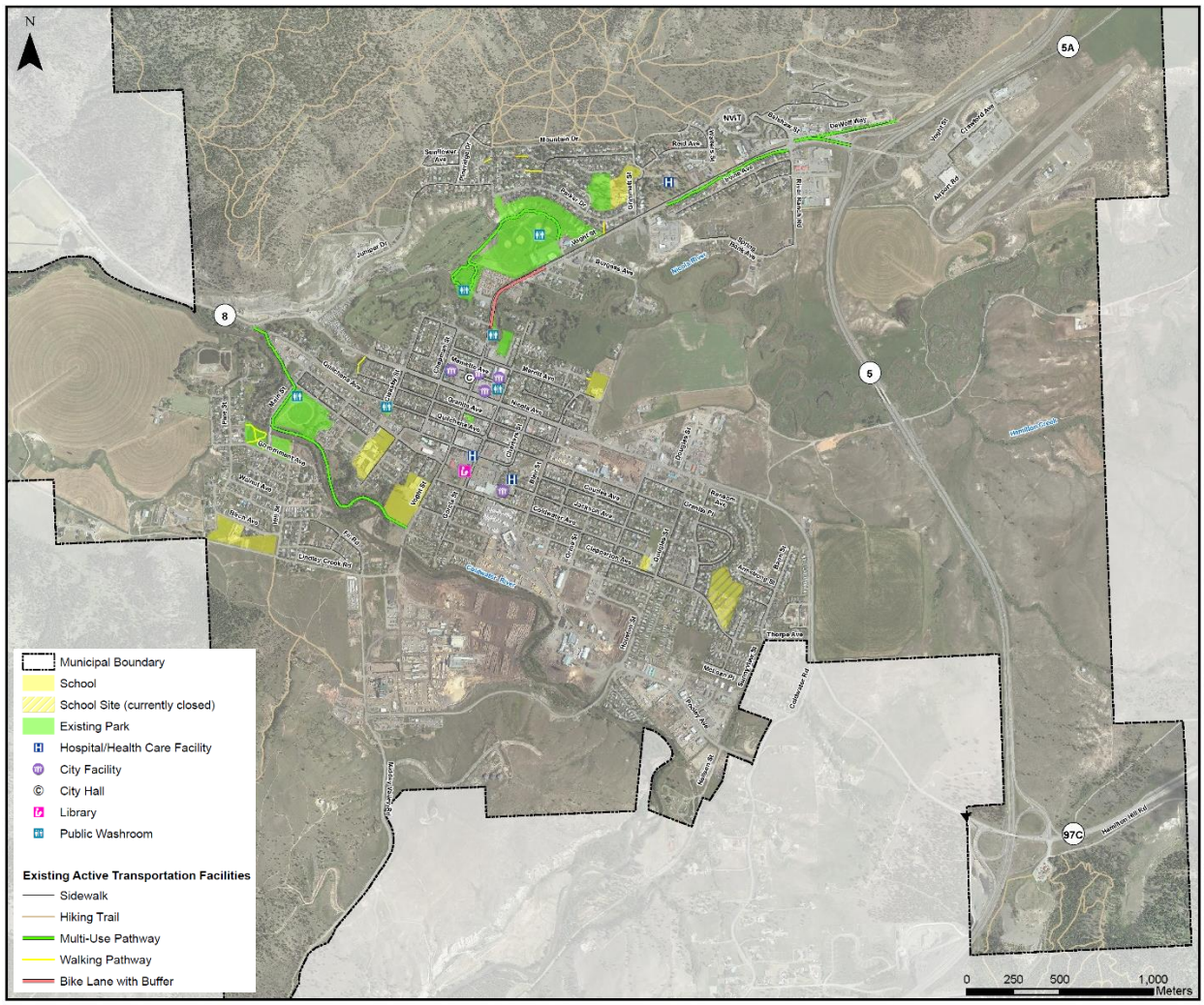


Figure 6: Existing Active Transportation Facilities

Merritt has an extensive network of over 150 km of trails on the outskirts of the City (Table 1). These trails are well used by walkers, hikers, dog walkers, joggers, and cyclists, including mountain bikers. The primary biking trails in Merritt are Swakum Mountain, Coutlee Plateau, Iron Mountain, and Sugarloaf Mountain.

Merritt's trail network also connects to a larger regional trail network, including the Kettle Valley Rail (KVR) Trail. The KVR and the Columbia & Western Rail Trail is the longest rail trail network in BC, with almost 650 km of connected pathways extending from Hope to Castlegar. The segment of KVR connecting to Merritt is a spur from the main trail running along the Coldwater River and south towards Kingsvale.

Table 1 – Existing Active Transportation Facilities

Active Transportation Facilities	Length	%
Hiking trails	153.5 km	79.0%
Multi-Use Pathways	3.6 km	1.9%
Walking Pathways	0.7 km	0.4%
Sidewalks	36.4 km	18.7%

Transit Integration

Multi-modal integration is an important aspect of creating a convenient and attractive active transportation network. Active transportation users often utilize multiple different transportation modes throughout their journey, so it is important to ensure that all modes are safe, appealing, and convenient for all users.

Merritt's transit system is operated by BC Transit and is shown in Figure 7. It consists of three routes offering daily service within the City, including the North End, Collettville, and Diamond Vale routes. A fourth route, Lower Nicola, runs west along Highway 8 to the Lower Nicola community and offers service Monday to Saturday. All four routes meet in the City Centre at Voght Street and Nicola Avenue.

Certain routes offer a curb-to-curb, shared transit service on-request to and from destinations in the Merritt area. On-request service operates five days a week, Monday through Friday, with trips operating at 8:45 AM, 9:45 AM, 12:45 PM, and 2:45 PM. Trips must be booked by phone 24 hours in advance. Most BC Transit buses have bicycle racks capable of holding two bicycles at a time. However, the bike racks block the headlights on community buses, so they cannot be used after dark.

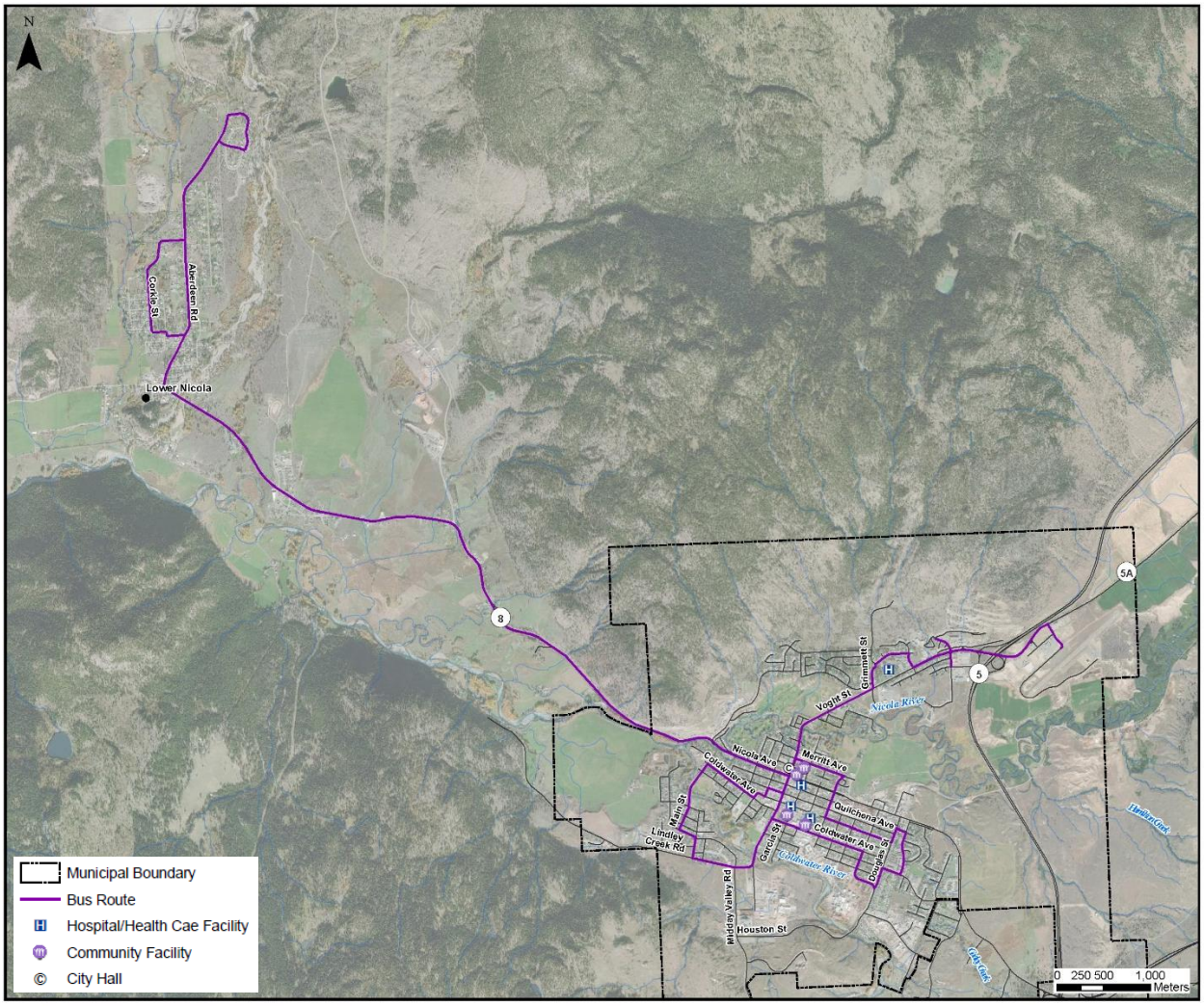


Figure 7: Transit Network

BC Transit operates a regional Health Connections transit service to Kamloops and Kelowna is available for people requiring access to non-emergency medical appointments. Although medical appointments have priority, everyone is eligible to use this service if space is available. Trips must be pre-booked and cost $5 for a one-way fare.

Additionally, private bus operator Ebus – which provides regional bus service across BC and Alberta – offers service to Merritt. Passenger must board at the Husky Truck Stop along Airport Road in the North Entry area. Ebus connects to several BC destinations, as shown in Figure 8.

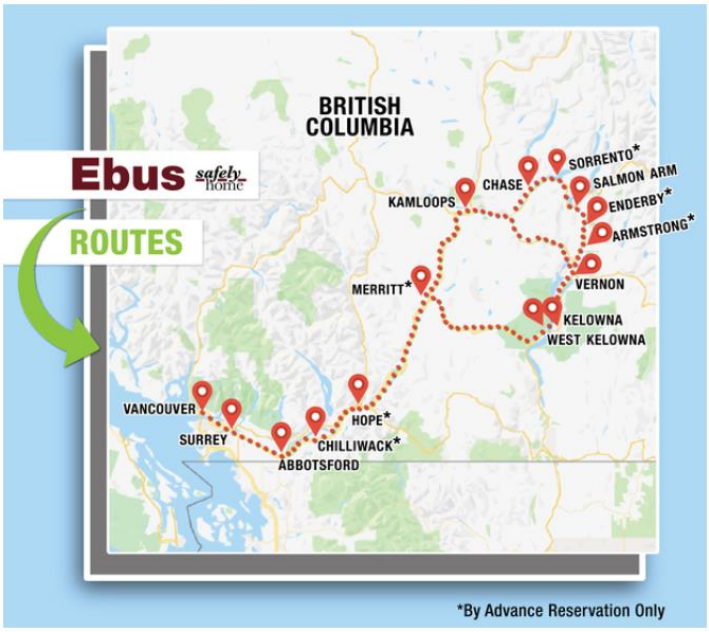


Figure 8: Ebus Regional Route Map (Source: Ebus)

End-of-Trip Facilities

End of trip facilities such as secure bicycle parking, showers, and change rooms can make cycling and multi-modal trips seamless and enjoyable. Bicycle racks can be are found throughout Merritt at key destinations such as the Library, Arena, City Hall, and the Merritt Visitor Centre.

Merritt's current and proposed updated Zoning Bylaw lay out requirements for short- and long-term bicycle parking, including design standards and supply requirements. Limited bicycle parking is required at several land uses in the City, including multi-family housing, schools, recreation facilities, and offices. The Zoning Bylaw is still in draft and these requirements may change as a result.

The ATP survey asked respondents to identify where bike parking is most needed in Merritt. More than half of respondents identified downtown (70%), grocery stores (64%), and shopping centres (51%) as locations in most need of bike parking (Figure 9).

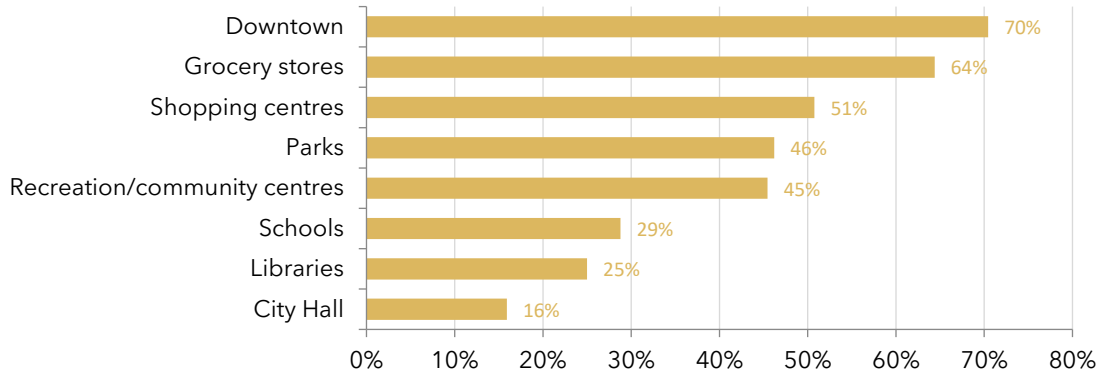


Figure 9: Locations where Bike Parking is Needed (Source: ATP Survey)

Safety

Transportation safety is a core consideration in the planning of a transportation system. All residents, workers, and visitors have the right to access the transportation system safely, regardless of their mode choice. Unfortunately, traffic collisions and other transportation safety issues have had a substantial toll on human life and well-being. Traffic collisions also produce significant personal and societal economic impacts due to emergency response spending, long-term healthcare costs, and property damage.

A review of ICBC data found that between 2014 and 2018, there were a total of eight motor vehicle collisions involving a cyclist and 13 involving a pedestrian. Four of the 13 pedestrian-involved collisions occurred at the intersection of Voght Street and Quilchena Avenue, while another two occurred at Voght Street and Coldwater Avenue. The most common locations of cyclist-involved collisions were at Blair Street and Quilchena Avenue (2) and Chapman Street and Nicola Avenue (2).

Over the same five-year span, there were a total of 196 collisions in Merritt that involved a casualty (injury or fatality). Twenty of these collisions occurred at the Highway 5 and Highway 5A interchange. Another 14 occurred at the intersection of Nicola Avenue and Voght Street in the City Centre. Within the City, Voght Street, Nicola Avenue, and Quilchena Avenue stand out as the highest casualty locations.

Safety Issues from Survey Respondents

Safety issues were identified in the ATP survey, especially regarding cycling. Half of respondents noted that they feel mostly or very unsafe when cycling in Merritt, compared to 37% of respondents who feel mostly or very safe cycling. By comparison, only 18% of respondents feel mostly to very unsafe when walking in Merritt, with more than half of respondents feeling mostly safe (64%) or very safe (12%) when walking.

Respondents noted that the lack of active transportation facilities made them feel unsafe, and that there are conflicts between people cycling and driving. When asked to identify three neighbourhoods where they would like to see active transportation improvements, residents identified the City Centre (86%), East Merritt/Diamond Vale (48%), and Bench (35%) as the top three locations.

3.3 Key Issues and Opportunities

Survey respondents were asked to identify what the main issues or challenges are when it comes to walking and cycling in Merritt.

Issues

In terms of issues or challenges for cycling in Merritt, the lack of bicycle routes separated from traffic and dedicated on-street bicycle lanes were identified by more than half of respondents (61%) as a main challenge (Figure 10). Of those who selected 'other', theft and a lack of cycling knowledge from drivers and cyclists were identified as additional issues/challenges.

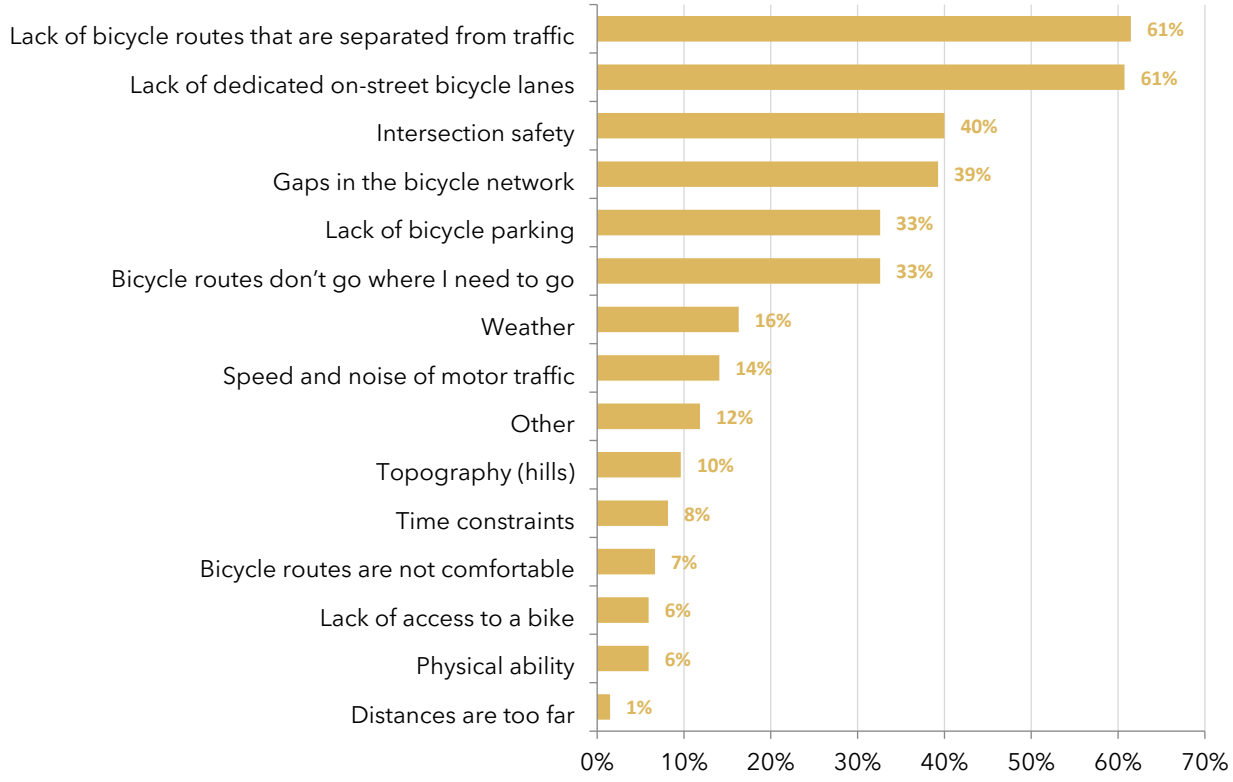


Figure 10: Main Issues or Challenges for Cycling in Merritt (Source: ATP Survey)

The main issues and challenges for walking in Merritt include a lack of trails (42%) and lack of sidewalks (40%) (Figure 11). Those who selected "other" identified feeling unsafe and lack of amenities as additional barriers to walking in Merritt.

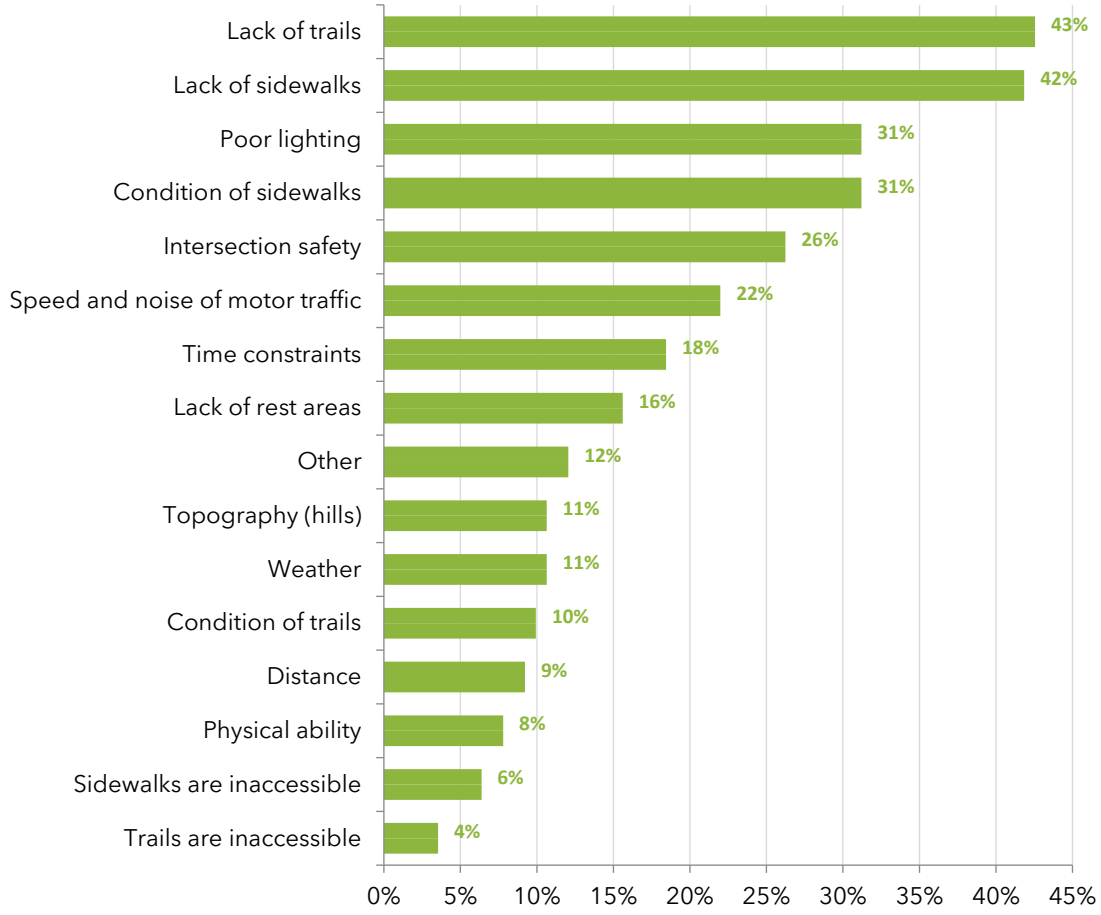


Figure 11: Main Issues or Challenges for Walking in Merritt (Source: ATP Survey)

Opportunities

Opportunities for enhancing active transportation in Merritt include adding sidewalks, prioritizing the trail network, and reducing conflicts between active transportation users and motor vehicles. Respondents also indicated a desire for safer routes to school and listed several other desired active transportation connections.

The survey results revealed that residents enjoy walking, rolling, and cycling for exercise and to enjoy nature and wildlife, so connecting to and expanding the City's multi-use pathway and trail network represents a significant opportunity. Building stronger regional connections can also help to strengthen the tourism sector while better connecting Merritt with its neighbouring communities, including First Nations.

Providing additional end-of-trip facilities is another way to enhance cycling in particular. Additionally, ensuring that new neighbourhoods and key destination – such as the residential, commercial, and transit destinations in the North Entry and North Bench areas – are connected to the City Centre will help ensure a well connected City and a vibrant downtown core.

Finally, there is an opportunity to promote active transportation as a regular, convenient, and enjoyable mode of daily transportation, helping to reduce the stigma of walking and cycling as a primary transportation mode. At the same time, the City must support marginalized populations who rely on active modes, and it must ensure that people of all ages, abilities, genders, ethnicities, and other identifying factors feel safe and comfortable when travelling throughout the City.

4 Next Steps

This existing condition report has been prepared as part of the process to develop Merritt's Active Transportation Plan. This document summarizes existing conditions for active transportation in Merritt today based on technical analysis and public input received to date.

The next Phase of this project will focus on charting the course for the future of active transportation in Merritt. Based on input received from the public and stakeholders, a future vision, supporting goals, strategies, actions, and a proposed active transportation network will be developed. Further opportunities for engagement will take place in Phase 3.

Appendix B

Communications & Engagement Summary

City of Merritt Active Transportation Plan

Communications and Engagement Summary

February 2021

The development of Merritt's Active Transportation Plan included a series of meaningful community engagement activities that encouraged participation in the study process. Engagement activities were designed to seek input at key points during the planning process and begin to shift how community members view active transportation through positive messaging.

Because of the COVID-19 pandemic, the consultation process was held virtually to ensure the safety of everyone in the community. Consultation activities included a series of stakeholder conversations, three online surveys, a virtual community tour (ESRI StoryMap), and project materials uploaded and presented to the City's website.

Raising Awareness

A variety of marketing tools and promotional materials were used to raise awareness for the Active Transportation Plan and associated engagement activities, including:

Website: A dedicated page was created on the City's website to store all key project information, including links to online surveys and the virtual tour.

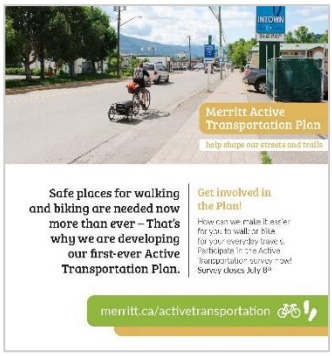
Social Media: The City's Facebook, Twitter, and Instagram accounts were activated to promote the project and feedback opportunities.

Print Advertising: An ad was placed in multiple editions of the Merritt Herald to promote the launch of the Active Transportation Plan process and encourage promotion in the first online survey.

Print Material: A poster was created and distributed to areas frequented by residents. The poster promoted the Active Transportation Plan process and promoted in the engagement process.

Radio: Promotions were made over local radio to promote the project and feedback opportunities.

Social Media Ad



Merritt Herald Ad

1.1 Stakeholder Engagement

The project team undertook targeted stakeholder engagement with select community groups, including the Thompson Nicola Regional Trail Society, the Merritt Mountain Bike Association, School District No. 58 (Nicola-Similkameen), and a member of the visually impaired community.

1.2 Online Survey #1 Summary

The first online survey invited residents to provide input on the challenges they face when using active modes of transportation in Merritt as well as the opportunities for improvements. The online survey

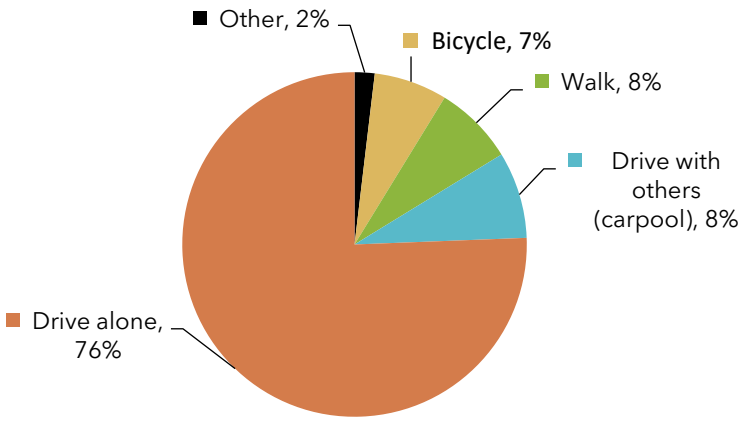
was available through the City's website and promoted heavily through social media and other marketing tactics from June 19 to July 8, 2020. In total, 164 responses were collected.

Because of the online COVID-19 pandemic, many of the questions asked participants to consider their transportation before the pandemic began as many residents are now working/studying from home or not currently working/attending school. The following is a summary of what we heard from those who participated in the online survey.

1.2.1 Typical mode of transportation

Respondents were asked to specify their typical mode of transportation for commuting purposes, such as going to work, school, an appointment or picking up groceries before the pandemic. As shown on the graph below, more than 75% of respondents drive alone as their main mode of transportation. Transit was also provided as an option, however those who participated in the survey did not indicate this mode of transportation as their typical mode. Respondents who answered "Other" specified that they are dependent on others to drive (x2) or they have an equal division between walking and driving.

Before the COVID-19 pandemic, on a typical day, what was your usual mode of transportation for commuting purposes?

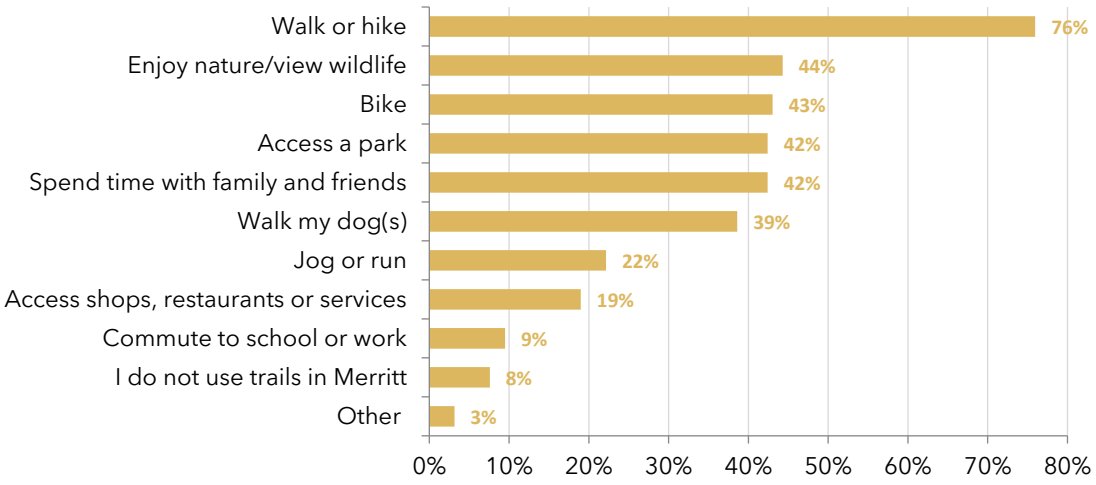


Weather is a factor known to influence what mode of transportation is used when commuting. This question was put to respondents with more than half (58%) indicating that weather does not influence what mode of transportation they use. This result reflects the high percentage of respondents that typically drive along as their main mode of transportation.

1.2.2 Using Merritt's Trail Network

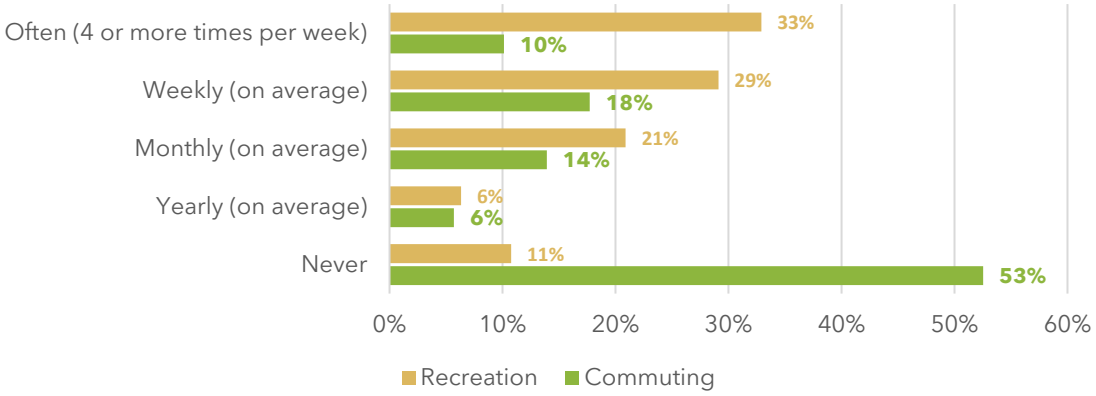
Next, respondents were asked how they currently use Merritt's existing trail network. Ten options were presented with the opportunity to list other uses. Participants were able to select as many options that apply to them. As shown on the graph below, to walk or hike is the most popular reason why respondents use Merritt's trail network (76%). Enjoying nature/wildlife (44%), biking (43%), accessing a park (42%), and spending time with friends and family (42%) were also popular activities among respondents. Of the respondents who answered "Other", the majority commented that they do not believe a trail network exists in Merritt.

Before the COVID-19 pandemic, how did you use Merritt's existing trail network?



Respondents were asked how often they use trails in Merritt for both commuting and recreation purposes. When it comes to commuting, the majority of respondents (53%) indicated they do not use the trail network for this purpose. The survey found trails were used more frequently for recreation purposes, as shown on the graph below.

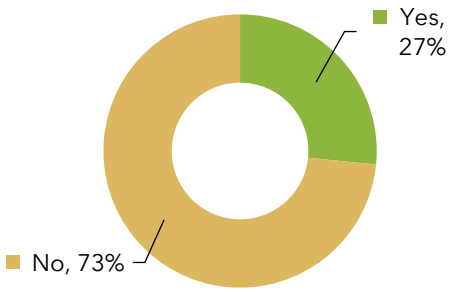
Before the COVID-19 pandemic, how often did you use the trails in Merritt for recreation and commuting purposes?



1.2.3 COVID-19 Impacts of Transportation

With COVID-19 impacting individuals in different ways, it was important to understand whether Merritt residents have changed their transportation habits because of the pandemic. The majority of those who participated in the survey (73%) indicated that their typical transportation habits have not changed because of the COVID-19 pandemic.

Since the COVID-19 pandemic, have your typical transportation habits changed?

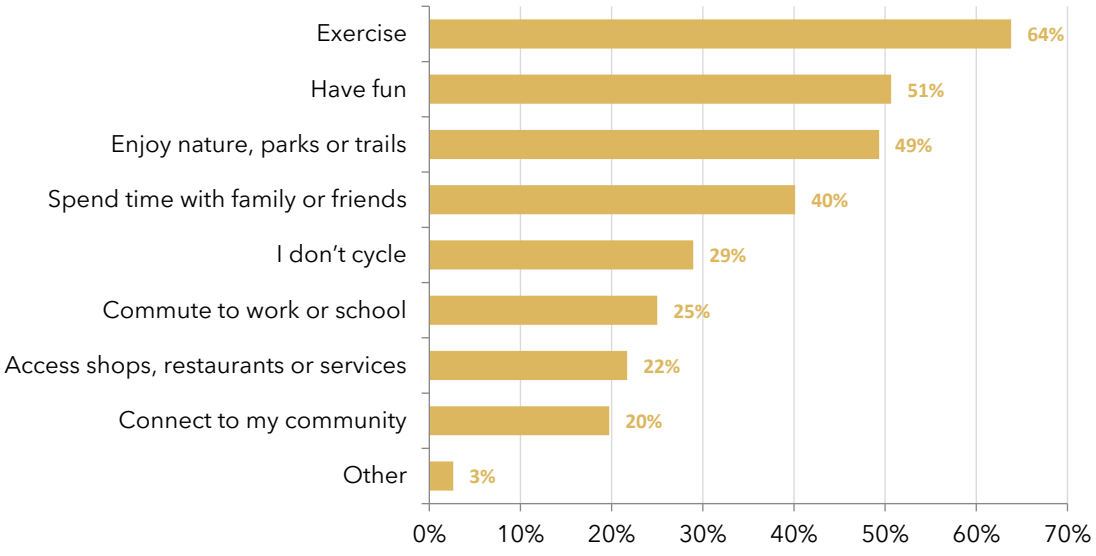


Those who answered yes, were asked to specify how their transportation habits have changed. In total, 44 respondents provided a response, with 45% indicating that they are driving and commuting less due to working at home. Respondents also noted they have been walking, running, hiking, and cycling more (36%), and others have limited their travel outside of their home to only necessary trips (16%).

1.2.4 Cycling in Merritt

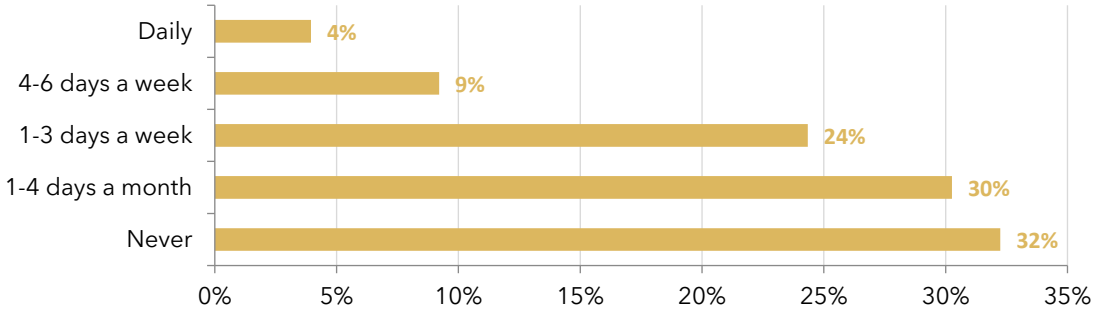
Respondents were presented with a series of questions focused on biking in Merritt. The first question provides a snapshot of the reasons why survey respondents choose to bike. Respondents were presented with nine options and were able to select more than one option. Biking for exercise (64%) and to have fun (51%) were the most popular reasons why respondents bike. Respondents who selected "Other" said that they would like to cycle more, but do not feel safe cycling in Merritt.

When I cycle, it's to:



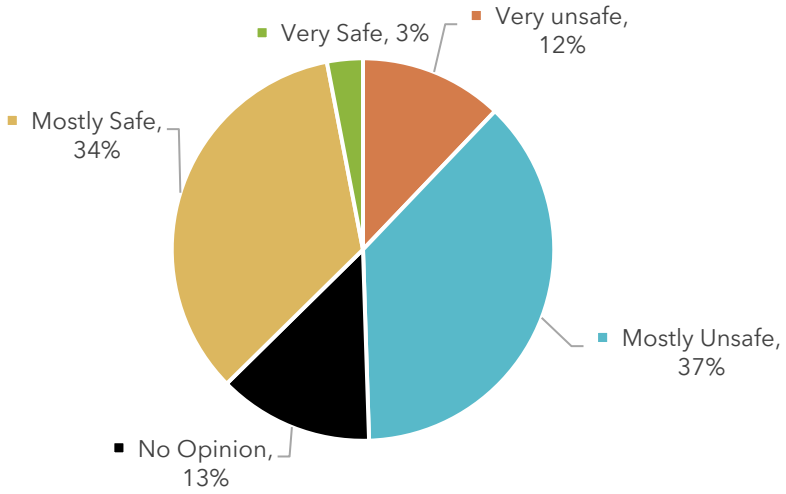
Respondents were then asked to indicate how frequently they ride a bike in a typical month. The survey found 30% of respondents ride a bicycle 1-4 days a month, while only 4% of respondents identified as daily bicycle riders.

In a typical month, how many times do you ride a bicycle?



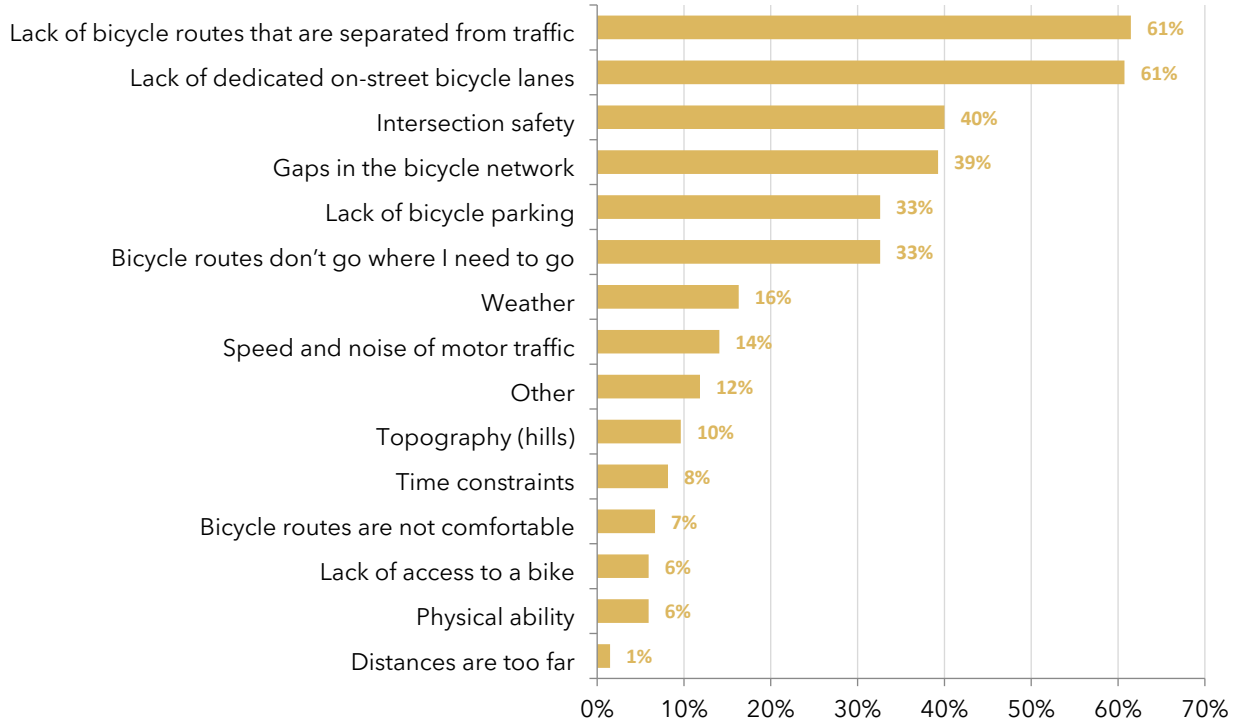
The next question focused on gaining a better understanding of how safe Merritt residents feel when biking in their community. Half of respondents shared they feel (very to mostly) unsafe when cycling in Merritt, compared to 37% of respondents who feel (mostly to very) safe cycling in Merritt.

How safe do you feel cycling in Merritt?



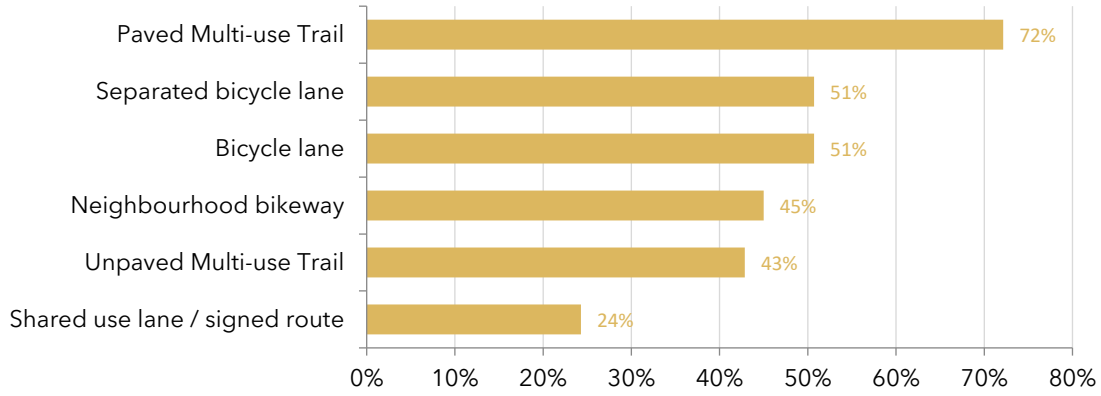
Survey respondents were asked to identify what the main issues or challenges are when it comes to cycling in Merritt. A list of possible issues/challenges were displayed with participants able to select more than one or add additional issues/challenges not listed. Lack of bicycle routes separated from traffic and dedicated on-street bicycle lanes were identified by more than half of respondents (61%) as a main issue/challenge. Of those who selected 'other', theft and a lack of cycling knowledge from drivers and cyclists were identified as additional issues/challenges.

What are the main issues or challenges for cycling in Merritt?



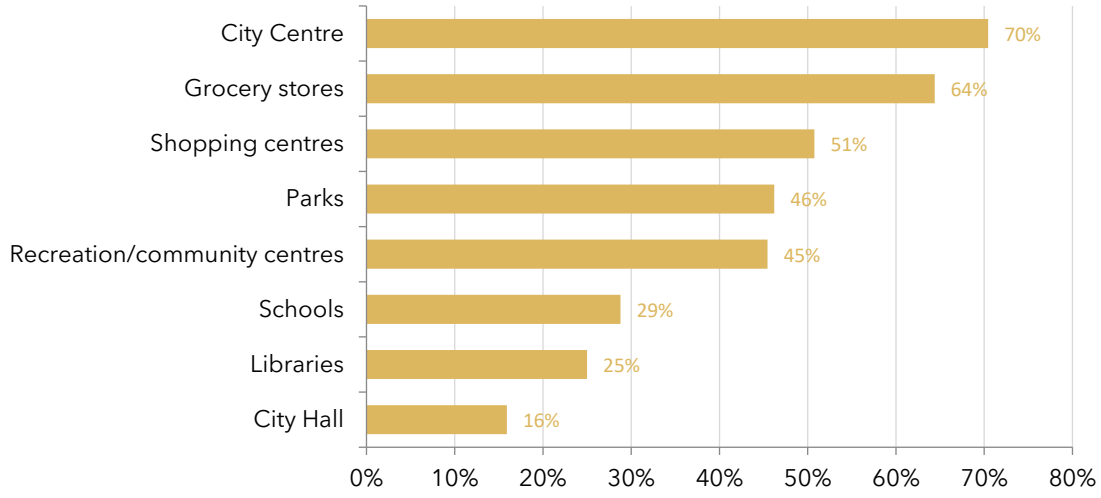
The next question focused on understanding the type(s) of cycling facilities that would make cycling in Merritt more comfortable. Six facility types were displayed with participants able to select more than one option. Paved multi-use trails (72%), bicycle lanes (51%), and separated bicycle lanes (51%) were found to be the most popular facility types among respondents.

What facility type(s) would encourage you to cycle more in Merritt?



End-of-trip facilities is another component to making biking an accessible and convenient form of transportation. The survey asked respondents to identify where bike parking is most needed. Eight options were provided, with survey participants able to select multiple locations. More than half of respondents identified City Centre (70%), grocery stores (64%), and shopping centres (51%) as locations in most need of bike parking.

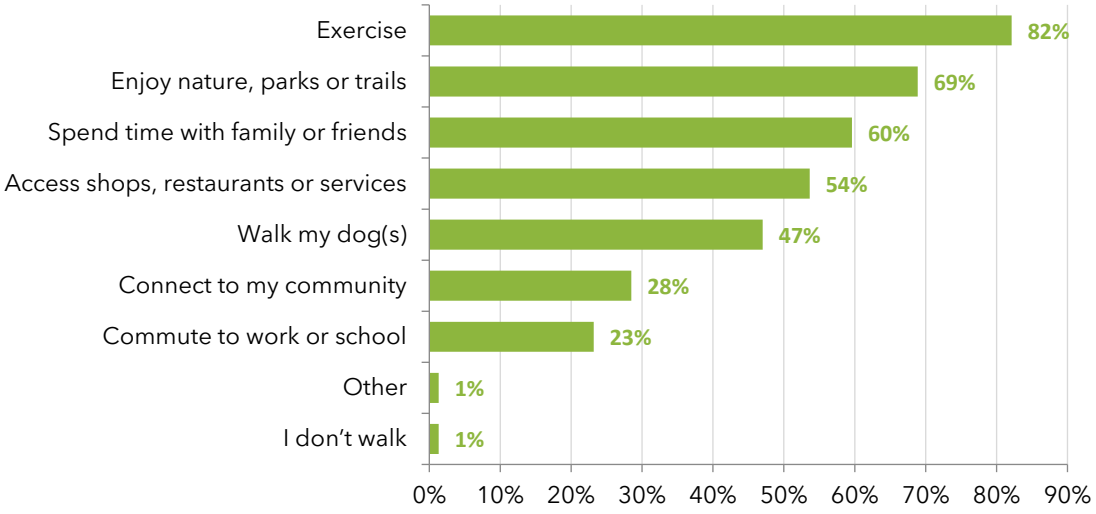
Where is bike parking most needed?



1.2.5 Walking in Merritt

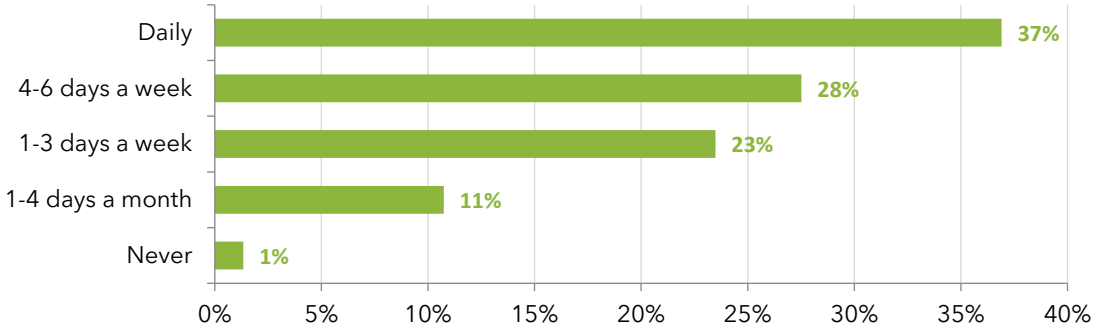
Respondents were presented with a series of questions focused on walking in Merritt. The first question provides a snapshot of the reasons why survey participants choose to walk. Respondents were presented with nine options and were able to select more than one option. Walking for exercise (82%) and to enjoy nature, parks or trails (69%) were the most popular reasons why respondents walk. Respondents who selected "other" said they walk to catch the bus and keep children active.

When I walk, it's to...



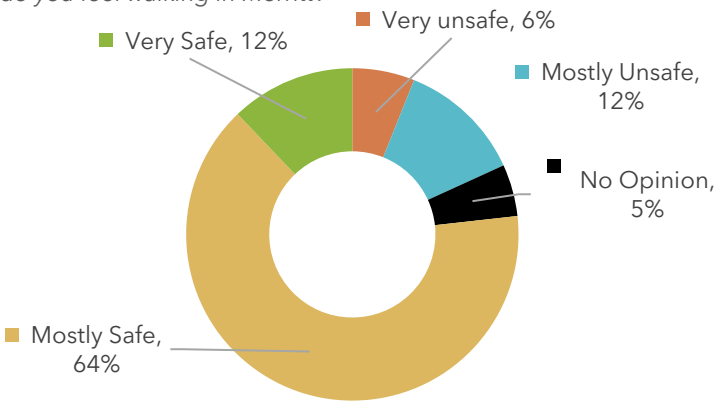
Respondents were asked to indicate how frequently they walk in a typical month. The survey found 37% of respondents walk daily, compared to 12% who either never walk or walk only a few times a month.

In a typical month, how often do you walk?



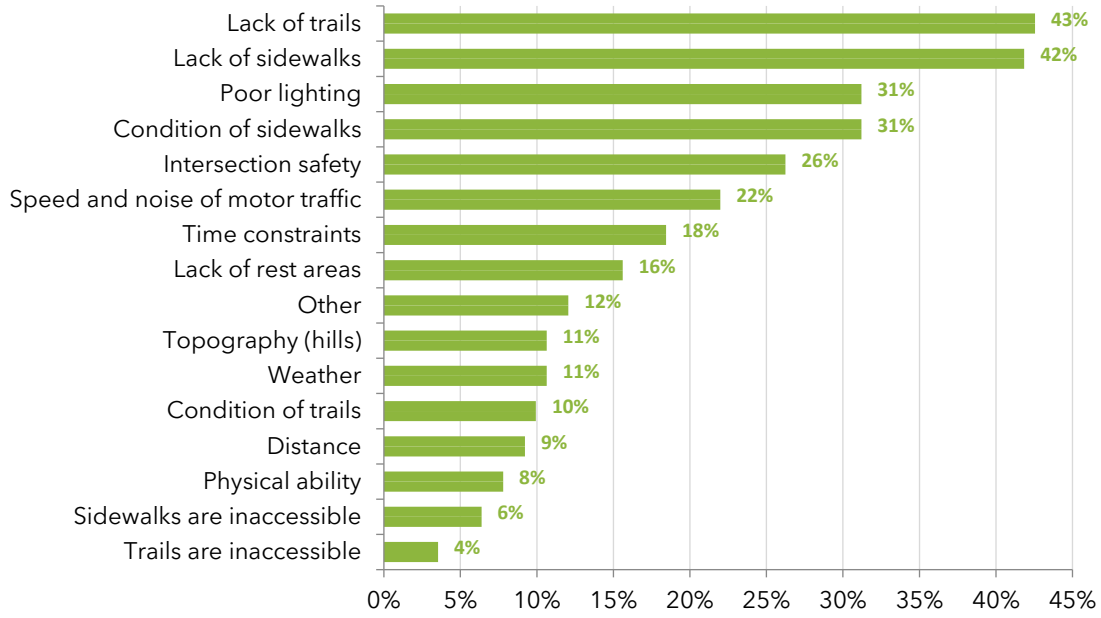
The next question focused on gaining a better understanding of how safe Merritt residents feel when walking in their community. More than half of respondents said they feel mostly safe (64%) or very safe (12%) when walking in Merritt, compared to 6% of respondents who feel very unsafe walking in Merritt.

How safe do you feel walking in Merritt?



Survey respondents were also asked to identify what the main issues or challenges are when it comes to walking in Merritt. A list of possible issues/challenges were displayed, participants were able to select more than one or add additional issues/challenges not listed. Lack of trails (42%) and lack of sidewalks (40%) were identified as some of the top issues related to walking in Merritt. Those who selected "other" identified feeling unsafe and lack of amenities as additional barriers to walking in Merritt.

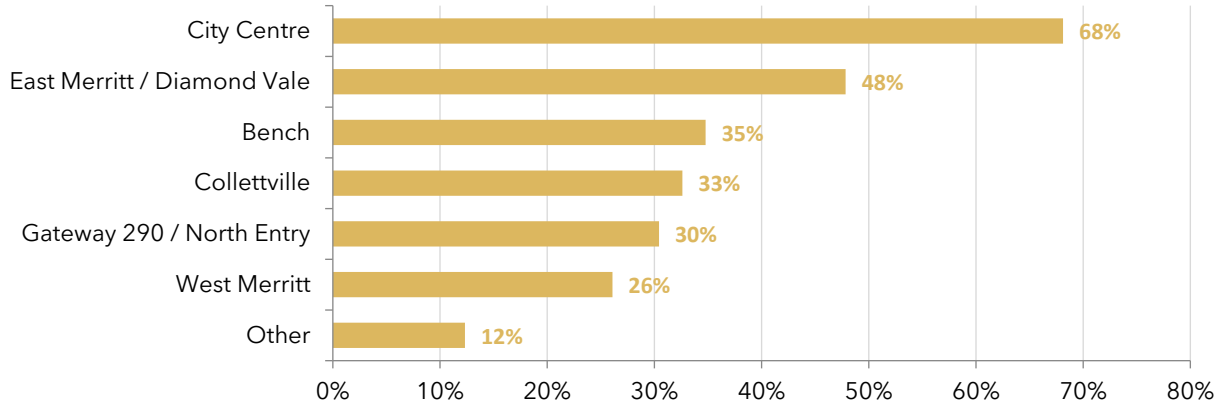
What are the barriers for walking more often than you do in Merritt?



1.2.6 Wrap-up Questions

Participants were asked to identify three neighbourhoods where they would like to see active transportation improvements. The City Centre was identified by 86% of respondents, followed by East Merritt / Diamond Vale (48%).

In what neighbourhoods would you like to see active transportation improvements?



Of those who selected "other", the following responses were identified:

- All neighbourhoods (x3)
- Nicola Avenue and Vought Street (x3)
- Sidewalks along Armstrong Street and Ransom Avenue (x3)
- Routes to schools (x2)
- Facilities connecting Diamond Vale to the city centre
- Facilities connecting Bench to the city centre
- Connection from walking bridge at end of Quilchena to the hill by the cement plant
- Lower Nicola
- Lindley Creek

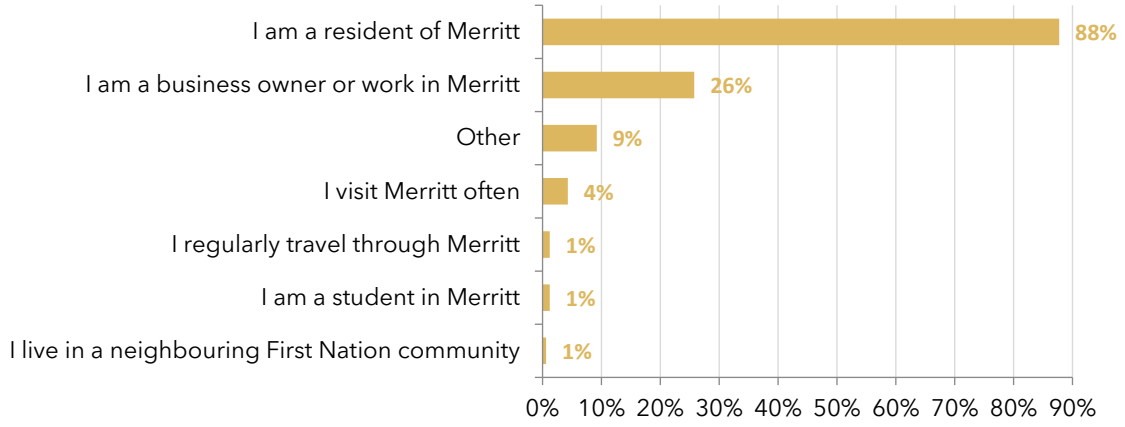
The survey ended with respondents given the opportunity to provide any final comments. In total, 65 comments were received. The following themes emerged from a review of the comments.

- Lack of facilities makes active transportation feel unsafe
- Improving active transportation is important
- More sidewalk infrastructure
- Conflicts between people biking and people driving
- Prioritize building the trail network

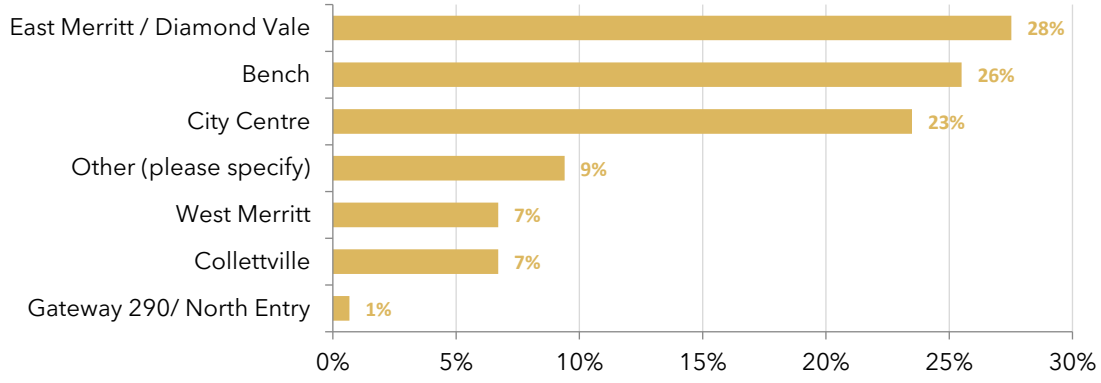
1.2.7 Demographics

Survey participants were asked the following demographic questions to capture who participated in the survey and identify groups we may have missed and need to seek out during later phases of engagement.

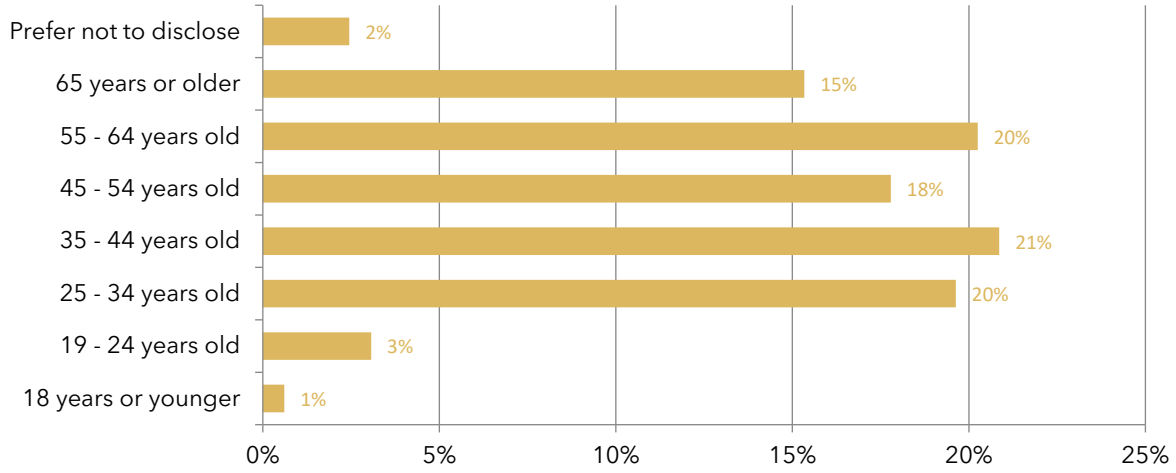
Which best describes you?



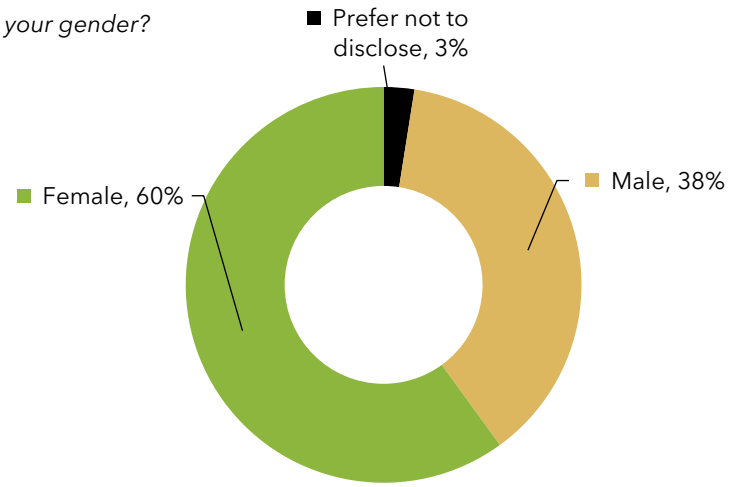
If you are a resident of Merritt, what neighbourhood do you live in?



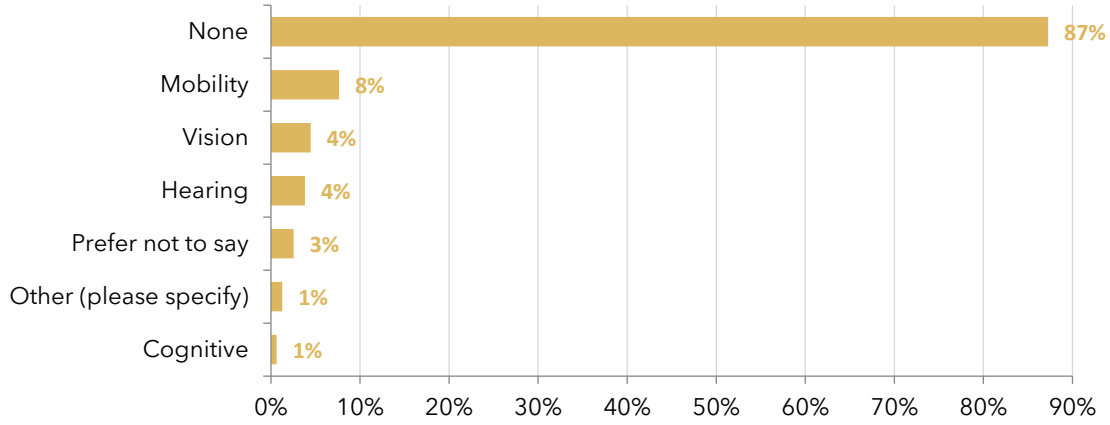
What is your age?



What is your gender?



Do you have any limitations?



1.3 Follow-Up Online Survey Summary Report

The second online survey was designed to solicit input and level of support for the action areas outlined in the draft Active Transportation Plan.

The online survey was available through the District's website and promoted through social media and other marketing tactics from September 25 to October 13, 2020. In total, 75 responses were collected with the feedback summarized below.

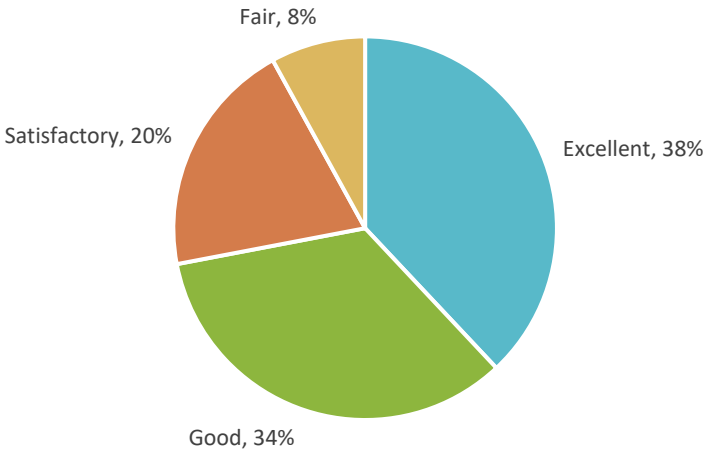
1.3.1 Network

Actions related to the network include building more walking, cycling, and trail infrastructure and providing facilities that are comfortable for all users.

Action 1.1: Develop a pedestrian infrastructure plan, including a sidewalk inventory, and prioritize locations for increasing sidewalk coverage (e.g. near key destinations such as schools, transit, businesses, healthcare facilities, etc.).
Action 1.2: Implement a complete and connected city-wide pedestrian network through a phased implementation approach.
Action 1.3: Implement a complete and connected city-wide cycling network for people of all ages and abilities through a phased implementation approach.
Action 1.4: Review and upgrade existing multi-use pathways and trails, as required.
Action 1.5: Consider the impact of new mobility technologies on the active transportation network and facility design.

Respondents were asked about their overall views of the proposed actions being recommended to enhance the active transportation network. As shown in the graph below, more than 70% of respondents have a good or excellent opinion of the recommended actions.

What is your overall view of the proposed actions being recommended to enhance the active transportation network?

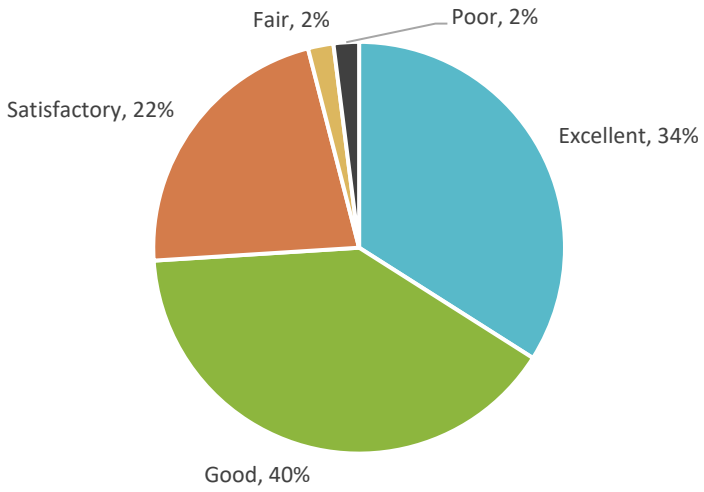


Respondents were asked to for any additional comments on the proposed actions related to the active transportation network. Having a multi-use trail network with clear connections and signage is very important to respondents (10). Other respondent feedback suggested that the City should include safe crossings and lighting for all public roads (3) and focus on fixing existing infrastructure problems (3).

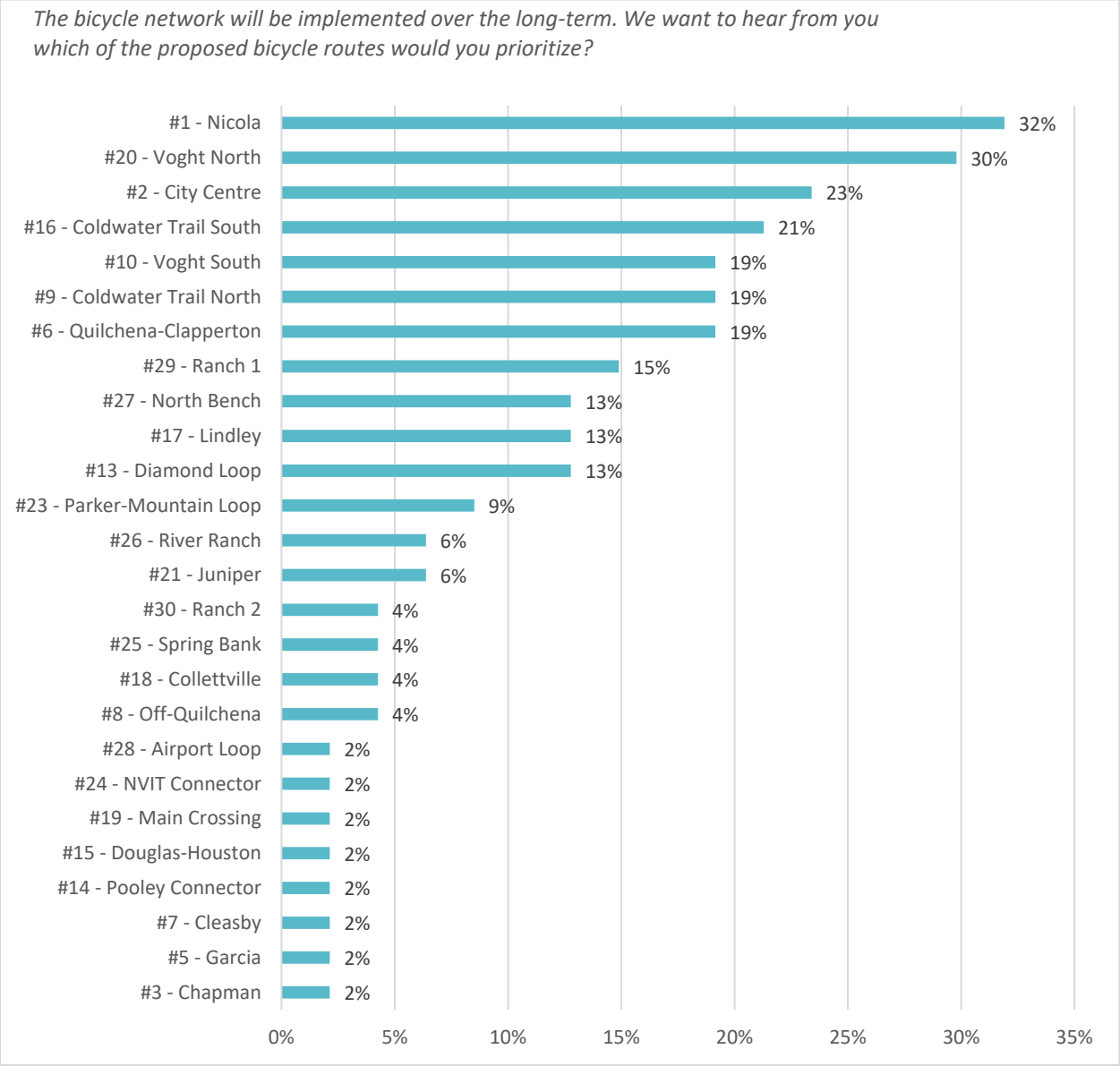
1.3.2 Long-term Bicycle Network

Respondents were presented with a series of questions focused on the proposed long-term bicycle network. The first question asked for participants' overall views of the proposed long-term bicycle network, to which 74% of participants responded positively.

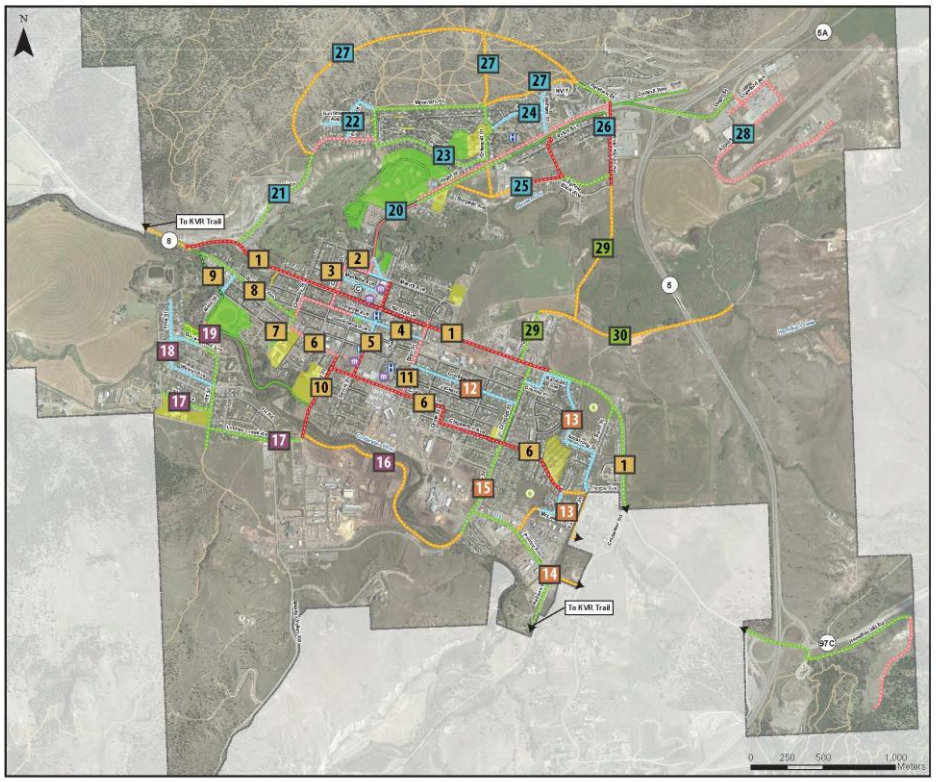
What is your overall view of the proposed long-term bicycle network?



Respondents were then asked to indicate which of the proposed bicycle routes they would prioritize. A list of all proposed bike routes were presented to respondents, with a map visually showing the routes (shown on page 4) and respondents were asked to select up to three. The routes most requested to be prioritized were Route #1 – Nicola, Route #20 – Voght North, Route #2 - City Centre, and Route #16 – Coldwater Trail South respectively. Routes not shown in the figure below were not selected as a priority by respondents.



When asked for additional comments, respondents said that they are excited for the network to be put in place (3). One respondent said that they would like to see bicycle routes that are accessible for cyclists with physical challenges.



Merritt
FLOURISH UNDER THE SUN

Active Transportation Plan
Proposed Active Transportation Network

- Municipal Boundary
- School
- School Site (currently closed)
- Existing Park
- Proposed Future Park
- Hospital/Health Care Facility
- Community Facility
- City Hall

Existing Active Transportation Facilities

- Hiking Trail
- Multi-Use Pathway
- Walking Pathway
- Bicycle Lane
- Sidewalk

Proposed Active Transportation Network

- Multi-Use Pathway
- Multi-Use Pathway Upgrade
- Neighbourhood Bikeway
- Protected Bicycle Lane
- Bicycle Lane (with buffer where feasible)
- Future Connection (alignment unknown)

DRAFT

FIGURE 1

Proposed Active Transportation Routes

#	Area	Route Name	Streets	Facility Type(s)
1	Centre	Nicola	Nicola Avenue, including future connection west to the Kettle Valley Rail Trail & east to Hwy 5A	Protected Bicycle Lane, Multi-Use Pathway, Other
2		City Centre	Square network along Merritt Ave, Chapman St, Mamette Ave, and Garcia St, with connection to Voght through Lions Memorial Park	Bicycle Lane, Neighbourhood Bikeway
3		Chapman	Chapman St (Mamette Ave to Granite Ave)	Bicycle Lane
4		Granite	Granite Ave (Ceasby St to Blair St)	Bicycle Lane, Neighbourhood Bikeway
5		Garcia	Garcia St (Mamette Ave to Coldwater Ave)	Protected Bicycle Lane, Neighbourhood Bikeway
6		Quilchena-Clapperton	Quilchena Ave, Coldwater Ave, and Clapperton Ave (Ceasby St to Sunset St)	Multi-Use Pathway, Protected Bicycle Lane, Bicycle Lane
7		Ceasby	Ceasby St (Granite Ave to Hamilton Ave)	Bicycle Lane, Multi-Use Pathway
8		Off-Quilchena	Right of way south of Quilchena Ave (Ceasby St to NK&S Railway)	Multi-Use Pathway
9		Coldwater Trail North	Existing pathway along Coldwater River from Main St to NK&S Railway	Upgraded Multi-Use Pathway
10		Voght South	Voght St (Coldwater Ave to Lindley Creek Rd)	Protected Bicycle Lane
11		Blair	Blair St (Nicola Ave to Coldwater Ave)	Bicycle Lane
12	Diamond	Coutlee	Coutlee Ave (Blair St to Douglas St)	Neighbourhood Bikeway
13		Diamond Loop	Granite Pl, Ransom Ave, Armstrong St, Bann St, Sunnyview St, Sage St, MacLean Pl	Neighbourhood Bikeway, Other
14		Pooley Connector	Pooley Ave, Coldwater Rd, future connection east to Kettle Valley Rail Trail	Multi-Use Pathway, Other
15		Douglas-Houston	Douglas St, Houston St (Nicola Ave to Coldwater River)	Multi-Use Pathway
16	South	Coldwater Trail South	Future pathway along Coldwater River	Other (alignment unknown)
17		Lindley	Lindley Creek Rd (Voght St to Hill St)	Multi-Use Pathway
18		Collettville Loop	Hill St, Birch Ave, Walnut Ave, Pine St, Government Ave	Multi-Use Pathway, Neighbourhood Bikeway
19		Main Crossing	Main St bridge (Government Ave to multi-use pathway off Main)	Bicycle Lane
20	Bench	Voght North	Vought Street (Merritt Ave to Gordon Street)	Bicycle Lane, Multi-Use Pathway
21		Juniper	Juniper Dr (Nicola Ave to Mountain Dr)	Multi-Use Pathway, Bicycle Lane
22		Pineridge	Pineridge Dr, Sunflower Ave, Ponderosa Way	Neighbourhood Bikeway
23		Parker-Mountain Loop	Parker Dr, Mountain Dr, Gimmett St	Multi-Use Pathway
24		NVIT Connector	Reid Ave, Walters St (north of Voght St)	Neighbourhood Bikeway
25		Spring Bank	Spring Bank Ave, Walters St (south of Voght St), and future connections to Voght St and Gimmett St	Protected Bicycle Lane, Multi-Use Pathway, Other
26		River Ranch	River Ranch Rd (Voght St to Spring Bank Ave)	Protected Bicycle Lane
27		North Bench Loop	Future loop in new development, North Bench area	Other (alignment unknown)
28		Airport Loop	Gordon St, Airport Rd, Crawford Ave	Bicycle Lane
29	Ranch	Ranch 1	Future connection from River Ranch Rd to Douglas St and Nicola Ave	Other (alignment unknown)
30		Ranch 2	Future connection east towards Hamilton Creek	Other (alignment unknown)

Notes:

- All bicycle lanes will have buffers where feasible.
- "Other" indicates a long-term route where the bicycle facility type and alignment are unknown.

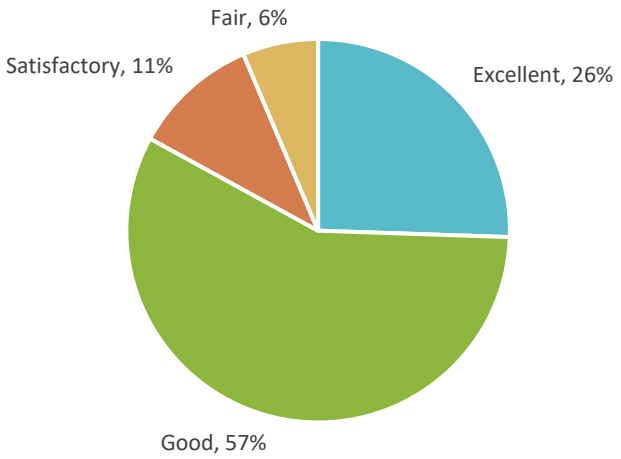
1.3.3 Integration

Integration includes ensuring active transportation is considered as part of the city's overall transportation network and that walking and cycling are considered as part of other projects and initiatives in Merritt.

Action 2.1: Work with regional partners to provide well-integrated active transportation connections to adjacent communities and regional trails.
Action 2.2: Ensure land use policies support and encourage active transportation.
Action 2.3: Ensure all new plans, projects, and developments integrate the active transportation network.
Action 2.4: Improve transit integration by providing direct and accessible walking and cycling connections to local transit stops, regional bus connections, and the airport.
Action 2.5: Create an internal Active Transportation, Trails, and Accessibility Working Group.
Action 2.6: Creating a Future Alternative Transportation Infrastructure Reserve Fund.
Action 2.7: Incorporate design best practices from the Merritt Design Guide for Bicycle Infrastructure and the B.C. Active Transportation Design Guide into the Merritt Subdivision and Development Servicing Bylaw.

Respondents were presented with a series of questions focused on ensuring active transportation is considered as part of the city's overall transportation network. The first question asked participants for their overall view of the proposed actions being recommended to improve integration. The survey found that more than 82% of respondents feel positively about the recommended integration improvements.

What is your overall view of the proposed actions being recommended to improve integration?



Respondents feel it is important to improve the trails and connections (3) and believe that improving these will help to better promote cycling and walking in Merritt (2).

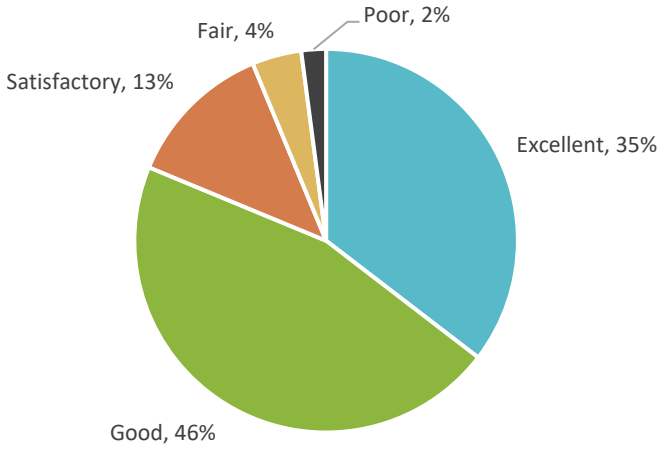
1.3.4 Safety

Safety focuses on creating safer places to walk and bicycle in the city.

Action 3.1: Continue to conduct safety studies of collision locations involving people walking, cycling, and using trails to understand, monitor, and address safety concerns.
Action 3.2: Continue to audit intersections and crossings for pedestrian safety and accessibility, and make improvements as required (as called for in the Age-Friendly Action Plan).
Action 3.3: Enhance the safety and accessibility of intersections and crossings by providing curb ramps with tactile features, accessible pedestrian crossings, countdown timers, signal phasing, bicycle activated signals, and/or other treatments, where warranted.
Action 3.4: Continue to explore the feasibility of reducing speed limits, in conjunction with traffic calming, and traffic diversion.
Action 3.5: Improve safety along active transportation facilities by considering visibility, sightlines, access, and by adding lighting where appropriate.
Action 3.6: Track and monitor the impacts of COVID-19 and look for opportunities to create a safe and resilient active transportation network.
Action 3.7: Enhance lighting along sidewalks, pathways, and trails where appropriate

Respondents were asked for their overall view of the proposed actions being recommended to enhance safety. The survey found that more than 80% of respondents feel positively about the recommended safety enhancements.

What is your overall view of the proposed actions being recommended to enhance safety?



Respondents who had additional comments said that enhancing lighting and improving visibility, sightlines and access along active transportation facilities is very important (5), and that the City needs to focus on fixing and enhancing existing infrastructure to be more accessible (4).

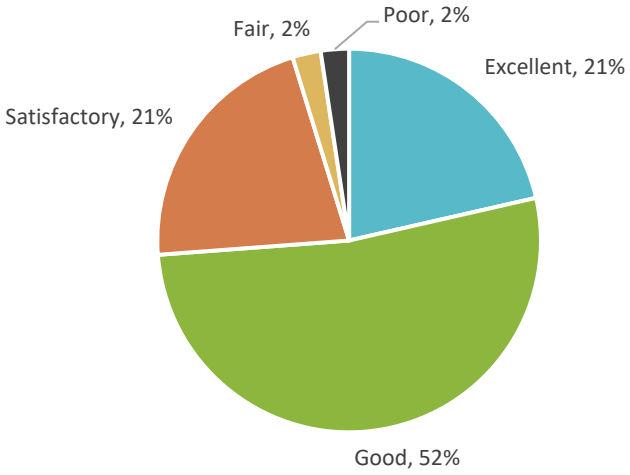
1.3.5 Universal Design

Actions related to universal design include supporting marginalized populations and persons with disabilities through thoughtful active transportation planning and design, and enhanced communications and engagement.

Action 4.1: Apply an intersectional, equity-focused lens to the planning, design, and implementation of all active transportation facilities, amenities, and programs to support marginalized populations.
Action 4.2: Conduct targeted communication and engagement regarding active transportation projects with marginalized and under-represented groups to understand their unique needs and issues.
Action 4.3: Revise the Merritt Accessibility Requirements for Persons with Disabilities guide to include requirements for active transportation facilities and ensure best practices in accessibility are considered for new transportation infrastructure projects
Action 4.4: Review and update pedestrian crossing times at intersections to provide adequate crossing time for all users.
Action 4.5: Reduce pedestrian crossing distances by providing narrower roads and lanes and considering curb extensions or median islands, where feasible, particularly within the City Centre.

Respondents were asked for their overall view of the proposed actions being recommended for universal design. The survey found that more than 73% of respondents feel positively about the recommended actions for universal design.

What is your overall view of the proposed actions being recommended for universal design?



Respondents were glad to see the efforts for inclusivity, encouraging walking and biking over driving (2). Some respondents did express concerns over narrowing the roads in favour of wider sidewalks (2).

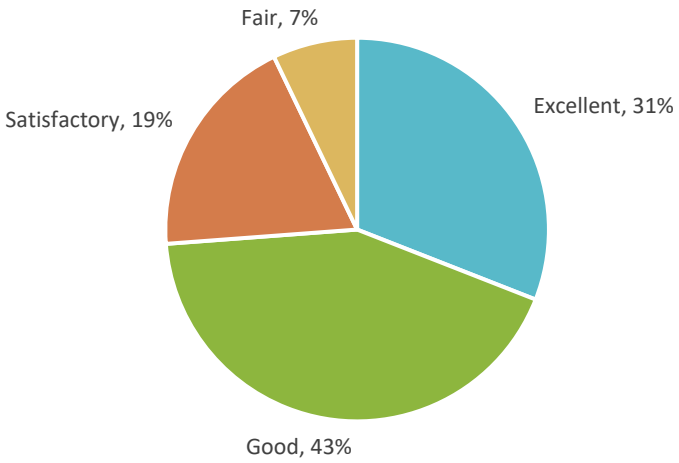
1.3.6 Maintenance

Actions related to maintenance include consideration for maintenance during the winter months, regular facility inspections, and providing accessible detours during construction or maintenance.

Action 5.1: Design active transportation facilities to provide adequate drainage, snow removal, and snow storage.
Action 5.2: Continue to regularly inspect active transportation facilities (including sidewalks, pathways, trails, crosswalks, and bicycle facilities) to enhance accessibility and determine the need for maintenance, replacement, or new infrastructure. Make improvements as required (as called for in the Age-Friendly Action Plan).
Action 5.3: Review and update current maintenance and operating policies and procedures for active transportation infrastructure, including sidewalks, bicycle lanes, and pathways.
Action 5.4: Ensure the City has appropriately sized equipment and operating funding to maintain all types of active transportation infrastructure.
Action 5.5: Continue to implement a voluntary snow removal program (i.e. Snow Angels) as an incentive for able-bodied residents to help others in clearing snow.
Action 5.6: Provide accessible detours for people walking and cycling during construction and maintenance.

Respondents were asked for their overall view of the proposed actions being recommended to enhance maintenance. As shown in the graph below, more than 73% of respondents feel positively about the recommended actions for enhancing maintenance.

What is your overall view of the proposed actions being recommended to enhance maintenance?



Additional comments from respondents were focused around keeping trails and paths cleared of snow (4) and ensuring that detours are accessible for all (2).

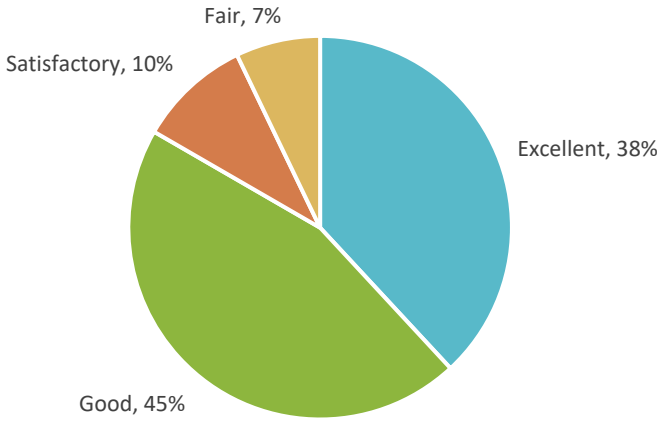
1.3.7 Amenities

Amenities focuses on creating space for people to sit, enhancing the environment through landscaping, and providing end-of-trip facilities, such as bicycle parking.

Action 6.1: Support the installation of public amenities such as seating, landscaping, and public art.
Action 6.2: Review requirements for short- and long-term bicycle parking and end-of-trip facilities. Ensure requirements support and encourage the use of e-bikes (i.e. charging), cargo bikes, and other 'non-standard' types of bicycles.
Action 6.3: Demonstrate leadership by providing high quality bicycle parking and end-of-trip facilities at all City owned and operated facilities.
Action 6.4: Develop a program to install short-term bicycle parking within the public right-of-way.
Action 6.5: Work with partners to consider the feasibility of developing an on-street bicycle corral program on commercial streets within the existing right of way.
Action 6.6: Develop a central hub for active transportation with a network map and information kiosk, protected bicycle parking, and other amenities in the City Centre.
Action 6.7: Work with event coordinators and partners to provide temporary bicycle parking at large community events (i.e. Bike Valet).

Survey respondents were asked for their overall view of the proposed actions being recommended to provide amenities. More than 83% of respondents feel positively about the recommendations for amenities.

What is your overall view of the proposed actions being recommended to provide amenities?



Respondents would like to see more public washrooms around the active transportation facilities, as well as additional seating (3). Some respondents are concerned about bicycle theft and personal safety within the city.

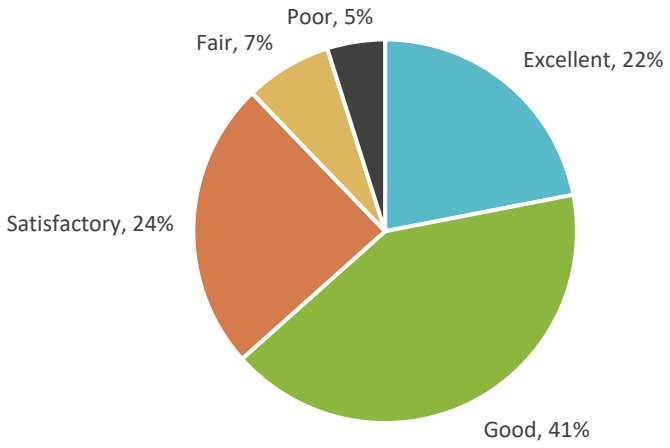
1.3.8 Creating Great Streets

Great streets include actions focused on creating more space for people walking and biking.

Action 7.1: Explore the development of a Parklet/Patio Program.
Action 7.2: Explore opportunities to create pedestrian-only streets either temporarily, seasonally, or permanently.
Action 7.3: Create a Complete Streets Guidelines for city streets.

Respondents were asked for their overall view of the proposed actions being recommended for creating great streets. 63% of respondents feel positively about the recommendations for creating great streets.

What is your overall view of the proposed actions being recommended for creating great streets?



When asked for additional comments, respondents said that they would like to see an increased focus on highlighting local and First Nations artisans and makers (2) and would like to see farmers and summer markets become more regular occurrences (2). Some respondents felt that this section lacked detail and clarity and are unsure of how these proposed actions will be implemented in Merritt (2).

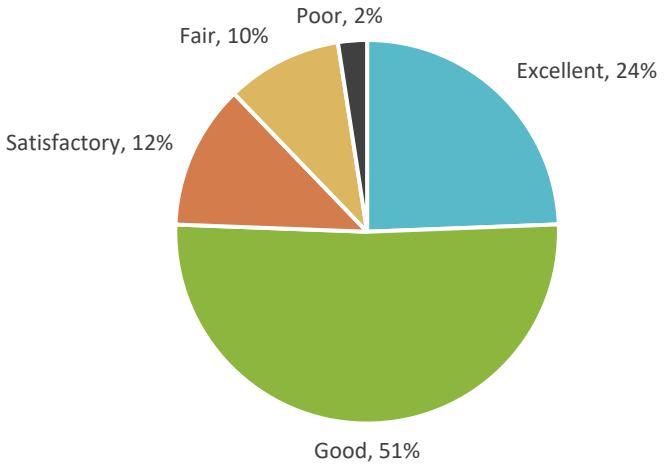
1.3.9 Wayfinding

Actions related to wayfinding include implementing a Wayfinding Signage Strategy and providing online and printed materials to help residents and visitors navigate the active transportation network.

Action 8.1: Continue to implement the Merritt Wayfinding Signage Strategy and add signage as new infrastructure is implemented.
Action 8.2: Continue to update the Merritt & Nicola Valley Trail Guide to include new facilities and infrastructure.
Action 8.3: Create online and printed Merritt Cycling Network maps showing local routes, trail connections, and regional connections, and continually incorporate new routes into the map.

Respondents were asked for their overall view of the proposed actions being recommended to enhance wayfinding. 75% of respondents feel positively about the wayfinding recommendations.

What is your overall view of the proposed actions being recommended to enhance wayfinding?



Respondents strongly believe that better wayfinding is required, particularly for trail heads and connections (x5).

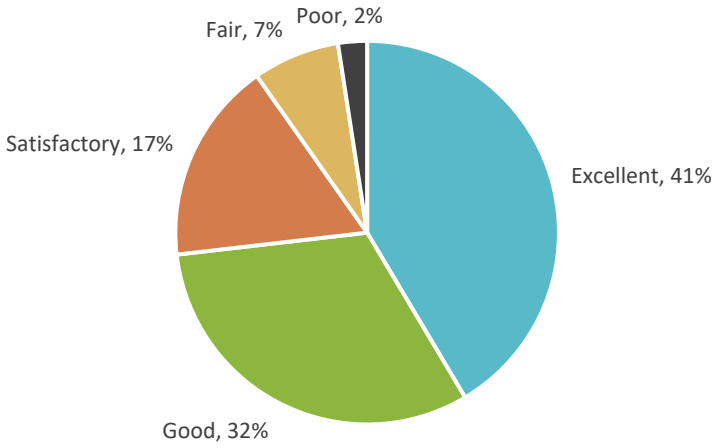
1.3.10 Education and Encouragement

Education and encouragement focused initiatives support tourism and celebrate active transportation and monitor the success of efforts to improve active transportation in Merritt.

Action 9.1: Support the development of a regional bicycle tourism initiative.
Action 9.2: Celebrate the installation of walking and cycling facilities with grand openings and events throughout the year.
Action 9.3: Continue to actively market and promote active transportation through various forms of media.
Action 9.4: Work with partners to provide bicycle education and skills training for children, youth, and adults and promote active travel to work and school.
Action 9.5: Develop an active transportation data collection and monitoring program, including a network of counters on cycling routes and trails to monitor activity.
Action 9.6: Implement a reporting program to communicate results of the monitoring program on an annual basis.

Respondents were asked for their overall view of the proposed actions being recommended for education and encouragement. 73% of respondents feel positively about the recommendations for education and encouragement.

What is your overall view of the proposed actions being recommended for education and encouragement?

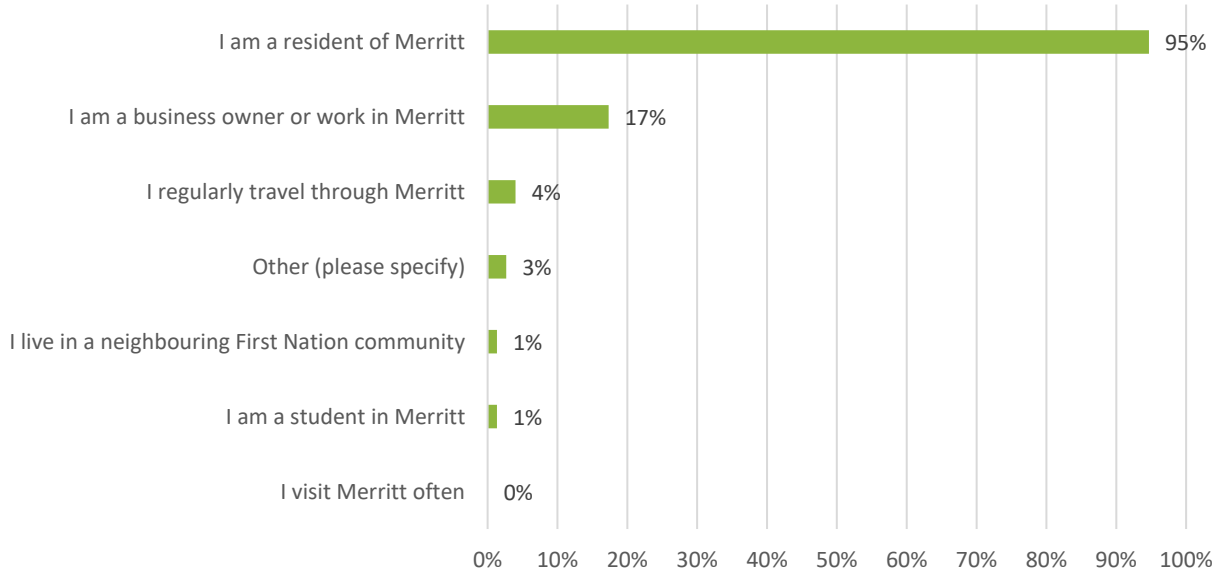


Those respondents who added additional comments identified wanting to see more bike and climate change education to better inform and promote active transportation, specifically cycling.

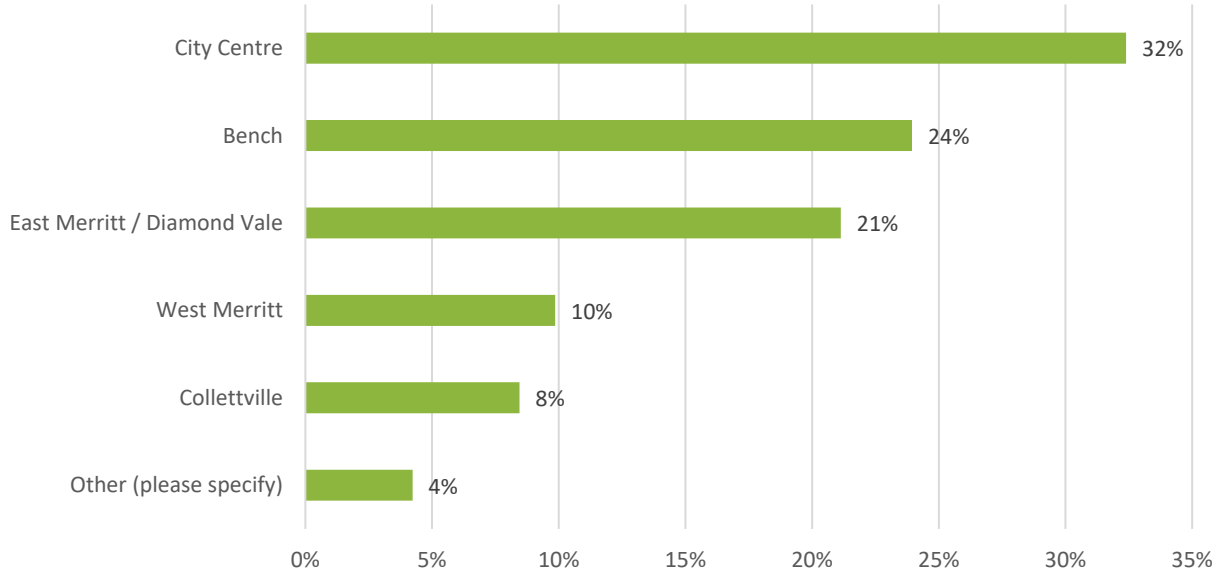
1.3.11 Demographics

Survey participants were asked the following demographic questions to capture who participated in the survey and identify groups we may have missed and need to seek out during later phases of engagement.

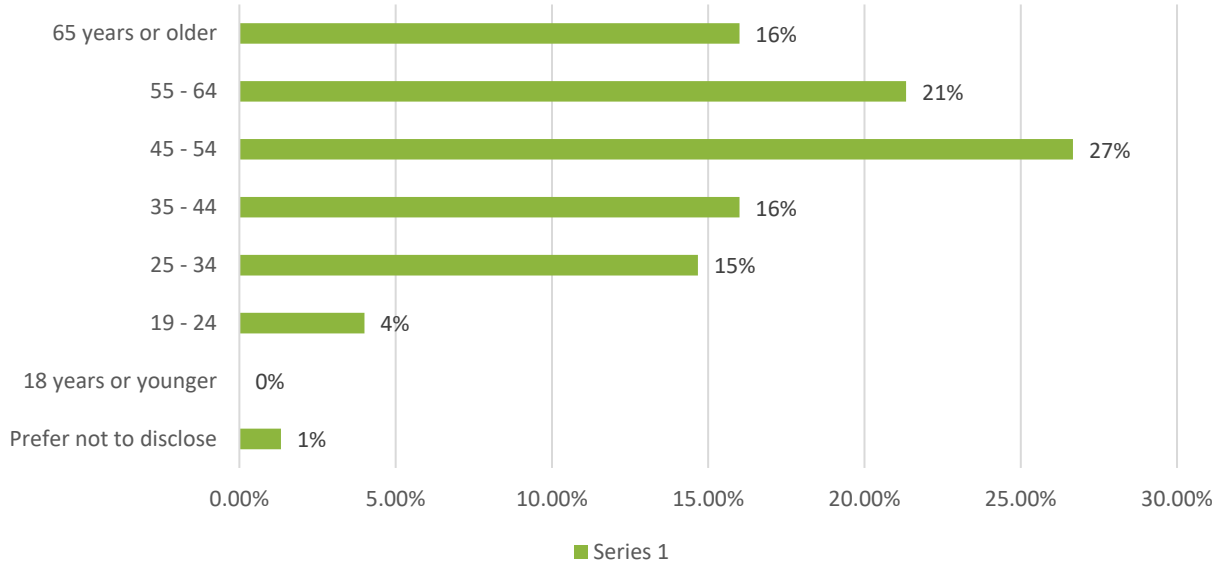
Which best describes you?



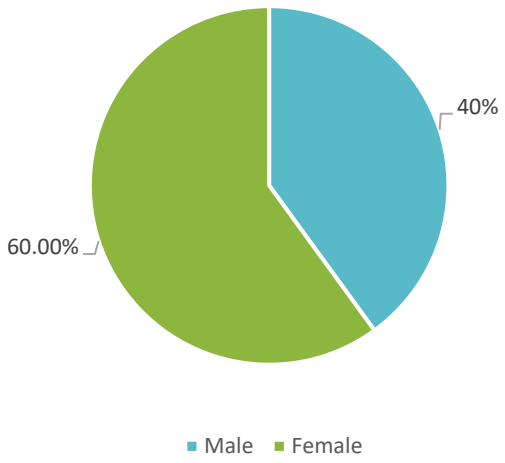
If you are a resident of Merritt, what neighbourhood do you live in?



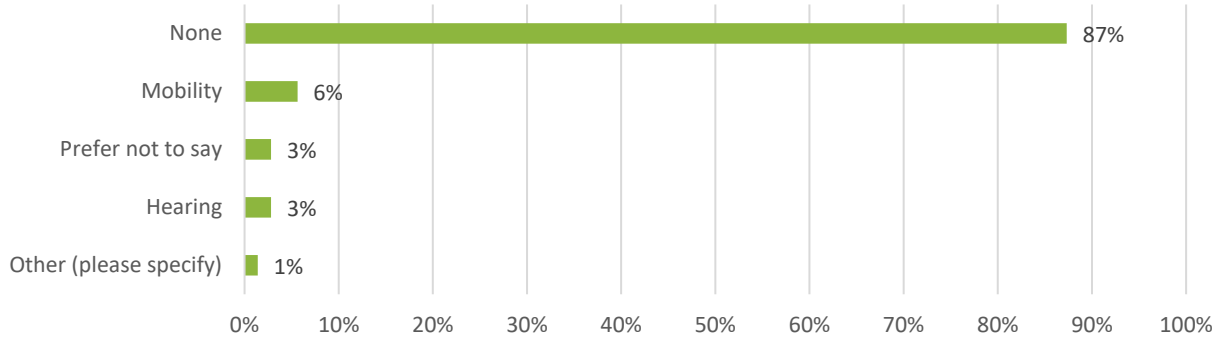
What is your age?



What is your gender?



Do you have any limitations?



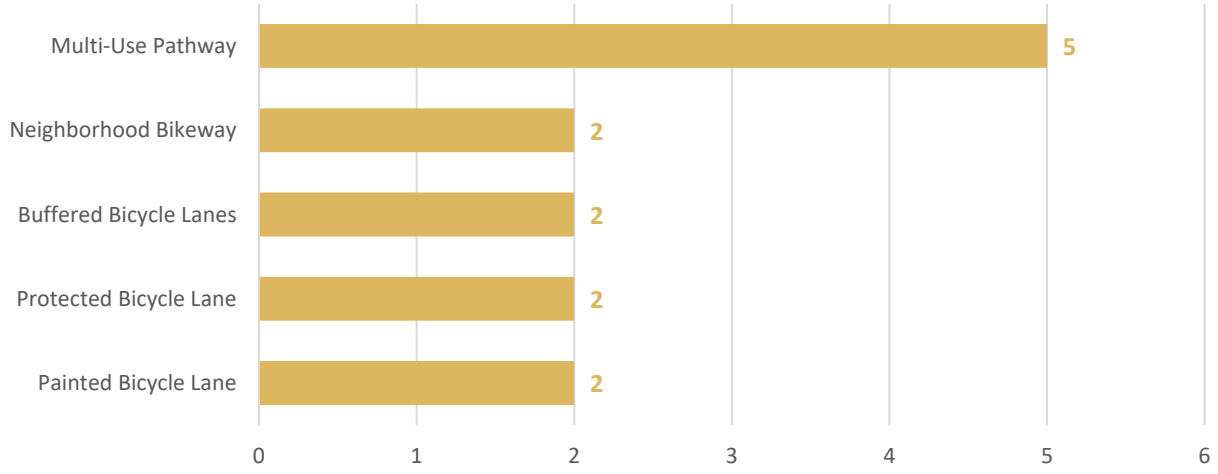
1.4 Online Survey #3

The final engagement activity was originally planned as an in-person physically distanced walking and biking tour. With a spike in COVID-19 cases in the Fall 2020, the project team adjusted their approach by hosting the tours virtually. This was administered through ESRI StoryMap, an online engagement platform. The StoryMap was designed to take community members through an immersive experience, first educating site visitors on the benefits of active transportation and types of facilities before showcasing some of the proposed active transportation policies and network improvements in a virtual tour. The StoryMap ended with a series of survey questions to solicit input on the policies and network improvements presented. In total, 7 responses were received with the results summarized below.

1.4.1 Types of Cycling Routes

Survey participants were asked to identify their top two types of cycling routes based on a list of five as well as the option to add additional facility types. Multi-use pathways were the most popular among respondents, with five of the seven respondents selecting this type of facility.

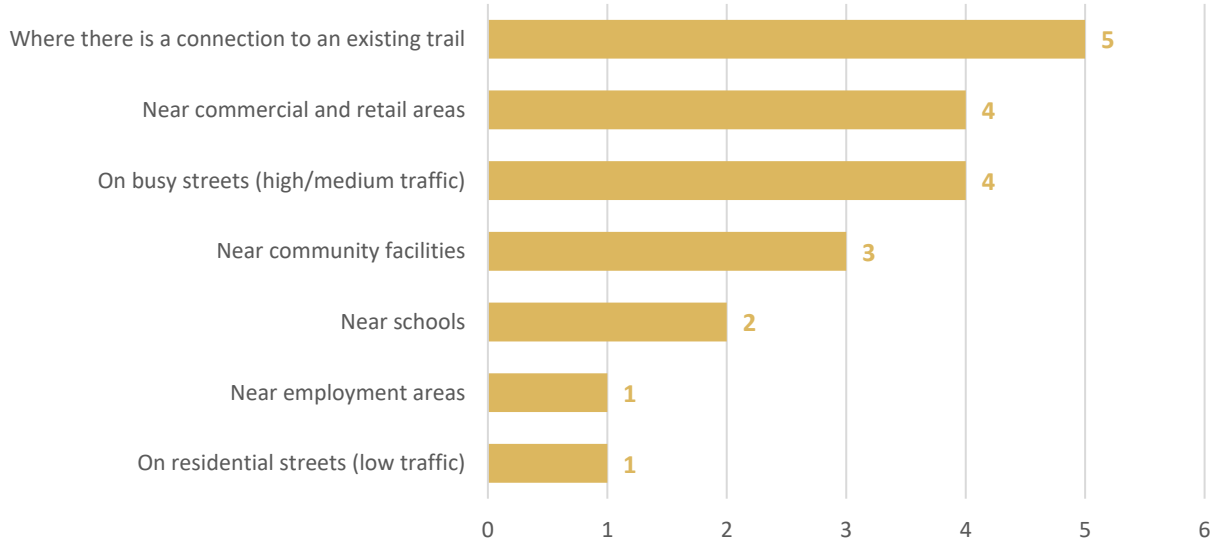
The City's proposed cycling network is made up of several different types of routes, please identify your top two types of cycling routes?



1.4.2 Priority Locations

To better understand where community members would like to see new trails, sidewalks, and bike routes, the survey included a question asking participants to identify where they would like to see the City prioritize new infrastructure and facilities. Locations "where this is a connection to an existing trail" was the most popular location among respondents with five out of the seven respondents identifying this location, followed by "near commercial and retail areas" (4 of 7 respondents) and "on busy streets" (4 of 7 respondents). Close to transit stops ad stations was included as an option, however it was not identified as a priority by any respondents and is therefore not included in the graph below.

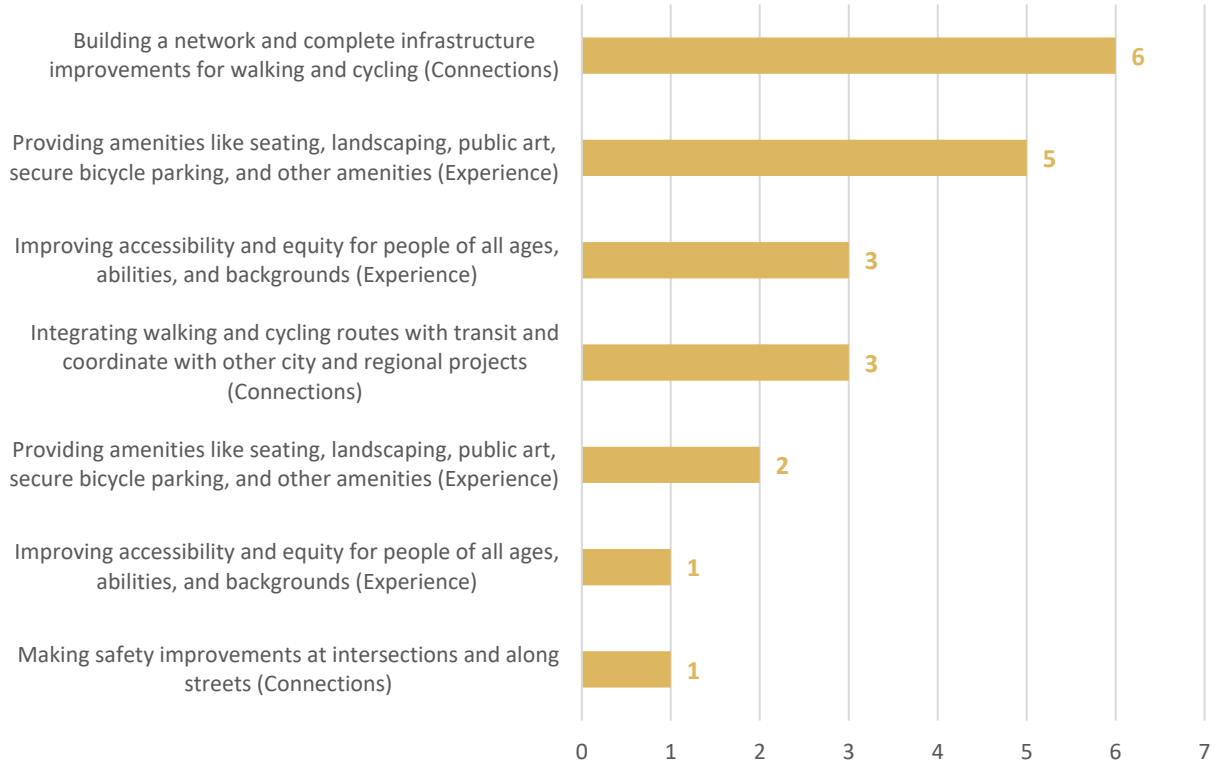
There are several locations within the City where there are no or very few trials, sidewalks, and bike routes. Where would you prioritize building new trials, sidewalks, and bike routes?



1.4.3 Implementation Priorities

Participants were then asked to provide feedback on how best to implement investments in active transportation by selecting which three draft policies they would like to see prioritized. "Building a network and complete infrastructure improvements for walking and cycling" was the most popular among respondents with six of the seven respondents prioritizing this policy, following by "providing amenities like seating, landscaping, public art, secure bicycle parking, and other amenities" (5 of 7 respondents). Both policies under Culture ("providing more signs, maps, and other information to help people get around by foot and bike" and "encouraging walking and cycling through special events, tourism, skills training, and marketing") were not selected as a priority by any respondent and therefore have not been included on the graph below.

The draft policies identified in the active transportation plan are divided into three action areas? Thinking about prioritizing how the City invests in active transportation, how would you prioritize implementing the plan?



1.4.4 Additional Policies and Actions

Survey participants were then asked to identify any missing actions or policies they would like to see included in the Active Transportation Plan. Two participants provided a response to this question as shown below:

- Is it possible to build a route from Diamond Vale to Walmart?
- All season access to connecting pathways will need to be addressed. Having a look at better snow clearance equipment for our already amazing works staff would be important to consider in costing out improvements.

1.4.5 Final Comments

To end the survey, participants were invited to provide any closing comments. Five participants providing final comments as shown below:

- While multi-use pathways or protected bike lines are preferred, they are also more expensive. To me, the key is being confident that I can get anywhere by bike, so I would much rather allocate dollars to blanketing the whole City in less expensive painted or buffered bike lanes than see a few, higher-quality paths.

- The public works crews need to have the personnel/staff to be able to maintain what we currently have and what this plan is proposing.
- A sidewalk on one side is needed on Armstrong Street. Walking home at night is dangerous!
- Accessing mailboxes during icy conditions is treacherous! The boxes on Government at Main is a good example to check out once we've had a cold spell.
- Merritt has a ton of potential to bring back a vibrant city centre. Connecting bike and walking paths throughout Merritt, that are esthetically pleasing, with easy access to town would only make it that much more desirable to shop in town and honour the small businesses. Not to mention, encourage more business and in turn, tourists. I suggest that concentration on biking and walking is devoted to the areas in and around town, rather than up into gasoline alley and the big stores.

Appendix C

Implementation Plan

Appendix C: Implementation Plan

Table 6: Implementation Plan Summary

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
	CONNECTIONS THEME							
1	**NETWORK** ACTIONS							
1.1	Develop a pedestrian infrastructure plan and prioritize locations for increasing sidewalk coverage. • Create a GIS inventory of the existing sidewalk network. The inventory should include information about location, width, material, and quality of the sidewalk. • Identify gaps in the pedestrian network and propose new sidewalk projects. • Develop a sidewalk improvement program to widen or replace sidewalks that do not meet minimum standards and/or are in poor condition. • Develop a prioritization matrix and build a prioritized list of projects, focusing on providing accessibility to key destinations (e.g., schools, transit, businesses, healthcare facilities, etc.). • Based on the priorities identified, create a sidewalk implementation plan for new sidewalks and upgrades.	✓					✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Recreation & Facilities • Engineering & Public Works • Finance & IT • Communications
1.2	Implement a complete and connected city-wide pedestrian network through a phased implementation approach. • Implement the proposed sidewalk implementation plan as outlined in Action 1.1.	Ongoing			✓			City of Merritt: • Engineering & Public Works • Planning & Development Services
1.3	Implement a complete and connected city-wide cycling network for people of all ages and abilities through a phased implementation approach. • Implement the proposed cycling network implementation plan as outlined in Section 3 of the Active Transportation Plan.	Ongoing			✓			City of Merritt: • Engineering & Public Works • Planning & Development Services
1.4	Review and upgrade existing multi-use pathways and trails, as required. • Implement the proposed multi-use pathway upgrades as outlined in Section 3 of the Active Transportation Plan. • Continue to monitor the quality of existing pathway infrastructure and inventory locations where upgrades are needed.	Ongoing			✓			City of Merritt: • Recreation & Facilities • Engineering & Public Works • Planning & Development Services
1.5	Consider the impact of new mobility technologies on the active transportation network and facility design. • Ensure new active transportation facilities are designed for all intended users, recognizing that the operating envelopes and speeds of new mobility technologies may impact facility design (e.g., facility width and the need for users to be separated). • Explore the feasibility of creating a bikeshare or scooter share program in Merritt.	Ongoing			✓	✓	✓	City of Merritt: • Planning & Development Services • Finance & IT • Engineering & Public Works • Recreation & Facilities

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
1.6	Review the Traffic Bylaw and update to align with best practice standards that support active transportation. • Conduct a best practice precedent review of peer municipalities to identify active transportation supportive legislation. Update the Traffic Bylaw based on this review. • Update the Traffic Bylaw to allow the use of roller skates, inline skates, skateboards, foot-propelled scooters, and other small apparatuses (including small, one-person electric vehicles such as electric scooters and skateboards) within the City Centre.		✓				✓	City of Merritt: • Engineering & Public Works • Planning & Development Services • Community Policing Office
2	**INTEGRATION** ACTIONS							
2.1	Work with regional partners to provide well-integrated active transportation connections to adjacent communities and regional trails. • When implementing the Active Transportation Plan, conduct ongoing stakeholder meetings with First Nation communities, neighbouring municipalities, and the Thompson-Nicola Regional District. • Meet regularly with the Ministry of Transportation and Infrastructure to provide high quality walking and cycling infrastructure on roads under their jurisdiction.	Ongoing			✓			City of Merritt: • Planning & Development Services • Communications • Corporate Services • Economic Development & Tourism *With support from partners & stakeholders*
2.2	Ensure land use policies support and encourage active transportation. • Incorporate the actions identified in the Active Transportation Plan into the City's Official Community Plan, Zoning Bylaw, and neighbourhood development plans.	Ongoing					✓	City of Merritt: • Planning & Development Services • Corporate Services
2.3	Ensure all new plans, projects, and developments integrate with the active transportation network. • Seek opportunities to implement new pedestrian and cycling facilities in conjunction with other projects, plans, and developments. • Ensure future development projects include active transportation infrastructure (including new sidewalks, bicycle facilities, multi-use pathways, and amenities) and are connected to the network outlined in Section 3 of the Active Transportation Plan. • Develop a list of reference criteria for reviewing new plans, developments, and infrastructure projects.	Ongoing				✓	✓	City of Merritt: • Planning & Development Services • Engineering & Public Works • Recreation & Facilities • Communications *With support from partners & stakeholders*
2.4	Improve transit integration by providing direct and accessible walking and cycling connections to local transit stops, regional bus connections, and the airport. • Create a GIS inventory of all existing transit stops. The inventory should include information about location, shelters, seating, and accessibility (e.g., accessible landing pads, sidewalk connections, and crosswalks and curb ramps at nearby intersections). • Develop a transit stop improvement program to upgrade transit stops, working towards ensuring all transit stops are accessible. • Develop a prioritization matrix and build a prioritized list of transit stop improvements, focusing on providing accessibility to key destinations (e.g., places of employment, healthcare facilities, businesses, etc.).	Ongoing			✓			City of Merritt: • Planning & Development Services • Engineering & Public Works • Communications • Economic Development & Tourism *With support from BC Transit*

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
	• Continue to prioritize the implementation of active transportation infrastructure that connects to transit stops, regional bus connections, and the airport.							
2.5	Create an internal Active Transportation, Trails, and Accessibility Working Group. • Develop an internal group of department representatives that meet regularly to find ways to integrate active transportation in an efficient and effective manner across all municipal operations. • Review existing Council Committees and consider the development of an active transportation committee.	✓					✓	City of Merritt: • CAO • Corporate Services • Human Resources • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works • Recreation & Facilities • Finance & IT • Communications
2.6	Create a Future Alternative Transportation Infrastructure Reserve Fund. • Create a unique reserve funds bylaw for "transportation infrastructure that supports walking, bicycling, public transit or other alternative forms of transportation," as outlined in the Local Government Act (LGA 906 (7)).	✓					✓	City of Merritt: • Finance & IT • Planning & Development Services • Engineering & Public Works
2.7	Incorporate design best practices from the Merritt Design Guide for Bicycle Infrastructure and the B.C. Active Transportation Design Guide into the Merritt Subdivision and Development Servicing Bylaw. • Review and update the Merritt Subdivision and Development Servicing Bylaw to include cross-sections and design best practices from the City's Design Guide for Bicycle Infrastructure and the B.C. Active Transportation Design Guide. • Review sidewalk requirements on roadways and update to reflect best practices in the B.C. Active Transportation Design Guide.	✓					✓	City of Merritt: • Planning & Development Services • Engineering & Public Works
3	**SAFETY** ACTIONS							
3.1	Continue to conduct safety studies of collision locations involving people walking, cycling, and using trails to understand, monitor, and address safety concerns. • Review data reported to the City and collected by ICBC, the RCMP, and Interior Health to monitor pedestrian and cycling collisions, near misses, and other safety concerns. • Identify and implement safety mitigation measures on a case-by-case basis.	Ongoing					✓	City of Merritt: • Planning & Development Services • Fire Department • RCMP • Community Policing Office • Engineering & Public Works

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
3.2	Improve safety along active transportation facilities by considering visibility, sightlines, and access where appropriate. • Continue to implement the actions outlined in the Age Friendly Action Plan (Age Friendly Action Plan: Action 1.3). • Continue to audit intersections and crossings for pedestrian safety and accessibility, and make improvements as required. • Develop a program to inventory and inspect crosswalks throughout the City. • Inspect crosswalks to ensure they are well maintained, marked, and painted to enhance visibility. Ensure sightlines are unobstructed by vegetation, parking, and other potential obstructions. • Provide enhanced pedestrian crossings in the City Centre and in other areas of high pedestrian activity. • Identify additional pedestrian and bicycle crossings where warranted or where they connect segments of the active transportation network. • Improve crossing treatments where multi-use pathways intersect with a roadway in accordance with current best practices. • Inventory the location of curb ramps and accessibility features at intersections. • Develop a prioritization plan for enhancing existing crossings. • Provide accessible curb ramps with tactile features at all intersections.	Ongoing			✓			City of Merritt: • Engineering & Public Works • Recreation & Facilities • Planning & Development Services • Economic Development & Tourism
3.3	Continue to explore the feasibility of reducing speed limits, in conjunction with traffic calming and traffic diversion. • Explore the feasibility of reducing posted speed limits on residential roads. • Identify opportunities for installing infrastructure features such as speed humps, curb extensions, traffic circles, and traffic diversion to help reduce motor vehicle speeds and volumes.	✓			✓		✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works • Communications • Corporate Services
3.4	Enhance lighting along sidewalks, pathways, trails, and intersections where appropriate. • Conduct an inventory of existing lighting. The inventory should include information about location and lighting type. • Review lighting locations (including referencing the results of previous Merritt Business Walk Reports) and consider the installation of more lighting where warranted. • Ensure additional lighting is appropriate within the context, pedestrian scale, and dark sky compliant. • Work with BC Hydro to seek opportunities to provide additional lighting throughout the City.		✓		✓			City of Merritt: • Planning & Development Services • Engineering & Public Works • Community Policing Office • RCMP
3.5	Track and monitor the impacts of COVID-19 and look for opportunities to create a safe and resilient active transportation network. • Seek to rapidly implement projects identified in the Active Transportation Plan through tactical urbanism approaches using low cost, temporary, adjustable materials, with a goal of providing pedestrians with sufficient room to maintain proper physical distancing (2 metres). • Look for opportunities to leverage COVID-19 stimulus funding to accelerate the implementation of the Active Transportation Plan.	✓			✓	✓	✓	City of Merritt: • Planning & Development Services • Finance (Grants Coordinator)

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
	EXPERIENCE THEME							
4	**UNIVERSAL DESIGN** ACTIONS							
4.1	Apply an intersectional, equity-focused lens to the planning, design, and implementation of all active transportation facilities, amenities, and programs to support equity-seeking groups. • Identify and work with stakeholders, including marginalized and under-represented groups, to develop a checklist of the different lenses and factors that should be considered during the design and implementation of all active transportation facilities, amenities, and programs. • Consider conducting a GIS spatial equity analysis, using Statistics Canada data, to identify areas of the City where the need for equity is greatest.	Ongoing			✓	✓	✓	City of Merritt: • Planning & Development Services • Community Policing Office
4.2	Conduct targeted communication and engagement regarding active transportation projects with equity-seeking groups to understand their unique needs and issues. • Identify neighbourhoods, stakeholders, and marginalized and under-represented groups, then reach out to them and understand how they would like to be engaged. • Actively involve the City of Merritt Communications Department and ensure targeted communication and engagement is conducted with groups that are typically under-represented in the planning and design process. • After project implementation, monitor and check-in with equity-seeking groups to make sure the project is having the desired effect and that the design has not created unintended negative consequences for any group.	Ongoing					✓	City of Merritt: • Communications • Planning & Development Services • Community Policing Office
4.3	Ensure best practices in accessibility are considered for new transportation infrastructure projects. • Review and revise the Merritt Accessibility Requirements for Persons with Disabilities guide to include requirements for active transportation facilities and based on input from the Age-Friendly and Accessibility Advisory Committee. • Continue to ensure best practices in accessibility are considered for new transportation infrastructure projects.	✓					✓	City of Merritt: • Planning & Development Services • Engineering & Public Works • Recreation & Facilities
4.4	Review and update pedestrian crossing times at intersections to provide adequate crossing time for all users. • Review and update pedestrian crossing times and signal phasing at intersections to ensure adequate time is provided for all road users.	Ongoing				✓		MOTI & City of Merritt: • Engineering & Public Works • Planning & Development Services
4.5	Reduce pedestrian crossing distances by providing narrower roads and lanes and considering curb extensions or median islands where feasible, particularly within the City Centre. • Review existing pedestrian crossing locations and look for opportunities to reduce crossing distances by providing narrower roads and lanes and considering curb extensions where feasible.	Ongoing			✓			City of Merritt: • Planning & Development Services • Engineering & Public Works

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
5	**MAINTENANCE** ACTIONS							
5.1	Design active transportation facilities to provide adequate drainage, snow storage and removal, and sand and gravel removal. • Follow guidance provided in the B.C. Active Transportation Design Guide and the City's Design Guide for Bicycle Infrastructure specific to maintenance considerations.	Ongoing			✓	✓		City of Merritt: • Engineering & Public Works • Planning & development Services
5.2	Continue to regularly inspect active transportation facilities (including sidewalks, pathways, trails, crosswalks, and bicycle facilities) to enhance accessibility and determine the need for maintenance, replacement, or new infrastructure. Make improvements as required. • Continue to implement the actions outlined in the Age Friendly Action Plan (Age Friendly Action Plan: Action 1.2).	Ongoing			✓	✓		City of Merritt: • Engineering & Public Works • Planning & development Services
5.3	Review and update current maintenance and operating policies and procedures for active transportation infrastructure, including sidewalks, bicycle lanes, and multi-use pathways. • Review existing debris, sand, gravel, ice, and snow removal requirements for walking and cycling infrastructure, including multi-use pathways, and provide additional guidance specific to on-street bicycle facilities. • Consider re-prioritizing maintenance on streets with cycling facilities. • Review and update procedures for maintenance and the removal of sand, gravel, snow, and ice on active transportation infrastructure. This includes departmental responsibilities, employed contractors, and the existing fleet of machinery.		✓			✓	✓	City of Merritt: • Engineering & Public Works • Planning & development Services
5.4	Ensure the City has appropriately sized equipment and operating funding to maintain all types of active transportation infrastructure. • Review current maintenance funding and equipment levels required to maintain all planned and existing types of active transportation infrastructure. • As more walking and cycling facilitates are installed, ensure the amount of funding available grows in accordance with the amount of infrastructure being added to the network.	Ongoing			✓	✓		City of Merritt: • Finance & IT • Engineering & Public Works • Planning & Development
5.5	Work with partners to revise and implement a sidewalk snow removal program as an incentive for able-bodied residents to help others in clearing snow. • Work with partners to implement a sidewalk snow removal program as incentive for residents to help others in clearing snow. • Promote the sidewalk snow removal program through the City's website and in the media in accordance with the City of Merritt Communications Plan.	Ongoing			✓		✓	City of Merritt: • Corporate Services • Communications • Engineering & Public Works • Planning & Development Services
5.6	Provide accessible detours for people walking and cycling during construction and maintenance. • Review current construction detour policies and develop new guidelines for contractors and City departments to ensure that they represent best practice for accommodating all active transportation users during construction and maintenance.	Ongoing				✓	✓	City of Merritt: • Engineering & Public Works • Planning & Development Services • Communications

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
6	**AMENITIES** ACTIONS							
6.1	Support the installation of public amenities such as seating, landscaping, and public art. • Develop guidelines for the installation of public amenities through capital projects and developments. • Identify an annual budget for the installation of public amenities. • Consider developing a policy where a designated percentage of capital budgets for certain projects (municipal building projects, active transportation projects, parks development, and redevelopment projects) goes towards commissioning new and maintaining existing public art pieces. • Develop a public art program that includes guidelines for partnering with local artists, provides opportunities for equity-seeking groups, and seeks opportunities for partnering with and celebrating the area's Indigenous Peoples.	Ongoing			✓		✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works • Recreation & Facilities • Finance & IT
6.2	Provide more public washrooms near walking and biking facilities. • Continue to implement more public washrooms in parks and near walking and bicycle facilities.	✓	✓		✓	✓	✓	City of Merritt: • Recreation & Facilities • Engineering & Public Works • Planning & Development Services • Economic Development & Tourism • Community Policing Office
6.3	Review requirements for short- and long-term bicycle parking and end-of-trip facilities. Ensure requirements support and encourage the use of e-bikes (i.e., charging), cargo bikes, and other 'non-standard' types of bicycles. • Review and update the City's Zoning Bylaw to ensure that ample secure parking is being provided based on best practices in similar communities, guidance from the B.C. Active Transportation Design Guide, and a review of existing bicycle parking utilization, including accounting for the space requirements for 'non-standard' bicycles. • Amend the Zoning Bylaw to include guidelines for change rooms and shower facilities and include regulations or requirements for these facilities.	✓					✓	Local Businesses & City of Merritt: • Planning & Development Services • Economic Development & Tourism • Corporate Services
6.4	Demonstrate leadership by providing high quality bicycle parking and end-of-trip facilities at all City owned and operated facilities. • Conduct an inventory of bicycle parking at City owned and operated facilities. • Identify the type and quantity of bicycle parking and end-of-trip facilities required and appropriate for each of building. • Ensure that the provision of both short- and long-term bicycle parking at civic facilities is generally consistent with requirements for new developments.	✓			✓	✓		City of Merritt: • Recreation & Facilities • Engineering & Public Works • Planning & Development Services

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
6.5	Develop a program to install short-term bicycle parking within the public right-of-way. • Conduct an inventory of existing bicycle parking facilities within the City Centre and at other high activity locations. • Develop a program to install bicycle parking within the City Centre and at other high activity locations. Ensure the program is also designed to support businesses and other partners in implementing more bicycle parking as desired. • Identify an annual budget for the installation of bicycle parking facilities. • Install bicycle parking in the City Centre and at other high activity locations/destinations within the City.	✓					✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works • Finance & IT
6.6	Work with partners to consider the feasibility of developing an on-street bicycle corral program on commercial streets within the existing right of way. • Work with businesses and other interested partners to develop an on-street bicycle corral program and look for opportunities to increase on-street parking in strategic locations with bicycle corrals.		✓				✓	Local Businesses & City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works
6.7	Develop a central hub for active transportation with a network map and information kiosk, protected bicycle parking, and other amenities in the City Centre. • Identify a location for a central hub for active transportation. Install an information kiosk that provides covered bicycle parking, a bike repair station, maps, and information on the on-street and off-street cycling network, as well as other destinations within the city and region. • Identify locations in high demand locations and as new infrastructure is installed for the installation of bicycle repair stations.	✓			✓			City of Merritt: • Planning & Development Services • Economic Development & Tourism • Recreation & Facilities • Engineering & Public Works • Communications
6.8	Work with event coordinators and partners to provide temporary bicycle parking at large community events (i.e., Bike Valet). • Find community champions for this initiative or contract with an existing organization to provide this service. • Work with event coordinators to ensure that temporary bicycle parking is provided at large community events.		✓				✓	City of Merritt: • Recreation & Facilities • Economic Development & Tourism • Communications
6.9	Provide additional seating, end-of-trip facilities, and other amenities in parks and along pathways and trails. • Install 'amenity hubs' including bicycle parking, bicycle repair stands, seating, waste disposal, and map kiosks at strategic locations in parks and/or along trails and pathways (e.g. an amenity hub is proposed for the eastern end of the Coldwater River Trail, just off Vought Street). • Identify gaps between seating opportunities along key walking corridors and provide additional seating.	✓	✓		✓	✓		City of Merritt: • Recreation & Facilities • Engineering & Public Works • Planning & Development Services • Communications

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
	CULTURE THEME							
7	**GREAT STREETS** ACTIONS							
7.1	Explore the development of a Parklet/Patio Program. • Work with interested businesses and other stakeholders to explore the development of a Parklet/Patio program and explore opportunities for partnership • Consider a temporary pilot project using tactical urbanism elements and temporary materials to test ideas and elicit community feedback. • Update bylaws as necessary to facilitate permanent installation.	✓	✓				✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works
7.2	Explore opportunities to create pedestrian-only streets, either temporarily, seasonally, or permanently. • Identify potential locations for temporary, seasonal, or permanent pedestrian-only streets. • Engage with businesses and stakeholders on the level of interest and support for such initiatives. Prepare case study examples and in advance of discussions.		✓	✓	✓			City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works • Fire Department
7.3	Create a Complete Streets Guidelines for city streets. • Develop Complete Street Guidelines based on best practices and existing guidance. • Ensure that all new road projects incorporate complete streets designs and principles.	✓					✓	City of Merritt: • Planning & Development Services • Engineering & Public Works • Communications
8	**WAYFINDING** ACTIONS							
8.1	Review and update the Merritt Wayfinding Signage Strategy to include guidance for wayfinding for active transportation and add signage as new infrastructure is implemented. • Review and update the Merritt Wayfinding Signage Strategy to include best practice guidance on pedestrian and cycling wayfinding. • Follow the direction of the updated Merritt Wayfinding Signage Strategy and add signage as new active transportation infrastructure is implemented.	Ongoing			✓		✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Recreation & Facilities • Engineering & Public Works
8.2	Continue to update the Merritt & Nicola Valley Trail Guide to include new facilities and infrastructure. • Work with partners to update the Merritt & Nicola Valley Trail Guide as new facilities and infrastructure is implemented.	Ongoing					✓	City of Merritt: • Economic Development & Tourism • Recreation & Facilities
8.3	Create online and printed Merritt Cycling Network maps showing local routes, trail connections, and regional connections, and continually incorporate new routes into the map.	Ongoing					✓	City of Merritt: • Engineering & Public Works • Communications

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
	• Develop an online and printed Cycling Network Map in an easy-to-read format. This will ensure people interested in cycling have access to the most accurate network information. • Add the cycling network to the City's online GIS site. • Update the Cycling Network Map as new infrastructure is installed.							• Planning & Development Services • Recreation & Facilities • Economic Development & Tourism
9	**EDUCATION AND ENCOURAGEMENT** ACTIONS							
9.1	Support the development of a regional bicycle tourism initiative. • Review and revise the Merritt/Nicola Valley tourism plan to include a strategy to promote cycling, hiking, mountain biking, and other activities in Merritt and the region. • Continue to promote and update the existing hiking and biking resources on the City's website and social media channels. • Partner with local organizations, the Thompson Okanagan Tourism Association, and Destination BC to promote active transportation options and activities for visitors. • Work to encourage hotels and bed and breakfasts to invest in bicycles and umbrellas to lend to their patrons to support active transportation.		✓				✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Recreation & Facilities • Communications *With support from partners & stakeholders*
9.2	Continue to actively market and promote active transportation through various forms of media. • Develop an Active Transportation Promotion and Education Strategy. • Follow and implement the actions identified in the Active Transportation Promotion and Education Strategy. • Consider allocating a portion of capital project funding to education, awareness, and encouragement.	Ongoing					✓	City of Merritt: • Communications • Planning & Development Services • Finance & IT *With support from partners*
9.3	Support the attraction of active transportation businesses to enhance the local cluster of businesses that provide active transportation services, products, and experiences. • Actively recruit active transportation businesses to locate in Merritt.							City of Merritt: • Communications • Economic Development & Tourism
9.4	Celebrate the installation of walking and cycling facilities with grand openings and events throughout the year. • Building on the recommendations of the Active Transportation Promotion and Education Strategy, find opportunities to celebrate the installation of new active transportation projects. This can be done through website material, videos, posts on social media, and events that raise awareness and get people excited about the ongoing implementation of the Active Transportation Plan.	Ongoing					✓	City of Merritt: • Communications • Planning & Development Services
9.5	Work with partners to provide bicycle education and skills training for children, youth, and adults and promote active travel to work and school. • Support the active and safe routes to school programming and initiatives. • Work with partners to provide bicycle education and skills training for students in elementary school. • Support and encourage targeted community outreach programs for older adults.	Ongoing					✓	City of Merritt: • Recreation & Facilities • Planning & Development Services

#	THEMES AND ACTIONS	TIMEFRAME			METHOD OF IMPLEMENTION			LEADERSHIP
		Short-Term 0-5 yr	Medium-Term 5 -10 yr	Long-Term 10+ yr	Capital	Operations & Maintenance	Policy & Programming	
	• Partner with organizations in the development of road safety awareness and education campaigns for all road users.							• Communications *With support from partners & stakeholders*
9.6	Recruit and encourage volunteers to support active transportation related programs and initiatives. • Develop a strategy and program that works to recruit and encourage volunteers to support active transportation related programs and initiatives. • Celebrate one or more volunteers each year by interviewing them and presenting a small gift of appreciation.	✓					✓	City of Merritt: • Communications • Corporate Services • Recreation & Facilities *With support from partners*
9.7	Develop an active transportation data collection and monitoring program, including a network of counters on cycling routes and trails to monitor activity. • Develop an Active Transportation Data Collection Strategy. • Install automatic bicycle and/or pedestrian counters as part of all new infrastructure projects.		✓		✓		✓	City of Merritt: • Engineering & Public Works • Planning & Development Services • Communications
9.8	Implement a reporting program to communicate results of the monitoring program on an annual basis. • Develop a Transportation Report Card to track the implementation of the active transportation plan and to monitor the development of walking, cycling and transit activity in the community. • Develop a five-year Active Transportation Action Plan and report on progress annually.		✓				✓	City of Merritt: • Planning & Development Services • Economic Development & Tourism • Engineering & Public Works • Recreation & Facilities • Communications

Appendix D

Bicycle Facility Design Guide

City of Merritt Active Transportation Plan

Bicycle Facility Design Guide

February 2021

Contents

1 Introduction

The purpose of this design guide is to supplement the Active Transportation Plan and provide guidance to the City when selecting, designing future bicycle facilities. This document includes a bicycle facility selection tool as well as guidelines for the recommended widths, signage, and pavement markings for a range of cycling facilities.

This document has been developed based on best practice and guidance from the British Columbia Active Transportation Design Guide (BCAT) and the Transportation Association of Canada (TAC) Geometric Design Guidelines for Canadian Roads. Figures and graphics will be pulled from existing guidelines to illustrate preferred designs.

2 Planning and Considerations

2.1 Design Domain

The BC Active Transportation Design Guide includes two levels within the design domain: desired and constrained with absolute minimums and maximums provided where applicable. These levels will be used for these guidelines.

This range has a relationship with the fitness-for-purpose of the design element. Values on the lower end of the range will be less costly to construct but provide a less satisfactory experience for users, while values on the higher end of the range may run into cost issues or space constraints. Whichever value is chosen will have unique benefits and constraints in terms of operational performance and the experience of the user. While all values within the range of the Design Domain are acceptable, some may be better than others for a given situation. Engineering judgement will need to be used to determine this in any given situation.

2.2 Calculating Measurements

Where there is a curb and/or gutter, all measurements in this document are measured from the lip of gutter (as opposed to the face of curb) and exclude the gutter pan. Where there is no curb and/or gutter, all measurements in this Design Guide are measured to the edge of pavement. In addition, measurements to longitudinal pavement markings are calculated to the centre of the painted line.

2.3 Bicycle Dimensions and Operating Space

Bicycles come in many shapes and sizes, with "non-standard" bicycles becoming increasingly common in British Columbia and across North America. Bicycle facilities must be designed to accommodate the full range of bicycles, including standard bicycles such as road, touring, mountain, and hybrid styles, but also children's bicycles, adult tricycles, cargo bicycles, bicycles with trailers, electric bicycles (e-bikes), and recumbent bicycles (**Figure 1**). Considering all types of bicycles in the planning and design process can ensure the bicycle facility is accessible for all ages and abilities.

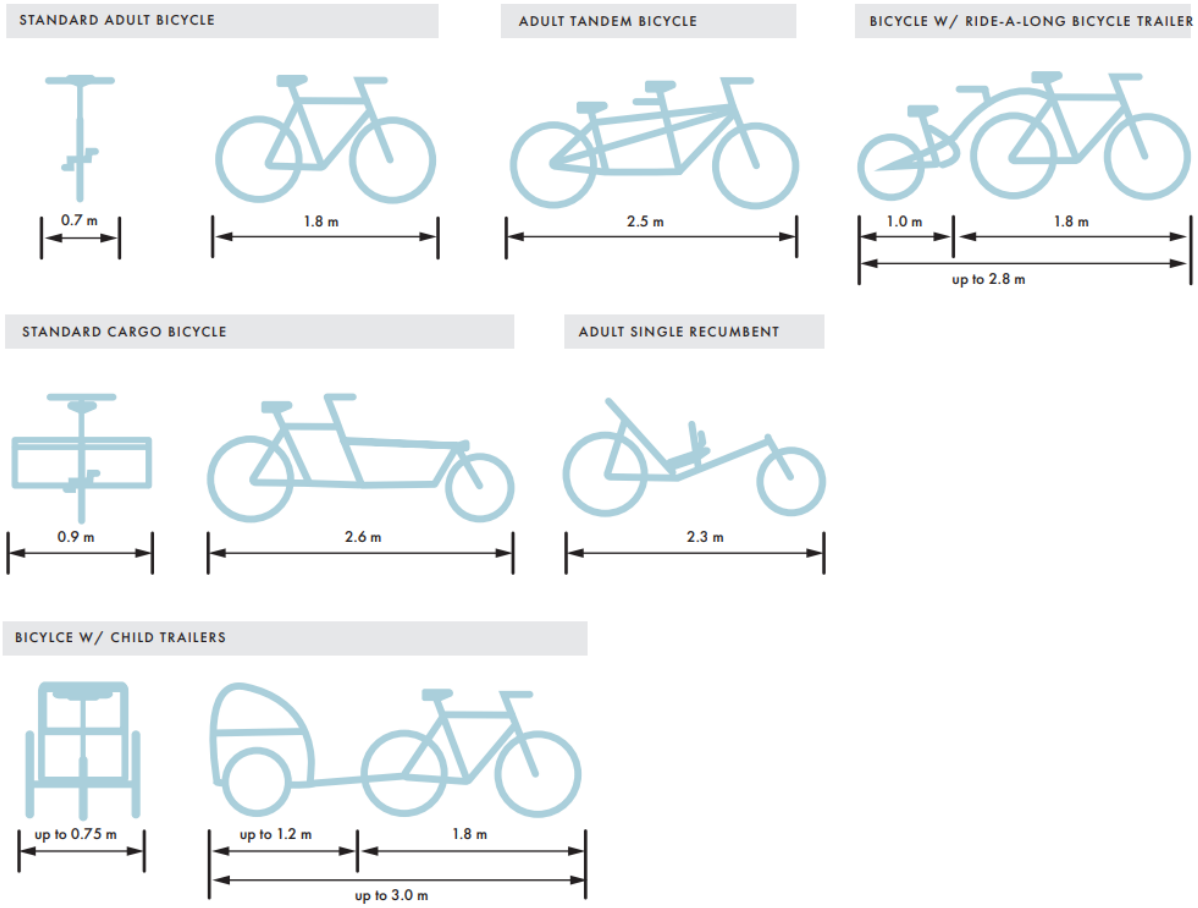


Figure 1. Typical Dimensions of Various Types of Bicycles (Source: BCAT, 2019)

Designers are reminded that this is not to be considered an exhaustive list and that bicycles come in many different configurations, including bicycles built for use by people with mobility restrictions. Facilities designed with this range of design vehicles in mind, including consideration of bicycles built for people with mobility restrictions, will accommodate most existing and potential bicycle users. Additional users of bicycle facilities may include skateboarders, longboarders, in-line skaters, electric scooter riders, and roller skaters. Emerging technologies, both human-powered and electric, will require consideration in the future as well. The operating space required by a person cycling is shown in **Figure 2.** In addition to the dimensions of the bicycle itself, the person riding the bicycle must also be considered. A single person cycling requires a horizontal operating envelope of 1.2 to 1.5 metres, which allows for variations in tracking (i.e. lateral movement, which is common when riding uphill and when moving at full speed). These dimensions form the basis of the design parameters for bicycle facilities.

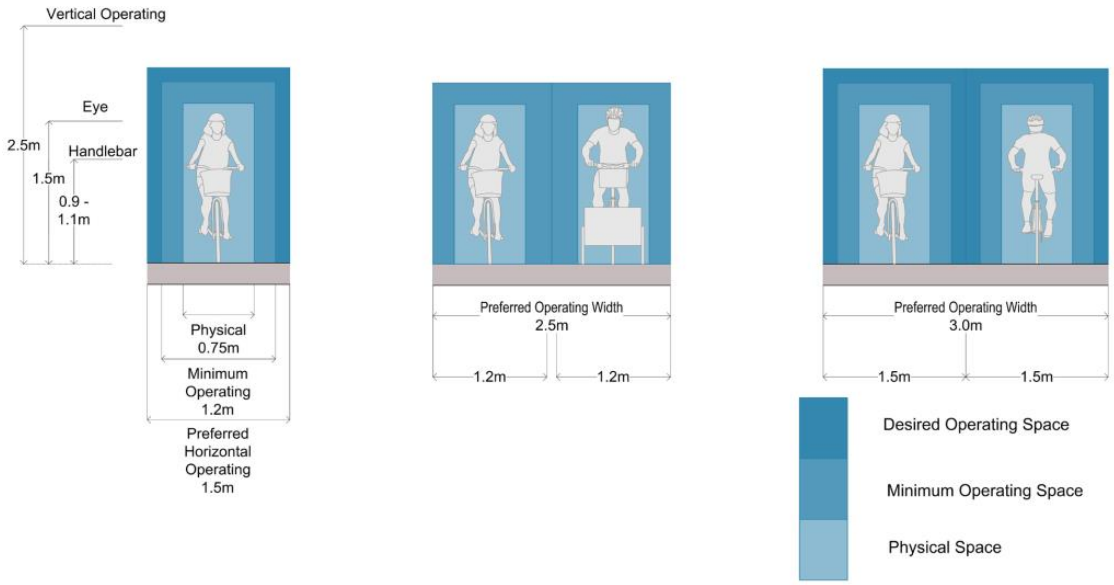


Figure 2. Bicyclist(s) Operating Space (Source: BCAT, 2019)

2.4 Facility Selection Process

There are a wide variety of considerations for selecting the type of bicycle facility infrastructure for a given roadway context. Some of the key factors to consider include:

- Motor Vehicle Speed and Volume
- Users
- Roadway Width
- On-Street Motor Vehicle Parking
- Truck and Bus Traffic
- Conflict Points
- Aesthetics
- Cost / Funding
- Maintenance
- Land Use Context
- Road Classification

The bicycle facility selection process is complex. The choice between facility types is not always simple, as all of the factors noted above must be weighed against one another. Facility design selection involves a certain degree of flexibility, as designs must recognize context and adapt to site specific characteristics. The final decision regarding bicycle infrastructure design will depend in part on the experience and professional judgment of a qualified professional. Further guidance is provided in Section D.1 of the *BC Active Transportation Design Guide*.

A simple facility selection tool can be seen in **Figure 3.** This tool can be used to select cycling facility type based off both the speed and the volume of the roadway.

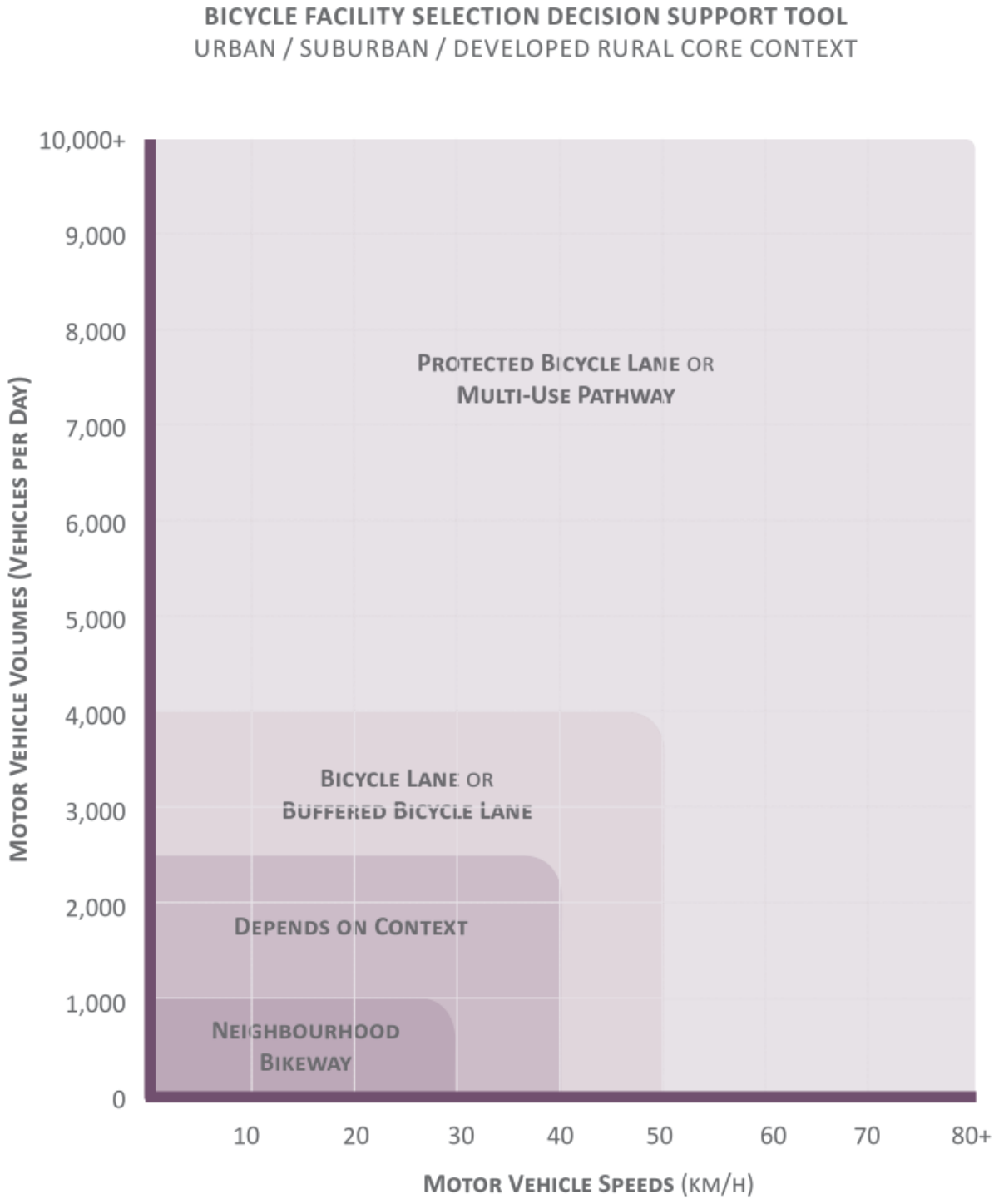


Figure 3. Bicycle Facility Selection Tool (Source: BCAT, 2019)

The road network in Merritt has been reviewed through the lens of determining what facility types are best suited for each class of street. **Table 1** below outlines facility recommendations and considerations to be used when selecting bicycle facility types.

Table 1. Bicycle Facility by Road Classification

City of Merritt Road Classification	Recommended Bicycle Facility	Other Considerations
Highway	Protected Bicycle Lanes or Multi-Use Pathway	Coordination with the Ministry of Transportation and Infrastructure required.
Arterial	Protected Bicycle Lanes or Multi-Use Pathways preferred	On arterial roadways with existing sidewalks buffered bicycle lanes may be suitable to expediate the implementation of the Active Transportation Plan.
Collector	Protected Bicycle Lanes, Buffered Bicycle Lanes, or Multi-Use Pathways preferred	Consider multi-use pathways on collector roadways without existing sidewalks.
Local	Neighbourhood Bikeway	Neighbourhood bikeways are suitable for local streets, install traffic calming treatments as required.

3 Facility Design

There is a range of different bicycle facility types that can be appropriate in various contexts as seen in **Section 2.4**. Municipalities have been moving towards networks of all ages and abilities facilities that provide a safe and comfortable environment for all road users. **Figure 4** shows the spectrum of bicycle facility types considered for the City's Active Transportation Plan and included in this design guide. The Merritt Active Transportation Plan identifies a proposed cycling network that is made up of a variety of facility types. The facility types identified for the network range from those more comfortable for people of all ages and abilities to routes that are less comfortable intended to provide connections for more experienced cyclists.

Figure 4. Spectrum of Bicycle Facility Types

3.1 Multi-Use Paths

Multi-use pathways are physically separated from motor vehicles by an open space or barrier, depending on the application, and can be used simultaneously by a number of users including cyclists, pedestrians, joggers, in-line skaters, people walking dogs, people with mobility aids, and a variety of other users at the same time. An example of a multi-use path can be seen in **Figure 5**. Multi-use pathways provide great connections for recreational and commuter purposes. Considerations for separating cyclists and pedestrians should be made when the off-street pathway is either used by a high percentage of pedestrians or at locations where the total user volumes are high, see the BC Active Transportation Design Guidelines for further information. Generally, it is recommended that if there are consistently more than 1,500 combined users on a 3 to 4 metre wide pathway and space is available, separation is recommended. When users are separated out the bicycle facility would then be referred to as a bike path, design guidance on bike paths is provided in the following section.

Figure 5. Multi-Use Path in Merritt

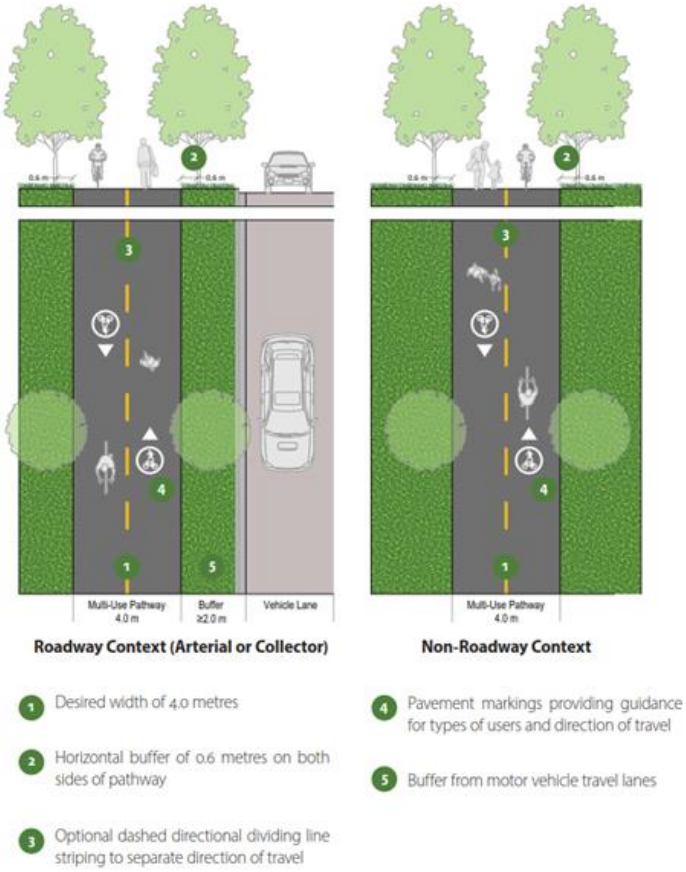


Figure 6. Multi-Use Pathway Cross Section (Source: BCAT, 2019)

Width

Multi-use pathways are recommended to be built between 3.0 metres and 4.0 metres wide. A multi-use pathway within these widths provides a comfortable width for cyclists passing another cyclist traveling in the opposing direction, or two pedestrians walking side by side. **Table 2** shows the design domain

widths recommended by BCAT. Further information on considerations for the design width of multi-use pathways can be found in the 2019 BCAT Design Guide.

Table 2. Multi-Use Path Width Design Guidance (Source: BCAT, 2019)

CONTEXT	DESIRABLE (M)	CONSTRAINED (M)
Highway Corridor		
See **Chapter F.1**		
Roadway Corridor (Arterial and Collector Roads)		
Pathway Width	4.0	3.0
Street buffer Zone Width*	≥ 2.0	0.6
Roadway Corridor (Local Roads)		
Pathway Width	3.0 – 4.0**	3.0
Street Buffer Zone Width*	≥ 1.5	0.6
All Other Contexts		
Pathway Width	3.0 – 4.0**	2.7
Lateral Clearance	0.6***	0.6

Special considerations need to be made when designing a multi-use pathway within a highway right-of-way. When a multi-use pathway is to be built within a highway right-of-way it should be located outside of the clear zone of the highway, which is based on the design speed and traffic volume of the highway. When the multi-use pathway must be located within the highway clear zone, it should be separated by a physical barrier from the roadway. See the BCAT Design Guide section E.2 for further guidance.

Separating Users

As noted, considerations for separating cyclists and pedestrians should be made when the multi-use pathway is either used by a high percentage of pedestrians or at locations where the total user volumes are high, see the BCAT Design Guidelines for further information. When users are separated out the bicycle facility would then be referred to as a bike path, design guidance on bike paths is provided below.

Signage

Along shared multi-use pathways, the Shared Pathway (RB-93) sign may be used to indicate that both people cycling and walking are permitted to use the trail. Additional pathway etiquette signs indicating the recommended yielding behaviour of different modes of pathway users can be used but is not required. The Pathway Organization sign (RB-94) indicates to people cycling and walking how to share a pathway on which there is a designated area provided for each. This sign may be installed back-to-back. The Turning Vehicles Yield to Bicycle sign (RB-37) may be used at conflict zones were motorists are required to cross a bike path.

Signage may also be used to restrict unwanted motorized vehicle access. Signage that can be used include the Parking Prohibited Sign (RB-51), Stopping Prohibited Sign (RB-55), Motorcycles Prohibited Sign (RB-85), and/or the Automobiles Prohibited Sign (RB-88).

Pavement Markings

General multi-use path stencils should be used at pathway entrances, after any intersection, and conflict points. Additionally, stencils may be placed every 50 to 100 metres along the trail, depending on context. Tighter spacing may be considered near sharp corners.

Centreline striping is generally not recommended along off-street pathway. However, in certain scenarios, centerline striping may provide safety and wayfinding benefits. Centreline striping is recommended when multi-use paths are located on hills with a grade steeper than 5%, at locations where passing is dangerous due to space constraints and limited visibility (**Figure 7**), and/or as a way of wayfinding and demarcating the multi-use path at locations such as trail access points and intersections. Centreline striping is also recommended at locations where the multi-use path experiences high bi-directional volumes.

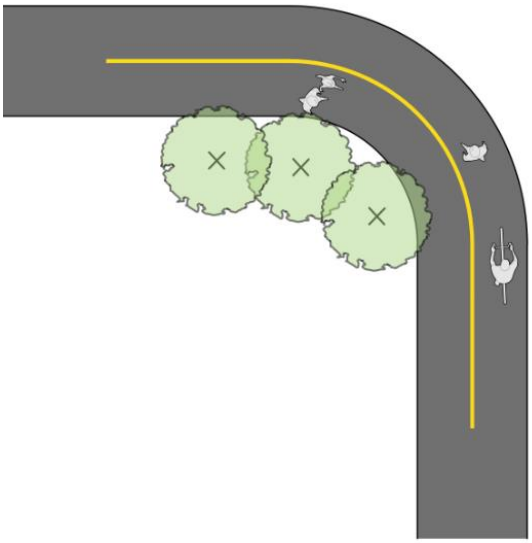


Figure 7. Centreline Striping for Limited Visibility (Source: Urban Systems)

Grade

The recommended longitudinal grade for a multi-use path is 0.6%, as the slight grade is required to facilitate drainage. The ideal grade for a multi-use path is less than 5.0% from a user accessibility standpoint. For pathways situated in hilly areas with a longitudinal grade exceeding 5% but less than 6%, flatter resting areas of 3% or less should be provided every 100 metres. For pathways between 6% and 8%, the interval of rest areas is reduced to 50 metres. For pathways with a grade of greater than 8%, alternative solutions should be explored, such as relocating the pathway to a flatter area, or implementing switchbacks along the path.

3.2 Bike Paths

Similar to multi-use pathways, off-street bike paths are physically separated from motor vehicles by an open space or barrier, depending on the application, but are for the exclusive use of bicycles, **Figure 8**. Bike paths can be either two-way or one-way. Bike paths provide great connections for commuter purposes but can also be enjoyed by recreational cyclists.

Figure 8. Bi-Directional Off-Street Bike Path in Vancouver

Width

Unidirectional bike paths are recommended to be built between 1.8 metres and 3.0 metres wide. Bidirectional bike paths are recommended to be built between 3.0 metres and 4.0 metres wide. **Table 3** shows the design domain widths recommended by BCAT. Further information on considerations for the design width of bike paths can be found in the BCAT Design Guide.

Table 3. Bike Path Design Domain (Source: BCAT, 2019)

FACILITY	DESIRABLE (m)	CONSTRAINED LIMIT (m)
Bicycle Pathway (Uni-Directional Bicycle)	2.0*	1.8
Bicycle Pathway (Bi-Directional Bicycle)	4.0	3.0

*If uni-directional bicycle pathway has greater than 150 bicycle users per peak hour for bicycle traffic, or there is a desire for side-by-side riding, then pathway should be 2.5 metres to 3.0 metres.

Signage

Signage plays an important role in designating the dedicated space for cyclists and requires additional consideration when the bike path travels adjacent to a sidewalk, and where the bike path crosses a roadway. Along bike paths that are adjacent to a sidewalk, the Pathway Organization sign (RB-94) should be used, as per Section A.2.9.6.6 of the MUTDC. The Turning Vehicles Yield to Bicycle sign (RB-37) may be used at conflict zones were motorists are required to cross a bike path.

Pavement Markings

An elongated bicycle symbol with an accompanying diamond symbol (**Figure 9**) should be installed on off-street bike paths directly adjacent to motor vehicle roadways in advance of and after intersections to indicate the dedicated use of the lane by bicycles. Additional bicycle symbols and diamonds should be installed at a spacing of 50 to 100 metres depending on the context. Tighter spacing may be considered in areas of conflict and high traffic.

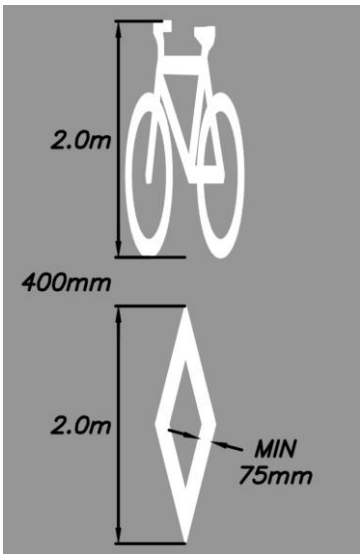


Figure 9. Dedicated Bicycle Lane Symbol (Source: BCAT, 2019)

When a bike path is directly adjacent to a sidewalk and no physical or tactile separation is provided, solid or broken striping should be added demarcate the bike path from the sidewalk. A yellow centerline should be installed for bidirectional bike paths in the 10 metres approaching all intersections as well as around curves with limited sightlines and on extended grades 5% and steeper.

Conflict zone pavement markings, including green pavement markings or contrasting surface colors, can be used at conflict points such as driveways, alleyways, and intersections.

3.3 Protected bicycle lanes

A protected bicycle lane, also known as a 'cycle track' or 'separated bicycle lane', is an exclusive bicycle facility that combines the user experience of a bike path with the on-street infrastructure of a conventional bicycle lane. Protected bicycle lanes come in different forms, but all share the common element that they provide space that is typically exclusively for the use of bicycles. Protected bicycle lanes can be either unidirectional or bidirectional and located on one or both sides of the street. They are physically separated from motor vehicles and pedestrians using a variety of possible treatments, ranging from a painted buffer with flexible delineator post to physical separation, but in all cases with more than a single painted line. The BCAT design guide provides guidance on design considerations for unidirectional or bidirectional protected bicycle lanes.

Figure 10. Bi-Directional Protected Bicycle Lane

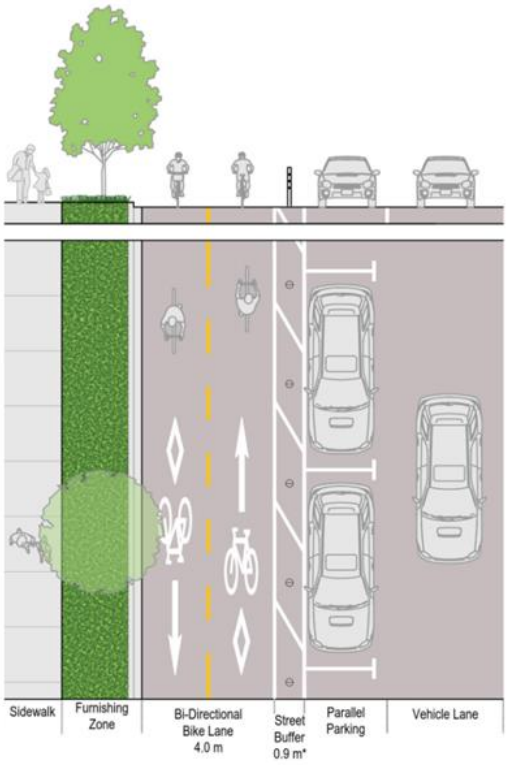


Figure 11. Bi-Directional Protected Bicycle Lane Cross Section (Source: BCAT, 2019)

Width

Similar to bike paths, protected bicycle lanes have recommended design domains for different configurations. **Table 4** shows the width required for both the bicycle lane and separation from the adjacent travel lane (delineator component). Unidirectional protected bicycle lanes are recommended to be built between 1.8 metres and 2.5 metres wide including the delineator component. Bidirectional protected bicycle lanes are recommended to be built between 3.0 metres and 4.0 metres wide including the delineator component. As noted in **Table 4** a minimum delineator width of 0.6 metres is required when the protected bicycle lane is adjacent to a parking lane. Further information on considerations for the design width of protected bicycle lanes can be found in Section D.3 of the BC Active Transportation Design Guide.

Table 4. Protected Bicycle Lane Design Domain (Source: BCAT, 2019)

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

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

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

Signage

Similar to bike paths, signage plays an important role in designating the dedicated space for cyclists and requires additional consideration when the protected bicycle lane crosses a roadway. Along protected bicycle lanes, Reserved Bicycle Lane signs (RB-91, RB-90) should be installed at a minimum of one sign between each intersection. The Turning Vehicles Yield to Bicycle sign (RB-37) may be used at conflict zones were motorists are required to cross a bike path. Further signage should follow the guidance in the MUTCD guidelines.

Pavement Markings

An elongated bicycle symbol with an accompanying diamond symbol (**Figure 9**) should be installed in the protected bicycle lane in advance of and after intersections to indicate the dedicated use of the lane by bicycles. These symbols should be placed at each approach at all crossings.

Pavement markings should be used at intersections to identify the intended crossing path of cyclists and to raise the awareness of motorists. Cross-rides and conflict zone markings should be installed at intersections. It is recommended that the City of Merritt should follow the BCAT design guidelines for bicycle lane pavement markings and placement identified in Section G.4 in the 2019 BCAT Design Guide.

Conflict zone pavement markings, including green pavement markings or contrasting surface colors, can be used at conflict points such as driveways, alleyways, and intersections.

3.4 Neighbourhood Bikeway

Neighbourhood bikeways refer to shared bicycle routes that are located on local streets with lower traffic volumes and speeds and that have been optimized to varying degrees to prioritize bicycle traffic. In cases where traffic volumes and speeds are relatively low, and the street is of sufficient width to allow safe passing between cyclists and motor vehicles, cyclists and motorists are able to comfortably share the road without the need for significant physical improvements to the roadway.

Figure 12. Example of a Neighbourhood Bikeway

In cases where existing conditions on the local street have relatively low traffic volumes (<1,000 vehicles/day) and speeds (≤30km/h posted speed), the only improvements required may be signage, intersection treatments, and pavement markings to help identify the road as a bicycle route. In cases where a neighbourhood bikeway is desired on a local street, but the existing speed and / or volume exceeds the recommended limit traffic calming measures can be used to slow down the travel speed and potentially reduce short cutting traffic. Recommended treatment levels based of the speed and volume of a local roadway are summarized in **Table 5** below.

Table 5. Neighbourhood Bikeway Level of Treatment Guidance (Source: BCAT, 2019)

Existing Motor Vehicle Volumes (VPD)	Existing Posted Motor Vehicle Speeds	Level of Treatments		
		Level 1: Required Treatments (Intersection Treatments, Signage, and Pavement Markings)	Level 2: Traffic Calming (Speed Management)	Level 3: Traffic Diversion (Volume Management)
<1,000	30 km/h or less	✓		
<1,000	30 to 50 km/h	✓	✓	
1,000 – 2,500	30 km/h or less	✓		✓
1,000 – 2,500	30 to 50 km/h	✓	✓	✓
>2,500	> 50 km/h	Consider alternate facility type		

Signage

In many cases, neighbourhood bikeways can be implemented easily and for a low cost with the application of bicycle route signage to identify the road as a bicycle route. The purpose of the signage is to identify routes to both cyclists and motorists and may provide destination and distance information and/or warn users about changes in road conditions.

Pavement Markings

In addition to route signs, bicycle sharrow pavement markings (**Figure 13**) should be placed on the roadway to identify the route as a neighbourhood bikeway.

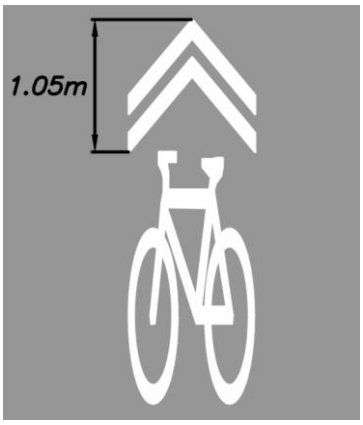


Figure 13. Sharrow Pavement Marking (Source: BCAT, 2019)

Traffic Calming

Traffic calming measures consist of devices that provide either horizontal or vertical deflection to reduce motor vehicle speeds and volumes, improving cycling safety and comfort. Traffic calming measures should be considered on all neighbourhood bikeways with posted vehicle speeds of 50km/h or greater. There are several typical traffic calming measures that can be considered, including: traffic circles, speed humps, speed cushions, and curb extensions. For further guidance on traffic calming measures refer to Section D.2 and Appendix C of the BC Active Transportation Design Guide or the TAC Canadian Guide to Traffic Calming.

3.5 Painted Bicycle Lanes

Conventional bicycle lanes are separate travel lanes designated for the exclusive use of bicycles. In most cases, they are located on the right-hand side of the road adjacent to the curb, and are identified with a solid white line and by signage and pavement markings placed at regular intervals. Bicycle traffic in a conventional bicycle lane is typically one-way in the same direction as the adjacent travel lane. Painted bicycle lanes may be installed with a painted buffer on busier roads or where additional space is available to create a more safe and comfortable cycling environment (**Figure 15**).

Figure 14. Painted Bicycle Lane

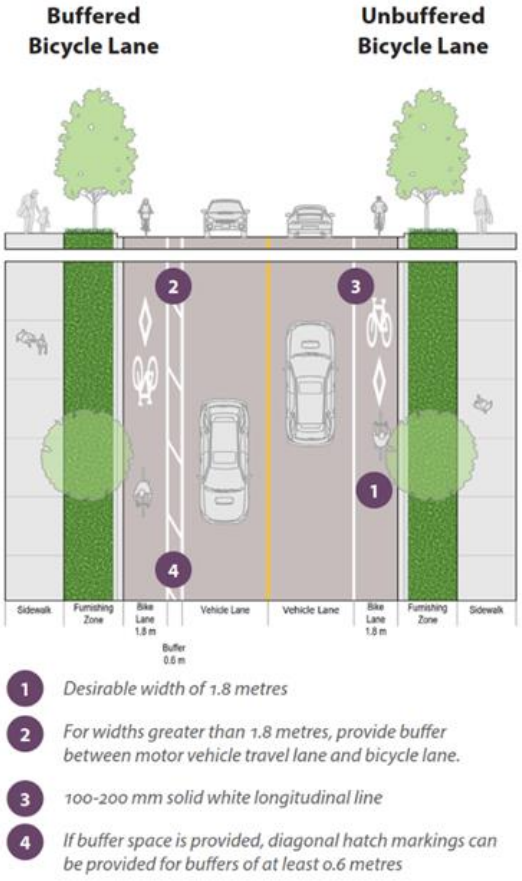


Figure 15. Painted Bicycle Lane Cross Sections (Source: BCAT, 2019)

Width

Painted bicycle lanes are recommended to be between 1.5 metres and 1.8 metres wide to accommodate single file bicycle travel and allow passing. Additionally, the painted bicycle lane width is recommended to be at least 1.8 metres when adjacent to parked vehicles to provide a space of at least 0.3 metre for motor vehicle doors to open while still allowing cyclists to pass in the remaining unobstructed painted bike lane. According to the BCAT Geometric Guidelines, the absolute lower limit for width of a painted bicycle lane is 1.2 metres based on the horizontal operating envelope noted in

Section 2.3. When painted bicycle lanes less than 1.5 metres are used, a special design exception should be required to justify and outline the constraints present.

Table 6. Painted Bicycle Lane Design Domain (Source: BCAT, 2019)

FACILITY	DESIRABLE (M)	CONSTRAINED LIMIT (M)
Curbside bicycle lane	1.8*	1.5**
***Buffer** (between bicycle lane & motor vehicle lane)	0.6	0.3

*For any width greater than 1.8 metres, a buffer should be provided to avoid the bicycle lane being mistaken or used for other purposes, such as parking or motor vehicle travel.

**The absolute minimum width of an unbuffered curbside bicycle lane is 1.2 metres. A bicycle lane width between 1.2 metres and 1.5 metres should only be considered for short distances (less than 100 metres), in constrained areas, and when reasonable consideration has been given to an alternate design.

*** Where motor vehicles speeds are 50 km/h or greater, adding a buffer is strongly recommended.

Signage

Along painted bicycle lanes Reserved Bicycle Lane signs (RB-91, RB-90) should be installed at a minimum of one sign between each intersection and spaced mid-block at least every 200 metres, when intersection spacing exceeds 200 metres in an urban environment.

Pavement Markings

Solid white lines 100mm thick should be painted to delineate the edge of a travel lane dedicated for bicycle use. At locations where motor vehicle traffic is allowed to cross into the bicycle lane to access a bus stop, driveway, or at an intersection, a dashed white line should be used, when a dashed line is used it should be used for a minimum of 15 metres.

An elongated bicycle symbol with an accompanying diamond symbol should be installed in the painted bicycle lane in advance of and after intersections to indicate the dedicated use of the lane by bicycles (**Figure 9**).

3.6 Shoulder Bicycle Lanes

A shoulder bicycle lane is a paved area located next to a travel lane and separated by a white painted line, **Figure 17**. Typically shoulder bicycle lanes exist in cases where the roadway does not have a curb and gutter, such as a highway or rural roadway. Shoulder bicycle lanes are typically not designed or designated for cyclists and are often shared with pedestrians in rural contexts. Travel in a shoulder bicycle lane is always one-way in the direction of the adjacent motor vehicle lane.

Figure 16. Shoulder Bicycle Lane

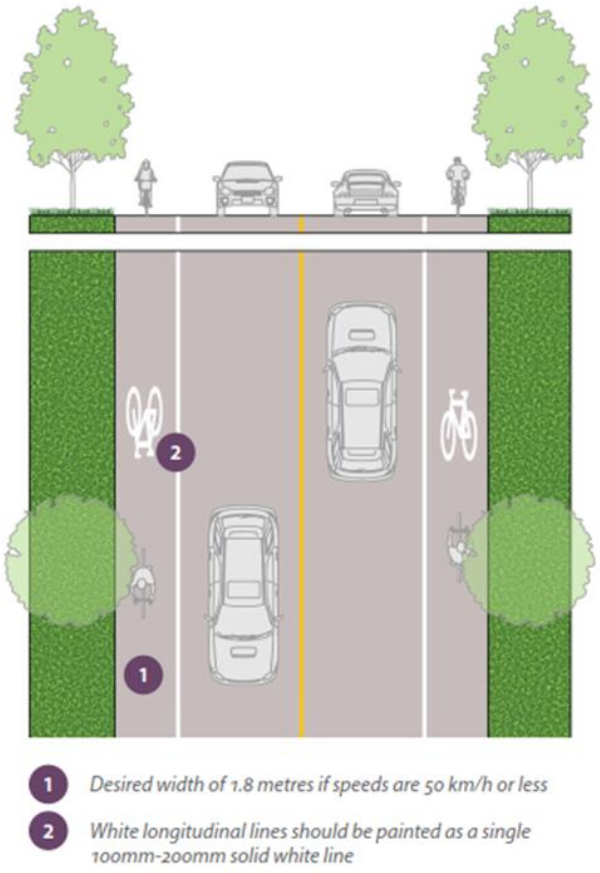


Figure 17. Shoulder Bicycle Lane Cross Section (Source: BCAT, 2019)

Width

Shoulder bicycle lanes are recommended to be a minimum of 1.8 metres, but on roadways with speed limits of 50 km/h or lower a 1.5 metre bicycle shoulder is sufficient. The design domain recommendations from the BCAT Design Guide are shown in **Table 7.**

Table 7. Shoulder Bicycle Lane Design Domain (Source: BCAT, 2019)

FACILITY BY DESIGN SPEED	DESIRABLE (M)	CONSTRAINED LIMIT (M)
Rural ≤50 km/h	1.8	1.5
Rural < 70 km/h	2.5	1.5
Rural > 70 km/h	3.0	2.0
Buffer (between shoulder and motor vehicle lane for higher posted speed and/or higher motor vehicle volumes)	1.2	0.9

Signage

Roadways with shoulder bicycle lanes should have bike route signage to create awareness for both cyclists and motorists. If on-street parking is likely to occur in the shoulder bicycle lane, no parking signage should be considered to keep the shoulder free for cyclists.

Pavement Markings

A solid white line 100-200 mm wide should be used to delineate the shoulder bicycle lane along the right-hand side of the road. Shoulder bicycle lanes may include the standard bicycle symbol but should not be supplemented by the diamond which denotes exclusive use.

3.7 Advisory Bicycle Lanes

An advisory bicycle lane is bicycle-priority travel lane on a narrow road with a single, narrow centre travel lane for motor vehicles that accommodates two-way vehicle traffic but that may require one motorist to pull to the side of the road to allow the other to pass. Motor vehicles may temporarily enter the advisory bicycle lane to pass oncoming motor vehicles (**Figure 18**). Advisory bicycle lanes are not included in the facility selection tool included in this design guide and should only be used in specific circumstances where travel speeds, volumes, and roadway widths can create a safe environment for people biking.

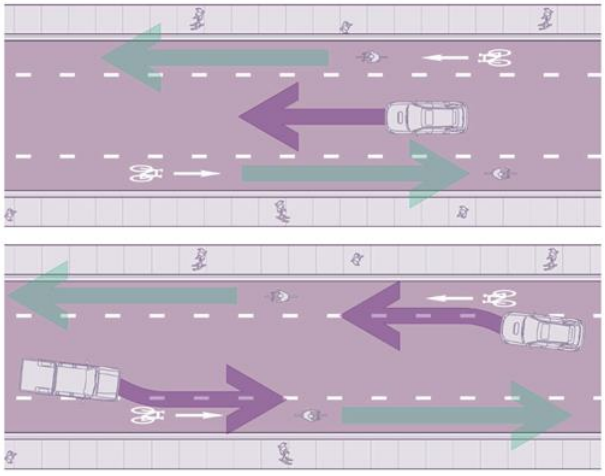


Figure 18. Advisory Bicycle Lane Operation (Source: BCAT, 2019)

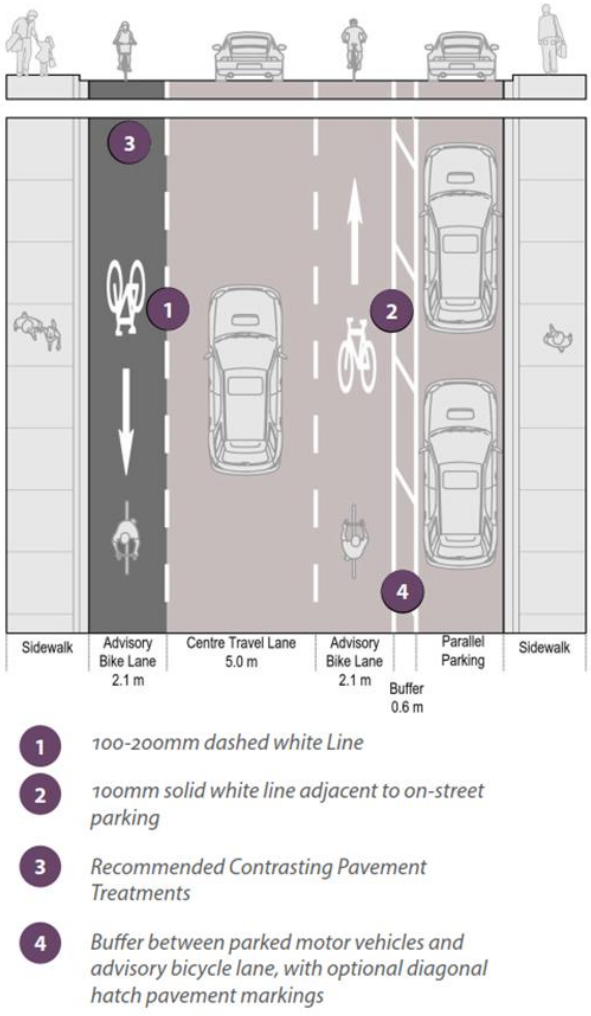


Figure 19. Advisory Bicycle Lane Cross Section (Source: BCAT, 2019)

In rural contexts when no sidewalks exist advisory bicycle lanes may be used for both walking and cycling. Advisory bicycle lanes are a relatively new facility type in North America having only been used since 2011, therefore a public education campaign may be required when installing an advisory bicycle lane.

Further information on the use of advisory bicycle lanes in North America can be found in the white paper titled *Advisory Bike Lanes in North America* written by Alta Planning.

Width

The recommended width of a roadway including advisory bicycle lanes is between 6.6 metres and 9.9 metres, accommodating advisory bicycle lanes between 1.8 metres and 2.1 metres. The design domain recommendations from the BC Active Transportation Design Guide are found in **Table 8.**

Table 8. Advisory Bicycle Lanes Design Domain (Source: BCAT, 2019)

FACILITY	DESIRABLE (M)	CONSTRAINED LIMIT (M)
Road with advisory bicycle lanes on both sides	9.2	6.6
Advisory bicycle lane component	2.1	1.8
Bi-directional centre travel lane component	5.0	3.0

Pavement Markings

Advisory bicycle lanes are delineated by dashed white lines 100mm - 200mm wide. The Bicycle Symbol should be used to mark an advisory bicycle lane but without the diamond symbol – the lane is not reserved only for bicyclists, as the lane is at times used by motor vehicles. In contexts where advisory bicycle lanes are also intended to be used by people walking, the bicycle symbol should not be used; instead, a shared use symbol should be installed.

No centre line is permitted on roads with advisory bicycle lanes. If a centre line exists when an advisory bicycle lane is installed, it should be removed. However, if the central lane width is not constrained, then short sections of centre line may be marked to denote the separation of traffic at potential conflict points.

Contrasting pavement materials are recommended to differentiate the advisory bicycle lane from the central travel lane, and from a parking lane if applicable.

4 Other Design Considerations

Additional guidance is provided in this section on the following features that are important components of the bicycle network.

4.1 Intersections

Intersections tend to be high conflict areas along bicycle routes, so careful consideration must be taken to ensure bicyclists can navigate them in a safe and comfortable manner.

Multi-Use Pathways and Off-Street Bike Paths

Where multi-use pathways and off-street bike paths intersect with a roadway, additional design considerations should be taken to inform pathway users and drivers of the crossing. Some of the treatments to consider include: pavement markings, contrasting paving materials, vertical deflection, and protected signal-phasing for the pathway users crossing.

Figure 20: Example of Intersection Treatments for Bicycles

Design considerations can be made to shift the alignment of off-street pathways which run parallel to a roadway as it approaches an intersection. It is desirable for the pathway to either bend-in towards the roadway or bend-out away from the roadway as seen in **Figure 21** and **Figure 22**. Both options provide benefits by improving pathway user awareness of the approaching intersection, reducing pathway user speeds, and enhancing the visibility of pathway users for drivers. Where the right-of-way space exists, the bend-out option is generally preferred. Further information on off-street pathway intersection design can be found in Section G.5 of the *BC Active Transportation Design Guide*.

Raised crossings can be provided at minor intersections and mid-block crossings to reduce motor vehicle speed and enhance the comfort, safety, and visibility of pathway users. When an off-street pathway crosses at a signalized intersection, considerations should be made for pathway users to actuate the traffic signal, most often with the installation of signal actuation pushbuttons, to avoid long delays.

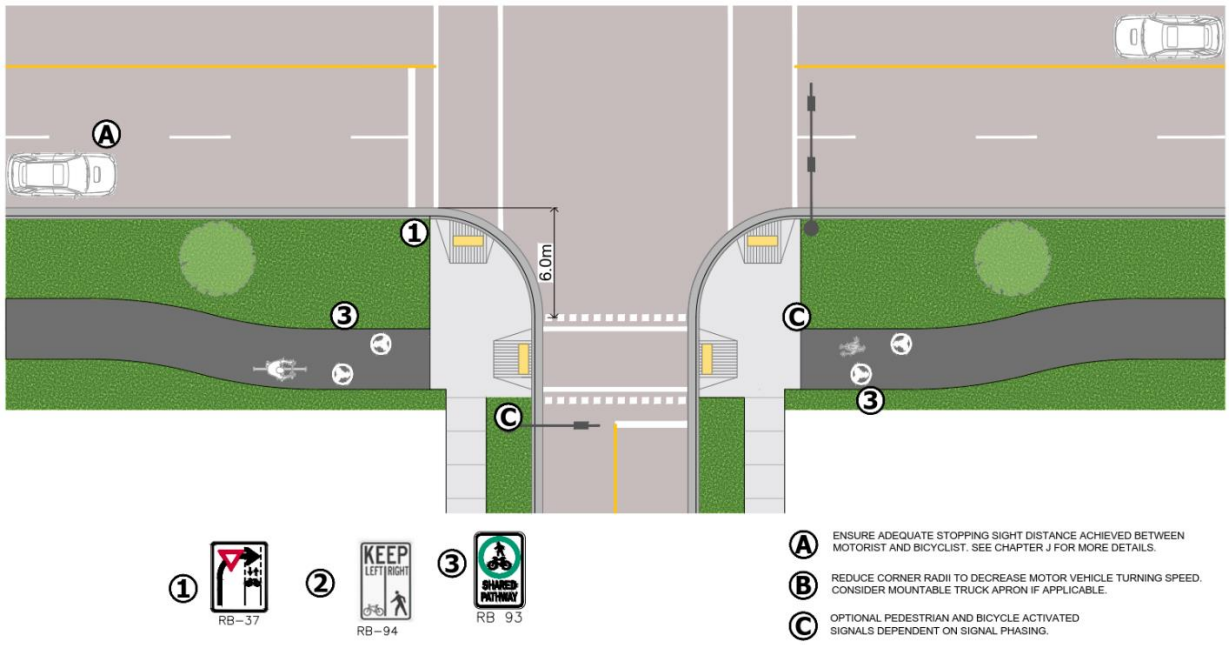


Figure 21. Bend-Out Multi-Use Pathway Intersection (Source: BCAT, 2019)

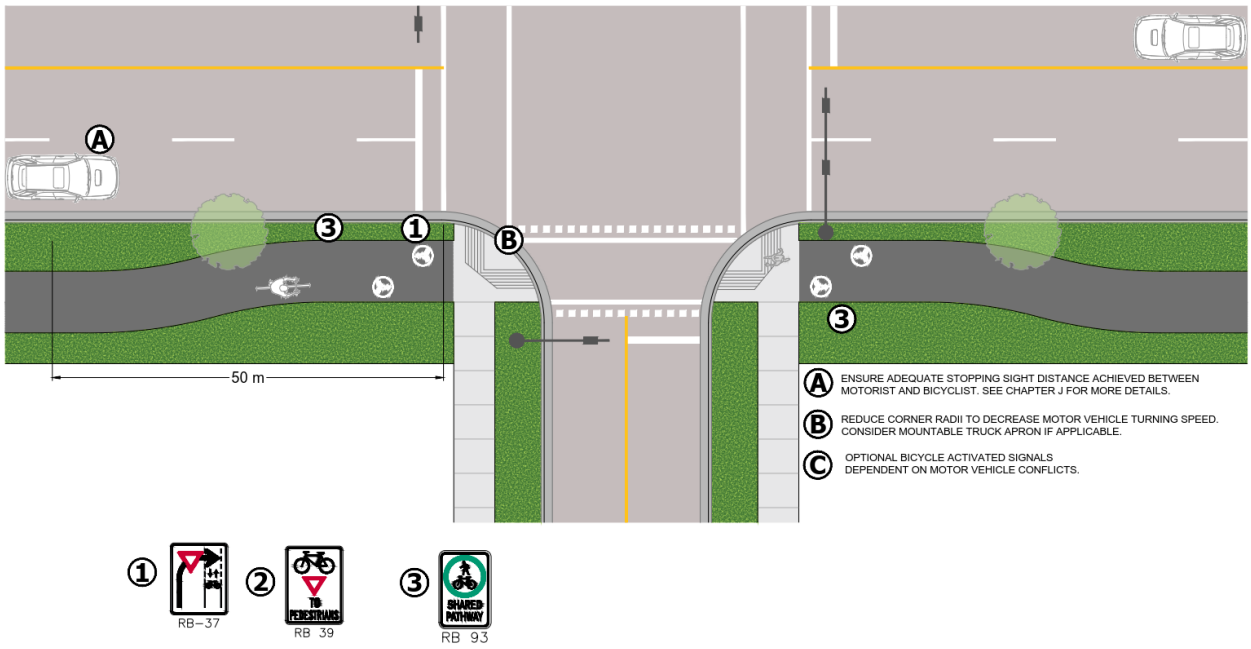


Figure 22. Bend-In Multi-Use Pathway Intersection (Source: BCAT, 2019)

To increase visibility of pathway users at intersections and conflict zones points such as busy driveways or alleyways decorative pavement markings or contrasting surface colors may be used, as see in **Figure 23**.

Figure 23. Decorative Pathway Intersection Pavement Markings (Spirit Trail – City of North Vancouver, BC)

Protected Bicycle Lanes

The design of protected bicycle lanes requires careful consideration at intersections to easily facilitate turning movements from the protected bicycle lane. Additional challenges are introduced with bidirectional protected bicycle lanes that require dedicated bicycle signal heads. The topic of bidirectional protected bicycle lane intersection design is covered well in the BC Active Transportation Design Guide and is not highlighted in this guide.

Several intersection treatments can be used with protected bicycle lanes ranging from less desirable treatments where the protection is dropped. This can be seen in the mixing zone intersection example (**Figure 24**). At the other end of the spectrum, there are opportunities to design a fully protected intersection as seen in **Figure 25**. Protected intersections can be used to provide a higher-level of comfort and safety for all road users through the separation and protection of cycling movements with the use of physical barriers and signal phasing. Whenever possible, protection should be continued through the intersection with a physical barrier and or protected bicycle phasing. When protected phasing is provided or turning vehicles are required to yield to cyclists traveling through the intersection, the physical barrier should continue until the crosswalk as seen in **Figure 26**. The highest level of protection feasible for each intersection should be used whenever possible, and special considerations should be made for intersections with high travel speeds and volumes.

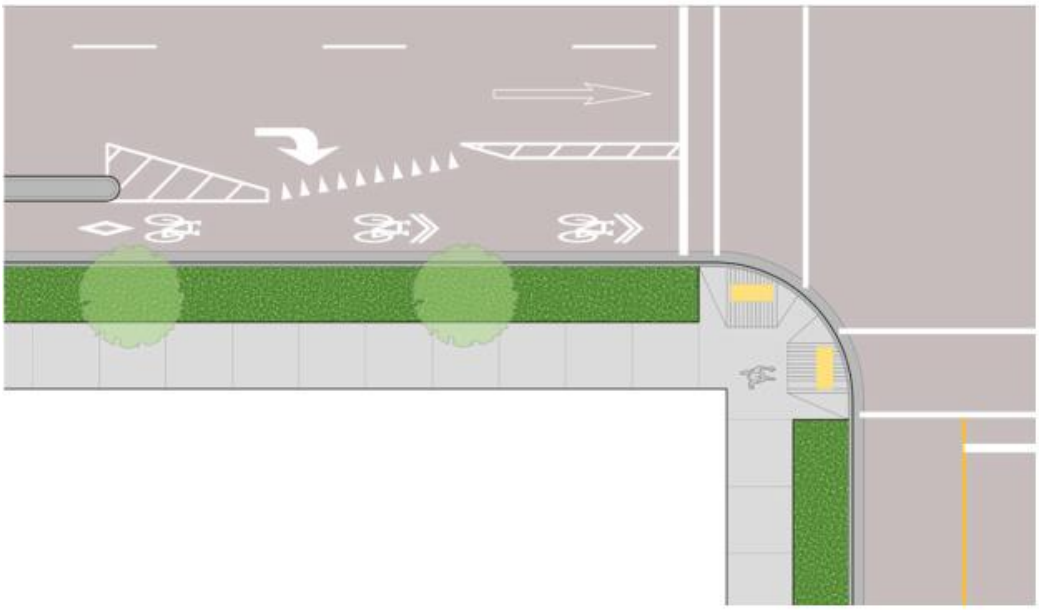


Figure 24. Mixing Zone Intersection (Source: BCAT, 2019)

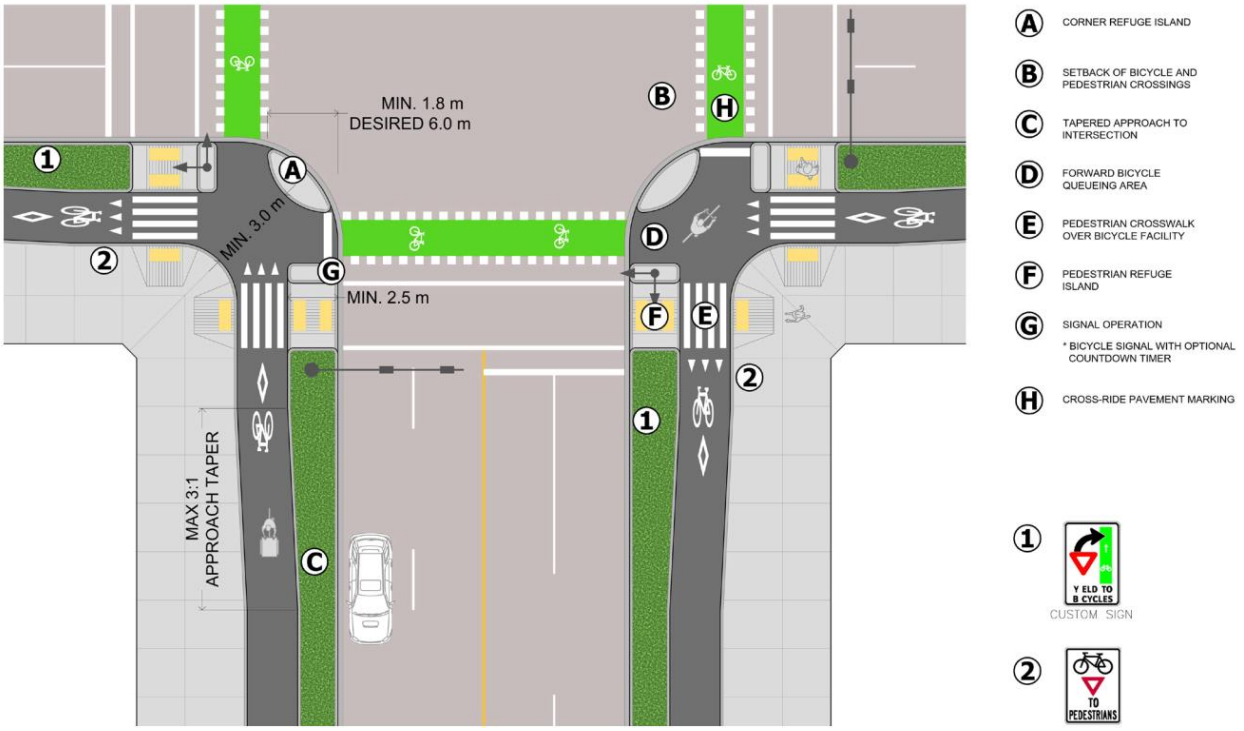


Figure 25. Protected Intersection (Source: BCAT, 2019)

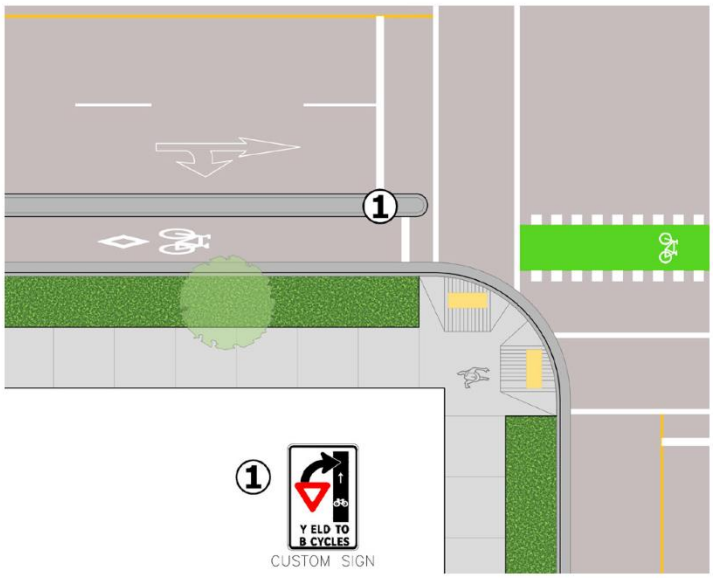


Figure 26. Protected Signal Phasing Intersection (Source: BCAT, 2019)

Cross ride pavement markings with continuous green paint should be used at intersections and conflict points such as busy driveways or alleyways when protected bicycle lanes continue through the intersection, as seen in **Figure 25** and **Figure 26**.

Further information on protected bicycle lane intersection design can be found in Section G.4 of the *BC Active Transportation Design Guide*.

Painted Bicycle Lanes

Painted and buffered bicycle lanes require very similar design considerations at intersections. Intersection design needs to consider the conflicting bicycle and motor vehicle movements present at each intersection. Pavement markings, signage, and signal phasing can be used to reduce the risk of conflicts between cyclists and motorists. Designs can include intersection tracking pavement markings and advanced stop bars as seen in **Figure 27** to create awareness for motorists turning across the cycling lane.

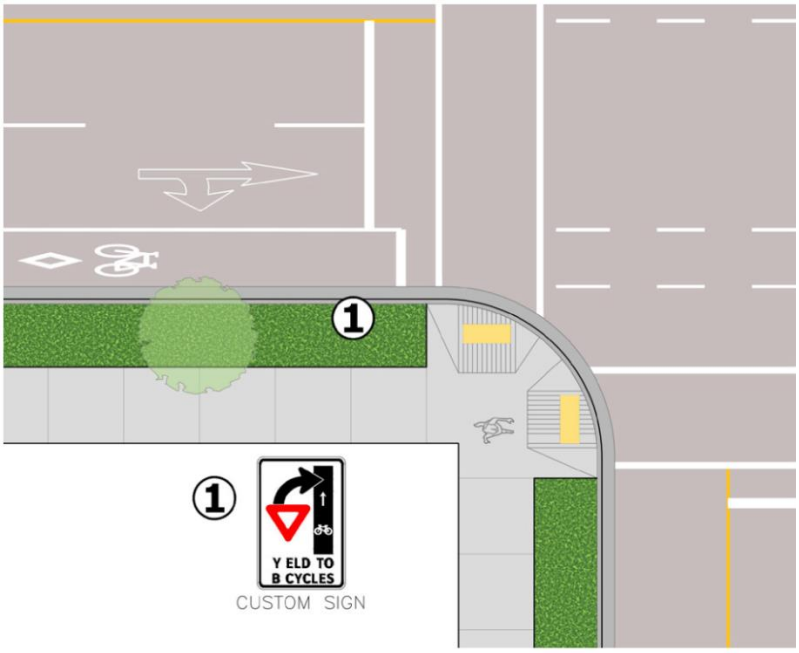


Figure 27. Intersection Pavement Markings (Source: BCAT, 2019)

Additional considerations should be made to ensure that cyclists are able to safely make turning movements out of their lane and change directions at intersections if desired, this can be done through the use of a bike box as seen in **Figure 28**.

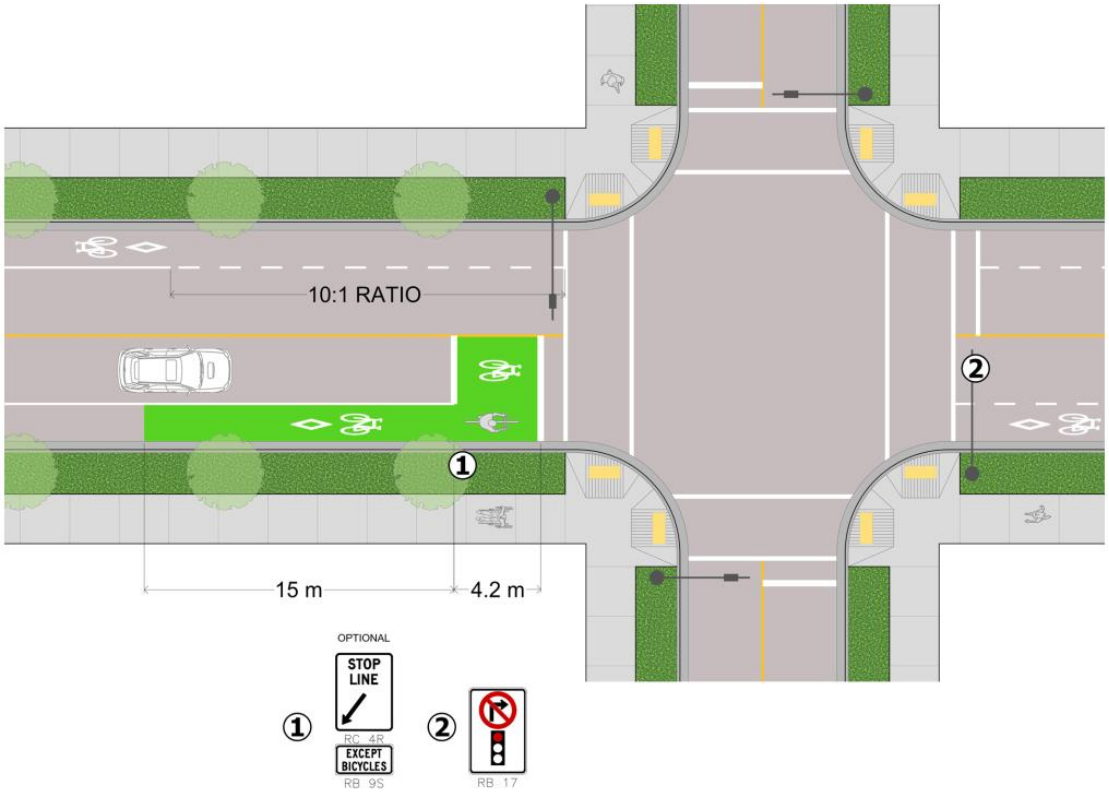


Figure 28. Left Turn Bicycle Box (Source: BCAT, 2019)

Further information on painted bicycle lane intersection design can be found in Section G.4 of the *BC Active Transportation Design Guide*.

Roundabouts

To ensure roundabouts are designed to provide safe and comfortable bicycle movements special considerations need to be made.

As bicycle facilities approach roundabouts two options exist for dedicated cycling facilities. The first option and more desirable design from a safety perspective is to keep bicycle facilities separated from the motor vehicle travel lanes, as seen in **Figure 29**. Dedicated protected bicycle lanes or multi-use pathways parallel to the roundabout but separated from the travel lanes provide a safe place for people biking and rely on pavement markings, signage, and sometimes additional traffic control devices to control interactions between conflict points where the cycling facilities cross the motor vehicle travel lanes. Separated bike facilities are suitable for roundabouts of all sizes and traffic volumes.

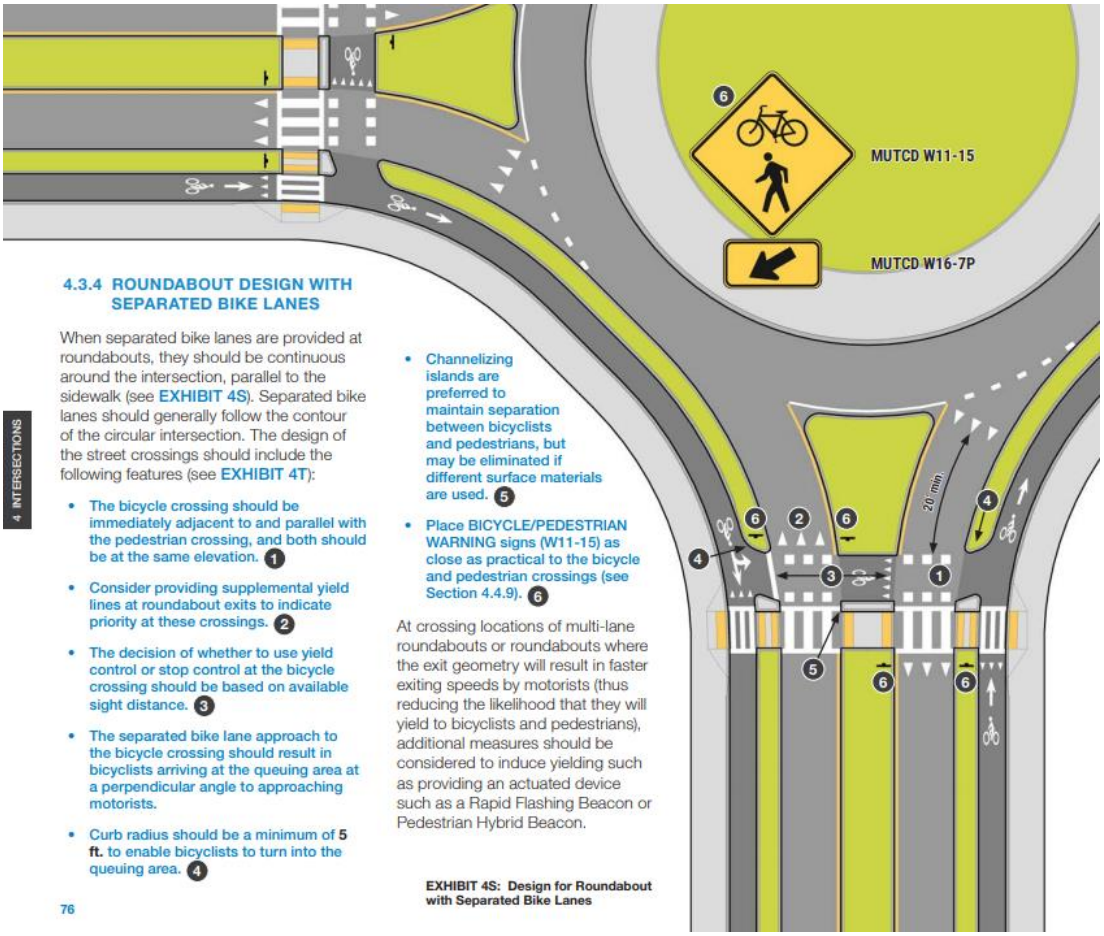


Figure 29. Roundabout with Separated Bike Facility (Source: MassDOT Protected Bike Lane Planning & Design Guide, 2017)

The second option is to treat the roundabout as a shared roadway with people biking and motor vehicles traveling in the same lane. This design is only suitable on single lane roundabouts with low traffic volumes and speeds. Special design considerations are required to ensure travel speeds remain low.

Further design guidance is available in the 2018 TAC Geometric Design Guidelines or MassDOT Separated Bike Lane Planning & Design Guide.

Other Facility Types

When cycling facilities such as bicycle boulevards, shoulder bicycle lanes, shared use lanes and advisory bicycle lanes cross major roads it is important to accommodate safe and convenient crossing.

At these critical locations additional design considerations are required to ensure safe access for cyclists. Crossing treatments can be used to assist cyclists, pedestrians, and others in crossing major roads, and to minimize potential conflicts with motor vehicles. The type of crossing treatment depends on the width of the intersecting road, the volume of motor vehicle traffic, and the number of cyclists, pedestrians and others using the crossing. The range of crossing treatments that are typically considered for these facilities at locations that intersect major roads include: median islands, signalized crossings (including new pedestrian and activated signals), and signal actuation pushbuttons.

4.2 Transit Integration

Along corridors that have both transit service and bicycle facilities several design considerations are required at transit stop locations to allow people biking to feel safe and comfortable and to minimize delays for transit vehicles. The preferred method of accommodating both transit and bicycle facilities is to construct floating bus stops, as seen in **Figure 30**.

Floating bus stops redirect people biking behind the transit stop platform to eliminate the conflict between large transit vehicles and people biking. To ensure accessibility for pedestrians is maintained the bike facility should be elevated to sidewalk grade along the floating bus stop and additional design features such as pavement markings, signs, and tactile warning surfaces should be used to mitigate conflicts between pedestrians using the transit stop and people biking.

Different design considerations should be taken for transit stops located at intersections and along corridors with different characteristics. For further guidance refer Section H.1 of the *BC Active Transportation Design Guide*.

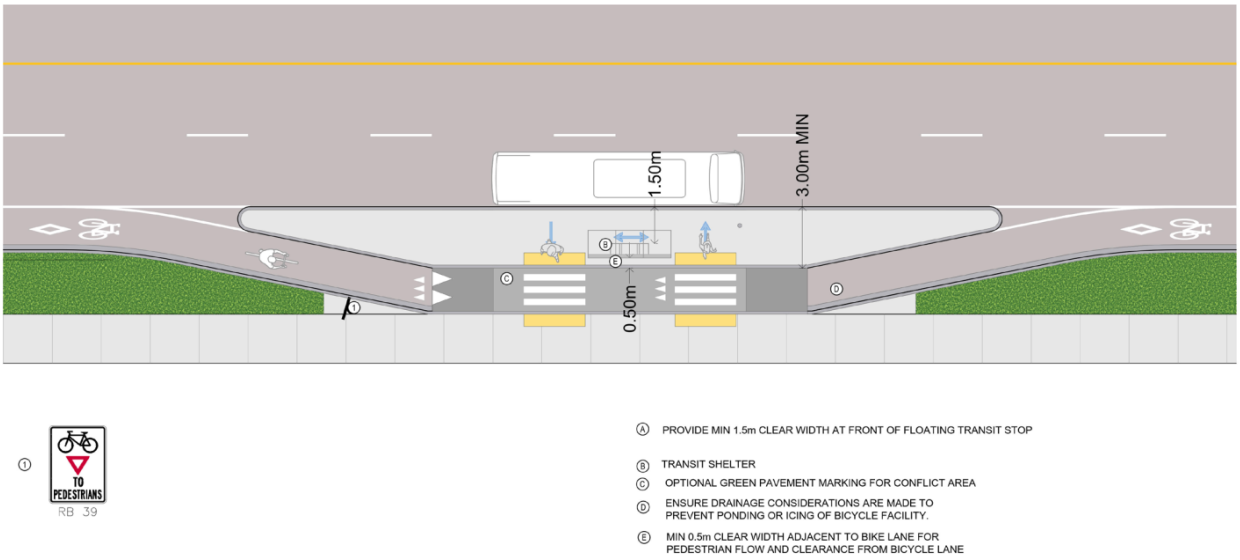


Figure 30. Mid-Block Floating Bus Stop (Source: BCAT, 2019)

Integration of the cycling network with the transit network allows people to ride their bike for the first and last stretch of longer trips. Providing facilities that encourage transit users to bike to transit stops requires cycling facilities that connect directly to transit stops. BC Transit provides bicycle racks on the front of all transit vehicles, but additional communication and education on how the racks work will encourage community members to take multi-modal trips. Additionally, both short-term and long-term bicycle parking should be available near high frequency transit stops.

4.3 End-of-Trip Facilities

There are different types of bicycle parking, each of which is suitable in different situations depending on the duration of the stay and trip purpose. There are two primary categories of bicycle parking: short-term and long-term.

Short-Term Bicycle Parking often consists of bicycle racks distributed in the public right-of-way in commercial areas and at key destinations. Short-term bicycle parking can take a variety of forms, but the two most user-friendly designs are inverted 'U' racks and post-and-ring racks (**Figure 31**).

Considerations need to be made to locate bicycle racks clear from other people's travel paths, **Figure 32** outlines the recommended clear space when installing bike racks. Bicycle racks should be located as close to destinations as possible in convenient and highly visible locations. It is desirable to provide a limited number of covered bicycle racks to provide protection from the elements. Additionally, consideration should be given to position racks to allow longer bicycle, such as bicycle with trailers, to park securely without impeding the sidewalk or building entrances. Below are example images of post-and-ring racks, inverted 'U' racks and short-term covered bicycle parking in Toronto, Port Alberni and Victoria.

Post-and-Ring rack, Toronto

Inverted 'U' rack, Port Alberni


Covered bicycle racks, Victoria

RACK TYPE	NOTES
Inverted U (Also called loop or staple rack) 	•Can support two bicycles per rack. •Can be installed alone or in a series on rails. •Many variations are available. •Can be efficiently located within the Furnishing Zone of a public right-of-way.
Post and Ring 	•Can support two bicycles per rack. •Products exist to retrofit certain parking metres to create custom post and ring racks. •Can be efficiently located within the Furnishing Zone of a public right-of-way.

Figure 31. Preferred Bike Rack Types (Source: BCAT, 2019)

CLEAR SPACE REQUIRED BETWEEN:	DESIRABLE WIDTH (M)	CONSTRAINED LIMIT WIDTH (M)
Bicycle racks in series (parallel to curb)	1.8	1.8
Bicycle racks in series (perpendicular to curb)	1.2	0.9
Bicycle racks in series (angled)	0.7	0.7
Bicycle rack and face of curb	0.9	0.6
Bicycle rack and street furniture and utilities*	1.2	0.9
Bicycle rack and multi-modal conflicts (curb ramps, driveways, crosswalks, loading zone, bus stops)*	1.2	1.2

*1.5 metres required from fire hydrants and bus stops. 1.5 metres recommended for crosswalks.

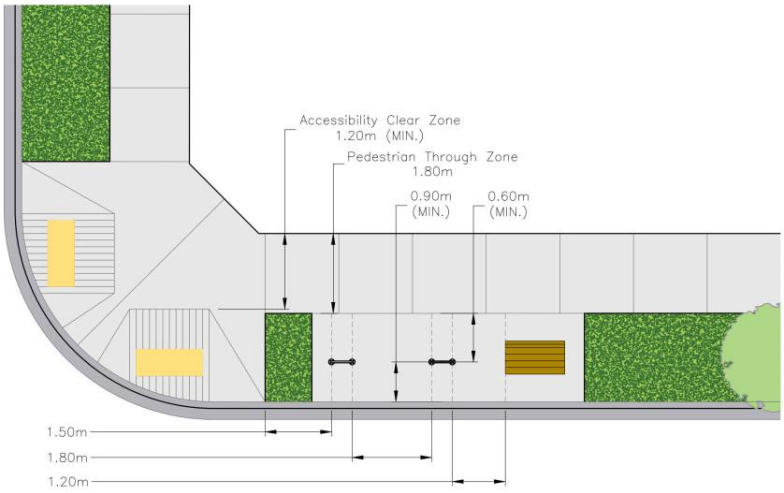
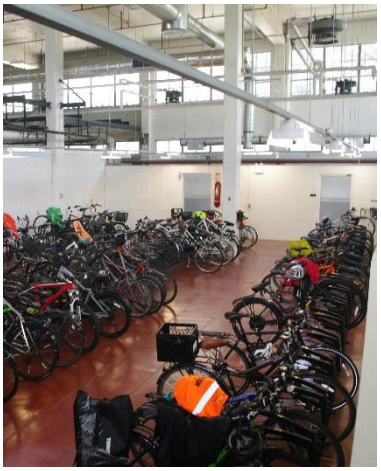
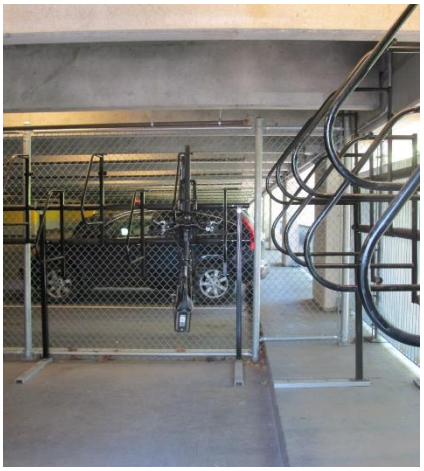


Figure 32. Bike Parking Required Space (Source: BCAT, 2019)

Long-Term Bicycle Parking is more secure than short-term bicycle parking. It may include bicycle lockers or larger secure facilities, such as bicycle rooms, bicycle cages, secure bicycle parking areas, or full-service bicycle stations. Long-term parking is generally oriented toward cyclists needing to park a bicycle for an entire day or longer. With the increasing prevalence of electric bicycles, it is also important to provide access to electric outlets for charging bicycles while they are parked. Additionally, a proportion of the bicycle parking spots should be large enough to accommodate non-standard bicycles that are longer or wider, such as cargo bicycles or bicycle with trailers.



Bicycle room (Vancouver General Hospital Cycling Centre), Vancouver



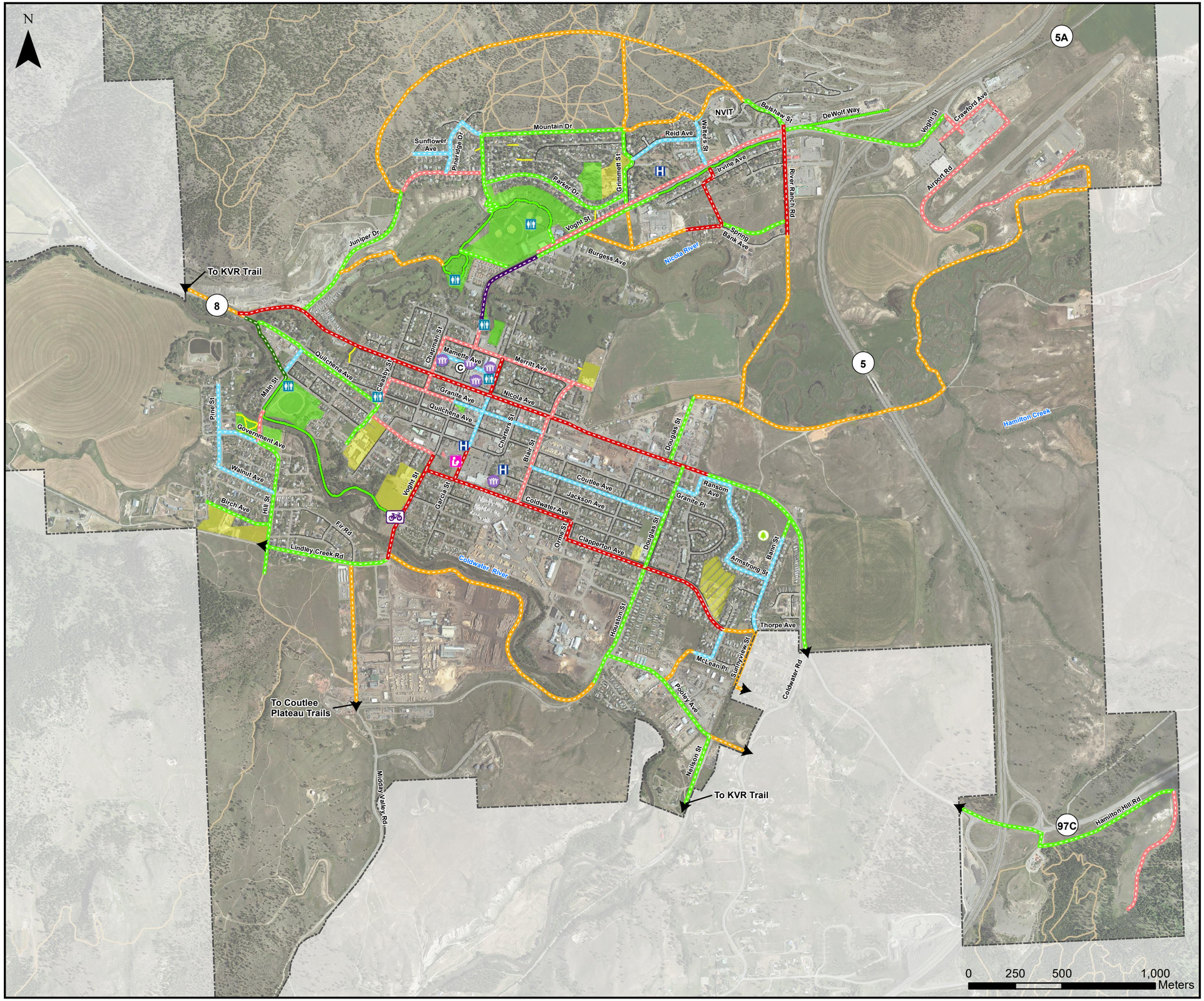
Bicycle cage, Victoria

Bike locker, Kelowna

Refer to Section H.2 of the *BC Active Transportation Design Guide* for further information on bicycle parking

Appendix E

Network Mapping



Proposed Active Transportation Network

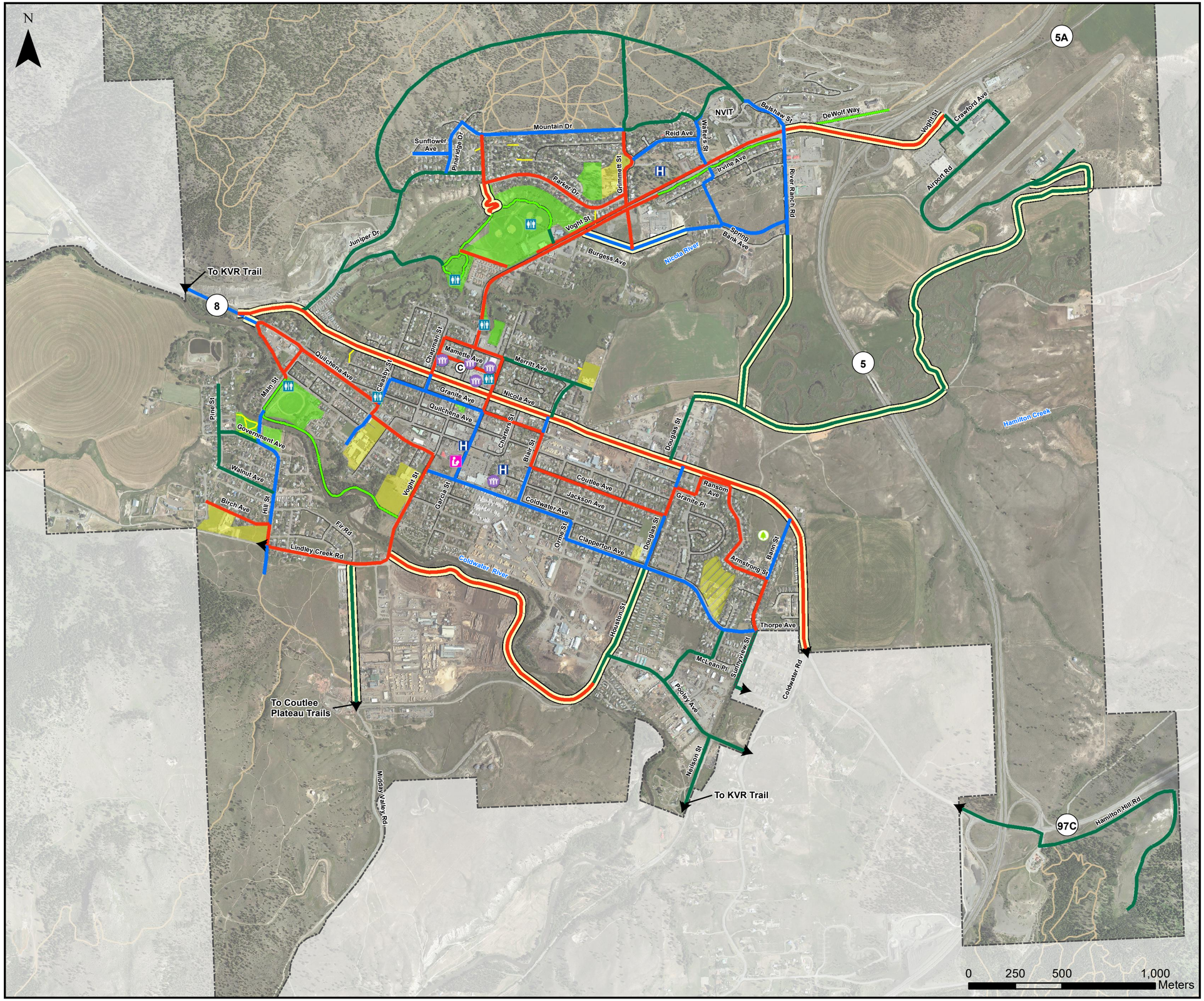
- Municipal Boundary
- School
- School Site (currently closed)
- Existing Park
- Proposed Future Park
- Hospital/Health Care Facility
- City Facility
- City Hall
- Library
- Public Washroom
- Amenity Hub (Bike Repair/ Map/Seating) - Proposed

Existing Active Transportation Facilities

- Sidewalk
- Hiking Trail
- Multi-Use Pathway
- Walking Pathway
- Bike Lane with Buffer

Proposed Active Transportation Network

- Multi-Use Pathway
- Multi-Use Pathway Upgrade
- Neighbourhood Bikeway
- Protected Bicycle Lane
- Bicycle Lane (with buffer where feasible)
- Bicycle Lane (Upgrade)
- Future Connection (alignment unknown)



Active Transportation Network Implementation Priorities

- Municipal Boundary
- School
- School Site (currently closed)
- Existing Park
- Proposed Future Park
- Hospital/Health Care Facility
- City Facility
- City Hall
- Library
- Public Washroom

Existing Active Transportation Facilities

- Sidewalk
- Hiking Trail
- Multi-Use Pathway
- Walking Pathway
- Bike Lane with Buffer

Project Implementation Priorities

- High Priority
- Medium Priority
- Low Priority
- Complex/Multi-Jurisdictional Projects

Appendix D

Detailed Cost Estimates

PROJECT ID	ROAD NAME	TO	FROM	ROAD CLASS	TYPE	PRIORITY	LENGTH (KM)	ROUNDED COST ESTIMATE
1	Nicola Avenue	Rail Bridge	Menzies Street	Highway	Multi-Use Pathway	High Priority (Complex)	1.25	$998,000
1	Nicola Avenue	Menzies Street	Municipal Boundary	Highway	Protected Bike Lane	High Priority (Complex)	2.71	$2,710,000
2	Mamette Avenue	Chapman Street	Garcia Street	Local	Neighbourhood Bikeway	High Priority	0.33	$14,000
2	Merritt Avenue	Chapman Street	Voght Street	Collector	Bike Lane (with Buffer where space is available)	High Priority	0.16	$23,000
2	Merritt Avenue	Voght Street	Garcia Street	Local	Bike Lane (with Buffer where space is available)	High Priority	0.17	$24,000
2	Chapman Street	Nicola Avenue	Merritt Avenue	Local	Bike Lane (with Buffer where space is available)	High Priority	0.21	$30,000
2	Garcia Street	Merritt Avenue	Granite Avenue	Collector	Protected Bike Lane	High Priority	0.21	$214,000
3	Merritt Avenue	Garcia Street	East End	Collector	Bike Lane (with Buffer where space is available)	Low Priority	0.51	$71,000
3	Blair Street	Merritt Avenue	Nicola Avenue	Local	Bike Lane (with Buffer where space is available)	Low Priority	0.23	$32,000
4	Granite Avenue	Cleasby Street	Voght Street	Local	Bike Lane (with Buffer where space is available)	Medium Priority	0.36	$51,000
4	Garcia Street	Coutlee Avenue	Granite Avenue	Collector	Neighbourhood Bikeway	Medium Priority	0.20	$9,000
4	Garcia Street	Coldwater Avenue	Coutlee Avenue	Collector	Protected Bike Lane	Medium Priority	0.19	$192,000
4	Cleasby Street	Quilchena Avenue	Granite Avenue	Local	Bike Lane (with Buffer where space is available)	Medium Priority	0.15	$22,000
4	Cleasby Street	Coldwater Avenue	South End	Local	Multi-Use Pathway	Medium Priority	0.21	$169,000
4	Chapman Street	Nicola Avenue	Granite Avenue	Local	Bike Lane (with Buffer where space is available)	Medium Priority	0.10	$14,000
4	Granite Avenue	Voght Street	Garcia Street	Local	Neighbourhood Bikeway	Medium Priority	0.17	$7,000
5	Quilchena Avenue	Cleasby Street	Trail by Coldwater River	Collector	Multi-Use Pathway	High Priority	0.79	$635,000
5	Coldwater Avenue	Cleasby Avenue	Voght Street	Collector	Bike Lane (with Buffer where space is available)	High Priority	0.40	$57,000
5	Main Street	Trail by Coldwater River	Quilchena Avenue	Collector	Neighbourhood Bikeway	High Priority	0.16	$7,000
5	Trail by Coldwater River	Quilchena Avenue	Main Street	NA	Multi-Use Pathway - Upgrade	High Priority	0.34	$188,000
5	Blair Street	Coutlee Avenue	Coldwater Avenue	Local	Bike Lane (with Buffer where space is available)	Medium Priority	0.20	$29,000
5	Blair Street	Nicola Avenue	Granite Avenue	Local	Bike Lane (with Buffer where space is available)	Medium Priority	0.09	$13,000
5	Cleasby Street	Coldwater Avenue	Quilchena Avenue	Local	Multi-Use Pathway	High Priority	0.07	$57,000
5	Quilchena Avenue	Trail by Coldwater River	Nicola Avenue	Collector	Multi-Use Pathway - Upgrade	Medium Priority (Complex)	0.07	$58,000
6	Voght Street	Lindley Creek Road	Coldwater Avenue (North)	Arterial	Protected Bike Lane	High Priority	0.62	$618,000
7	Coldwater Avenue	Voght Street	Orme Street	Collector	Protected Bike Lane	Medium Priority	0.83	$828,000
7	Clapperton Avenue	Sage Street	Bann Street	Collector	Future Connection (Alignment Unknown)	Medium Priority	0.18	$181,000
7	Clapperton Avenue	Orme Street	Sage Street	Collector	Protected Bike Lane	Medium Priority	1.02	$1,018,000
7	Orme Street	Coldwater Avenue	Clapperton Avenue	Local	Protected Bike Lane	Medium Priority	0.10	$98,000
8	Douglas Street	Coutlee Avenue	Clapperton Avenue	Collector	Multi-Use Pathway	Medium Priority	0.30	$238,000
8	Douglas Street	Nicola Avenue	Granite Place	Collector	Multi-Use Pathway	Medium Priority	0.12	$98,000
9	Douglas Street	Houston Street	Clapperton Avenue	Collector	Multi-Use Pathway	Low Priority (Complex)	0.68	$543,000
10	New Alignment	McLean Place	Pooley Avenue	NA	Future Connection (Alignment Unknown)	Low Priority	0.24	$238,000
10	Pooley Avenue	Neilson Street	Municipal Boundary	Collector	Future Connection (Alignment Unknown)	Low Priority	0.21	$208,000
10	Pooley Avenue	Houston Street	Neilson Street	Collector	Multi-Use Pathway	Low Priority	0.72	$580,000
10	Sage Street	McLean Place	Clapperton Avenue	Local	Neighbourhood Bikeway	Low Priority	0.17	$7,000
10	Neilson Street	Pooley Avenue	Municipal Boundary	Local	Multi-Use Pathway	Low Priority	0.39	$314,000
10	McLean Place	Sage Street	New Alignment	Local	Neighbourhood Bikeway	Low Priority	0.10	$5,000
11	Sunnyview Street	Thorpe Avenue	Wilcox Avenue	Local	Future Connection (Alignment Unknown)	Low Priority	0.32	$321,000
11	Wilcox Avenue	Sunnyview Street	Municipal Boundary	Local	Future Connection (Alignment Unknown)	Low Priority	0.05	$47,000
12	Armstrong Street	Ransom Avenue	Bann Street	Local	Neighbourhood Bikeway	High Priority	0.68	$28,000
12	Granite Place	Douglas Street	Menzies Street	Local	Neighbourhood Bikeway	High Priority	0.12	$5,000
12	Menzies Street	Granite Place	Ransom Avenue	Local	Neighbourhood Bikeway	High Priority	0.10	$5,000
12	Ransom Avenue	Menzies Street	Armstrong St	Local	Neighbourhood Bikeway	High Priority	0.16	$7,000
12	Bann Street	Armstrong Street	Thorpe Avenue	Local	Neighbourhood Bikeway	High Priority	0.29	$12,000
12	Douglas Street	Granite Place	Coutlee Avenue	Collector	Multi-Use Pathway	High Priority	0.16	$131,000
13	New Alignment	Nicola Street	Bann Street North End	NA	Multi-Use Pathway	Medium Priority	0.11	$60,000
13	Bann Street	North End	Armstrong St	Local	Neighbourhood Bikeway	Medium Priority	0.24	$10,000
14	Douglas Street	Nicola Avenue	New Alignment	Local	Multi-Use Pathway	Low Priority	0.37	$295,000
15	Highway 5A/Hamilton Hill Road	Municipal Boundary	East of Ranchland Road (New Alignment)	Local	Multi-Use Pathway	Low Priority	1.33	$1,061,000
15	New Alignment	Hamilton Hill Road	Trails	NA	Bike Lane (with Buffer where space is available)	Low Priority	0.73	$103,000
16	River Pathway	Voght Street	Houston Street	NA	Future Connection (Alignment Unknown)	High Priority (Complex)	1.67	$1,667,000
17	Midday Valley Road	Lindley Creek Road	Municipal Boundary	Collector	Future Connection (Alignment Unknown)	Low Priority (Complex)	0.74	$744,000
18	Lindley Creek Road	Hill Street	Voght Street	Collector	Multi-Use Pathway	High Priority	0.66	$531,000
18	Birch Avenue	Hill Street	Aspen Street	Local	Multi-Use Pathway	High Priority	0.37	$295,000
18	Hill Street	Birch Avenue	Lindley Creek Road	Collector	Multi-Use Pathway	High Priority	0.12	$93,000
19	Hill Street	Government Avenue	Birch Avenue	Collector	Multi-Use Pathway	Medium Priority	0.37	$296,000
19	Main Street	Government Avenue	Existing Trail on Main Street / River Trail	Collector	Bike Lane (with Buffer where space is available)	Medium Priority	0.18	$25,000
19	Government Avenue	Main Street	Hill Street	Collector	Multi-Use Pathway	Medium Priority	0.13	$104,000
19	Willow Avenue / New Alignment	Lindley Creek Road	Existing Trails	NA	Multi-Use Pathway	Medium Priority	0.16	$86,000
20	Pine Street	Walnut Avenue	Hicks Avenue	Local	Neighbourhood Bikeway	Low Priority	0.44	$18,000
20	Government Avenue	Pine Street	Main Street	Local	Neighbourhood Bikeway	Low Priority	0.22	$9,000
20	Walnut Avenue	Pine Street	Hill Street	Local	Neighbourhood Bikeway	Low Priority	0.33	$14,000
21	Merritt-Spences Bridge Highway No 8	Nicola Avenue	KVR Trail	Highway	Future Connection (Alignment Unknown)	Medium Priority	0.35	$353,000
22	Juniper Drive	Nicola Avenue	Juniper Dr (End of residential)	Collector	Multi-Use Pathway	Low Priority	0.88	$704,000
22	Juniper Drive	Juniper Dr (End of residential)	Mountain Drive	Collector	Bike Lane (with Buffer where space is available)	Low Priority	0.48	$68,000
23	New Alignment	Belshaw Street	Juniper Drive	NA	Future Connection (Alignment Unknown)	Low Priority	2.62	$2,624,000
24	Grimmett Street	Grimmett Street	Walters Street	Local	Future Connection (Alignment Unknown)	Low Priority	0.50	$498,000
24	Nicholson Avenue	Grimmett Street	Walters Street	Local	Future Connection (Alignment Unknown)	Low Priority	0.33	$335,000
24	Bremner Avenue	NVIT	Belshaw Street	Local	Future Connection (Alignment Unknown)	Low Priority	0.29	$293,000
24	Walters Street	Nicholson Avenue	Bremner Avenue	Local	Future Connection (Alignment Unknown)	Low Priority	0.09	$87,000
25	Pineridge Drive	Juniper Drive	Ponderosa Way	Local	Neighbourhood Bikeway	Medium Priority	0.29	$12,000
25	Sunflower Avenue	End of Road	Pineridge Drive	Local	Neighbourhood Bikeway	Medium Priority	0.20	$9,000

PROJECT ID	ROAD NAME	TO	FROM	ROAD CLASS	TYPE	PRIORITY	LENGTH (KM)	ROUNDED COST ESTIMATE
25	Ponderosa Way	Pineridge Drive	Mountain Drive	Local	Neighbourhood Bikeway	Medium Priority	0.14	$6,000
25	Mountain Drive	Pineridge Drive	Grimmett Street	Local	Multi-Use Pathway	Medium Priority	0.76	$612,000
26	Parker Drive	Mountain Drive	Parker Drive	Local	Multi-Use Pathway	High Priority	0.26	$208,000
26	Multi-use Pathway Connection	Parker Drive	Central Park	NA	Multi-Use Pathway	High Priority (Complex)	0.27	$150,000
27	Parker Drive	Mountain Drive	Grimmett Street	Collector	Multi-Use Pathway	High Priority	0.84	$669,000
28	Grimmett Street	Mountain Drive	Voght Street	Collector	Multi-Use Pathway	High Priority	0.44	$353,000
29	Walters Street	Voght Street	Bremner Avenue	Local	Neighbourhood Bikeway	Medium Priority	0.24	$10,000
29	Reid Avenue	Grimmett Street	Walters Street	Local	Neighbourhood Bikeway	Medium Priority	0.38	$16,000
29	Bremner Avenue	Walters Street	NVIT	Local	Neighbourhood Bikeway	Medium Priority	0.06	$3,000
30	Belshaw Street	NVIT	Voght Street	Local	Multi-Use Pathway	Medium Priority	0.26	$206,000
31	River Ranch Road	Voght Street	Spring Bank Avenue	Local	Protected Bike Lane	Medium Priority	0.59	$590,000
32	New Alignment	Cedar Road	River Ranch Road	NA	Multi-Use Pathway	Medium Priority	0.37	$206,000
32	Spring Bank Avenue	Cedar Road	New Alignment	Local	Protected Bike Lane	Medium Priority	0.19	$191,000
32	Cedar Road	Irvine Avenue	North of Spring Bank Avenue	Local	Protected Bike Lane	Medium Priority	0.26	$256,000
32	Irvine Avenue	Walters Street	Cedar Road	Local	Protected Bike Lane	Medium Priority	0.07	$69,000
32	Walters Street	Voght Street	Irvine Avenue	Local	Protected Bike Lane	Medium Priority	0.05	$55,000
33	New Alignment	Voght Street	Spring Bank Avenue	NA	Future Connection (Alignment Unknown)	Medium Priority (Complex)	0.58	$582,000
33	Grimmett Street	Voght Street	New Alignment	Local	Future Connection (Alignment Unknown)	High Priority	0.22	$216,000
34	New Alignment	Douglas Street / New Alignment	River Ranch Road	NA	Future Connection (Alignment Unknown)	Low Priority (Complex)	0.99	$993,000
35	New Alignment	Douglas Street	Airport Access Road	NA	Future Connection (Alignment Unknown)	Low Priority (Complex)	1.42	$1,416,000
36	Gordon Street	Voght Street	Merritt Airport	Local	Bike Lane (with Buffer where space is available)	Low Priority	0.14	$20,000
36	Airport Road	Crawford Avenue	Merritt Airport	Local	Bike Lane (with Buffer where space is available)	Low Priority	1.84	$258,000
36	Crawford Avenue	Walmart	Airport Road	Local	Bike Lane (with Buffer where space is available)	Low Priority	0.34	$48,000
37	Voght Street	River Ranch Road	Gordon Street	Arterial	Multi-Use Pathway	High Priority (Complex)	0.93	$746,000
38	Voght Street	Blackwell Avenue	Existing Multi-use Pathway	Arterial	Multi-Use Pathway	High Priority	0.73	$584,000
38	Voght Street	Blackwell Avenue	River Ranch Road	Arterial	Bike Lane (with Buffer where space is available)	High Priority	1.59	$224,000
39	Voght Street	2nd Avenue	Blackwell Avenue	Arterial	Bike Lane (Upgrade)	High Priority	0.53	$75,000
40	Multi-use Pathway Connection	Voght Street	Rotary Park	NA	Multi-Use Pathway	High Priority	0.27	$148,000
41	Multi-use Pathway Connection	Voght Street	Central Park Trail	NA	Multi-Use Pathway	Low Priority	0.08	$44,000
42	Blair Street	Coutlee Avenue	Granite Avenue	Local	Bike Lane (with Buffer where space is available)	High Priority	0.20	$28,000
42	Coutlee Avenue	Blair Street	Douglas Street	Local	Neighbourhood Bikeway	High Priority	0.77	$31,000
42	Granite Avenue	Garcia Street	Blair Street	Local	Neighbourhood Bikeway	High Priority	0.34	$14,000
42	Garcia Street	Granite Avenue	Nicola Avenue	Collector	Neighbourhood Bikeway	High Priority	0.09	$4,000
43	New Alignment	Juniper Drive	Rotary Park	NA	Future Connection (Alignment Unknown)	Low Priority	0.64	$643,000
44	New Alignment	New Alignment (Project #35)	Airport Road	NA	Future Connection (Alignment Unknown)	Low Priority (Complex)	2.26	$2,259,000
TOTAL								**$33,481,000**

Merritt
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