



# Cycling Master Plan

February 2019

REPORT FOR:

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District of Summerland  
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# INTRODUCTION

The District of Summerland is a vibrant community in British Columbia’s Okanagan Valley, located between Kelowna and Penticton with a population of over 11,500 residents. The District covers a large area in a diverse and picturesque landscape characterized by lakes, creeks, and sunny and dry Okanagan hillsides. The District’s unique topography allows residents and tourists to enjoy stunning vistas of Okanagan Lake framed by Conkle Mountain, Giant’s Head Mountain and Cartwright Mountain.

Investments in walking, cycling and other forms of active transportation result in a more balanced transportation system—one that is more accessible, cost-effective and efficient in terms of infrastructure investments. Promoting cycling as an attractive and convenient transportation choice can help reduce automobile dependence, increase physical activity levels, improve public health, reduce infrastructure demands, and create a more livable and vibrant community.

The Cycling Master Plan has been developed concurrently with the Trails Master Plan and the Sidewalk Master Plan with the understanding that all three plans will collectively influence active modes in Summerland. The three plans should be considered in conjunction with each other and with the recognition that off-street pathway facilities are used by a variety of users including cyclists.

## 1.1 PLAN PURPOSE AND OBJECTIVES

The key objectives and deliverables of the **Cycling Master Plan** include:

- Identifying regional cycling connections to promote commuter cycling within Summerland and throughout the Okanagan.
- Reducing the number of motor vehicle kilometres travelled and in turn reducing traffic congestion and greenhouse gas emissions.
- Providing an update of the 2008 Summerland Bicycle Network by identifying a proposed network of comfortable, safe and accessible cycling routes for all.
- Identifying policies and procedures for maintenance, installation of end-of-trip facilities, education and awareness.
- Preparing design guidelines for bicycle infrastructure.

## 1.2 PLAN PROCESS

The Cycling Master Plan has been developed through a phased approach. The following four phases have allowed the plan to be developed with comprehensive feedback and engagement from the internal project team, stakeholders and interest groups, as well as community members.

- **Phase 1: Project Launch (September 2018).** This phase included collecting and reviewing existing background information and data, consulting with District staff, and developing a Public Engagement Strategy for public engagement in future phases of the planning process.
- **Phase 2: Understanding Existing Conditions (October 2018).** This phase focused on understanding the existing state of cycling in the District. This included a review of existing cycling related policy documents, existing bicycle infrastructure and programs, and engaging with the public to better understand existing issues and opportunities related to cycling.
- **Phase 3: Setting the Future Direction (October/November 2018).** This phase focused on exploring possibilities for the future of cycling in the District of Summerland. This included identifying a vision, goals, proposed bicycle network, and policies and procedures to enhance cycling for all. These possibilities have been reviewed and prioritized based on feedback from public and stakeholders.
- **Phase 4: Develop an Implementation Plan and Finalize the Cycling Master Plan (November/December 2018).** This final phase focused on refining and prioritizing the draft plan created in Phase 3 and developing an Implementation and Plan.

Throughout the process of developing the Cycling Master Plan, geotechnical, archeological, environmental, cultural and historical considerations were made. Conversations with the District and the South Okanagan Similkameen Conservation Program (SOSCP) informed environmental and geotechnical considerations. Cultural, historical and archaeological considerations were informed by conversations with the District, stakeholders and the public.

### 1.3 COMMUNICATIONS AND ENGAGEMENT

An effective and meaningful community engagement strategy was critical to the success of the Cycling Master Plan. As such, the process to develop the Plan included several opportunities for residents and stakeholders to participate and provide feedback. This section outlines the public and stakeholder engagement that occurred throughout the planning process.

During the second phase of the project, an interactive online survey was used to collect information of existing conditions for cycling. This included understanding existing travel patterns and issues and opportunities for cycling in the District. The online survey was open between October 5<sup>th</sup> to 30<sup>th</sup>, 2018. The survey was viewed 553 times and completed 403 times. During this time, meetings with targeted stakeholders were held on October 18<sup>th</sup> with representatives from Summerland schools, community groups and associations, youth

groups, service clubs, business groups, as well as trail, cycling, environmental, and parks groups. A public Open House was held on October 25 (5:00pm to 7:00pm) to identify issues and opportunities related to cycling, sidewalks, and trails, there were approximately 85 attendees.

During the third phase of the project, a second stakeholder meeting was held on November 29<sup>th</sup> and a public Open House was held on December 6 (5:00pm to 7:00pm). The focus of both the stakeholder meeting and the public Open House was to present the primary themes and actions to be included in the Cycling Master Plan as well as the proposed long-term cycling network. Attendees were asked to provide input on the content that was being proposed and identify which themes, actions and infrastructure projects they would prioritize. A survey was distributed to all Open House attendees to collect their input, there were approximately 65 attendees at the Open House. Open House materials were also available on the District's website and an online version of the survey distributed at the Open House was available to collect feedback between December 5<sup>th</sup> and 13<sup>th</sup>. The survey received a total of 242 responses.

A summary of the public engagement completed as part of this project can be found in **Appendix A**.

## 1.4 VISION AND GOALS

A shared vision for the Summerland's Cycling, Trails and Sidewalk Master Plans was developed. The vision was developed based on feedback received from residents and stakeholders, and direction from key District documents including the Council Strategic Plan 2015 – 2019, the Official Community Plan (OCP), and the 2018 Parks and Recreation Master Plan. The vision for the Cycling Master Plan emphasizes Summerland as an active and healthy community with a cycling network that is safe and comfortable for people of all ages and abilities. Reflecting these themes, the vision for the Cycling, Trails and Sidewalk Master Plan is shown below:

*“Summerland is a community where active and healthy living is encouraged and walking, cycling and other forms of active transportation are safe and comfortable for people of all ages and abilities, year-round, and for all trip purposes, including recreation and commuting.”*

In support of the above vision, the Cycling Master Plan has three goals that are intended to provide direction to help achieve the vision identified above. The goals have been broken down based on the themes of use, safety and accessibility, and infrastructure.

- **Goal #1 Use** – The cycling network is well connected and makes commuter and recreational cycling a convenient and viable way to travel.
- **Goal #2 Safety and Accessibility** – The cycling network is safe, well maintained and comfortable for people of all ages and abilities year-round.
- **Goal #3 Infrastructure** – The cycling network consists of end-of-trip facilities and bicycle routes that combine on-street and off-street infrastructure that connect the District neighbourhoods and nearby communities.

The themes and actions presented in this plan are intended to enable the District to achieve this vision and goals.







**CYCLING IN  
SUMMERLAND TODAY**

This section describes the context for the Cycling Master Plan, including the community context such as demographics, land use profile, and relevant policies and bylaws. This section also includes a summary of the existing conditions for cycling in Summerland. Together, these elements of the community context have shaped the recommended improvement strategies for the Cycling Master Plan. Further details regarding existing conditions for cycling in Summerland are outlined in the **Existing Conditions Summary Report** found in **Appendix B**

## 2.1 COMMUNITY CONTEXT

This section includes a summary of the key demographic, land use, transportation, and natural characteristics of Summerland that effect cycling, as well as the key District policies and plans that have influenced the Cycling Master Plan.

- **Demographics** - The District is a desirable location for retirement aged residents to relocate to and has attracted a large population of retired individuals who have moved to the District to enjoy the beauty and seasonable climate. More than 40 percent of the District's population (42%) are either too young to drive, or are seniors. Both these groups often need transportation alternatives such as bicycle riding.
- **Neighbourhoods** - Summerland is a municipality made up of diverse neighbourhoods that provide a range of living environments from rural agricultural homes, to multi-family residence. For the most part, Summerland's neighbourhoods are relatively low-density.
- **Community Amenities and Land Use** - The region is a popular destination for tourists visiting fruit orchards, vineyards, trails, parks and the many beaches. The neighbourhoods within the District are surrounded by vast agricultural lands that primarily produce fruit and vegetables.
- **Barriers** - Summerland's geography leads to physical barriers that create mobility challenges for people on bicycles. In some locations topography and steep grades create a challenge for people riding their bicycles between different neighbourhoods and destinations in the District. Additionally, Highway 97 is a major barrier between the neighbourhoods west of the highway and the beaches along the water in the Lower Town.

### 2.1.1 POLICY CONTEXT

The Cycling Master Plan is closely linked to, and will be informed by, many of Summerland's key guiding policies and plans. The following policies, plans, bylaws, and initiatives were reviewed to help inform the development of the Cycling Master Plan.

- **2015 District of Summerland Official Community Plan (OCP).** The OCP focuses specifically on the need of cycling infrastructure in the Downtown neighbourhood and the Lower Town neighbourhood and states the need for improved bicycle parking and on-street facilities.
- **2008 Transportation Master Plan (TMP).** The 2008 TMP outlines road improvements that focused on both the motor vehicle network and active modes including walking and cycling. The TMP was an important starting point for the development of the Cycling Master Plan.
- **Zoning Bylaw (2000-450).** 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.
- **2018 Parks and Recreation Master Plan.** The Parks and Recreation Master Plan identifies the need to create a network of bicycle lanes and pathways that connect neighbourhoods, parks, and open spaces, and community amenities to provide active transportation and recreation opportunities.

Other documents reviewed include the District's Community Climate Action Plan and the 2017 South Okanagan Regional Growth Strategy.

## 2.2 CYCLING IN SUMMERLAND TODAY

Based on 2016 Canadian Census Journey to Work data, approximately 1% of residents in Summerland travel by bicycle to work and/or school. In addition to Census Data, information collected through an online survey conducted in the first phase of the Cycling Master Plan planning process has led to a better understanding that people bicycle in Summerland for recreational purposes more frequently than to commute to school or work. Survey respondents were asked how often they typically bicycle. The survey results show that 49% of respondents indicate that they ride their bicycle multiple times per week, with only 21% of respondents indicating that they never ride a bike.

Key destinations for cycling in the District include schools, recreation centres, the downtown commercial area, parks, and the beaches along the waterfront. Some of the key findings show that people are travelling to:

- Peach Orchard Beach Park
- Crescent Beach
- Antler Park (located at the end of Garnet Valley Road)
- Rodeo Grounds
- The trailhead of Fyffe Road
- Deer Ridge
- Cartwright Mountain and the Test of Humanity trail
- Conkle Mountain
- Trans Canada Trail (also known as The Great Trail)
- The trestle bridge and Summerland Sweets
- Wineries
- Dale Meadows Park
- The 10 km loop around Giant's Head Mountain
- Lakeshore Drive
- Downtown
- Golf course
- Recreational cycling

### 2.2.1 EXISTING CYCLING NETWORK

The existing cycling network is made up of different types of infrastructure including, off-street paved off-street pathways, painted bicycle lanes, and signed bicycle routes (**Figure 1**). The off-street pathways and paved trails will also be included in the existing network for the Trails Master Plan and the Sidewalk Master Plan since commuter cyclists will share this infrastructure with recreational cyclists and pedestrians. These facilities have been built over the years based off the direction of the existing and previous OCPs and TMP. The District has a total of 36 kilometres of cycling facilities in the District of Summerland. Cycling facilities are found in the following locations in Summerland:

- Painted bicycle lanes on Prairie Valley Road
- Painted bicycle lanes on Peach Orchard Road
- Painted bicycle lanes on portions of Lakeshore Drive
- Paved off-street pathway adjacent to Giants Head Road
- Signed Trans Canada Trail route through southern Summerland
- Signed recreational loop routes including the Gran Fondo Route, Lakeshore Route and Centennial Trail. These routes have some wayfinding signage but no on street pavement markings or regulatory signage (**Figure 2**).

Overall the cycling network is limited in terms of length but provides some useful connections with the current network coverage. Designated recreational cycling routes both provide expanded cycling coverage but have no formal infrastructure to improve the safety of the people cycling. Recreational cyclists also frequently ride to destinations outside of the District on roadways that lack cycling infrastructure.

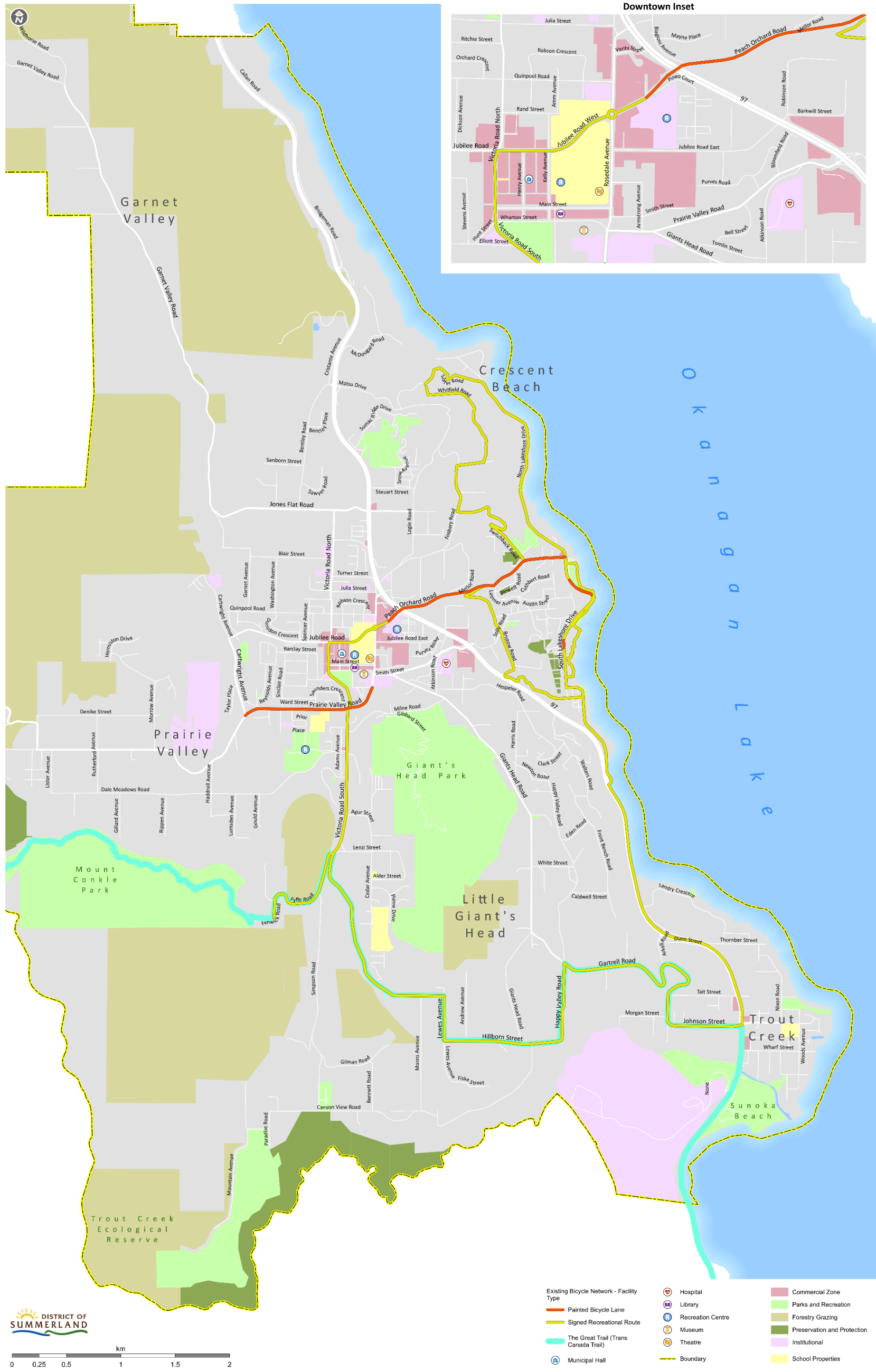


Figure 1: Existing Cycling Network

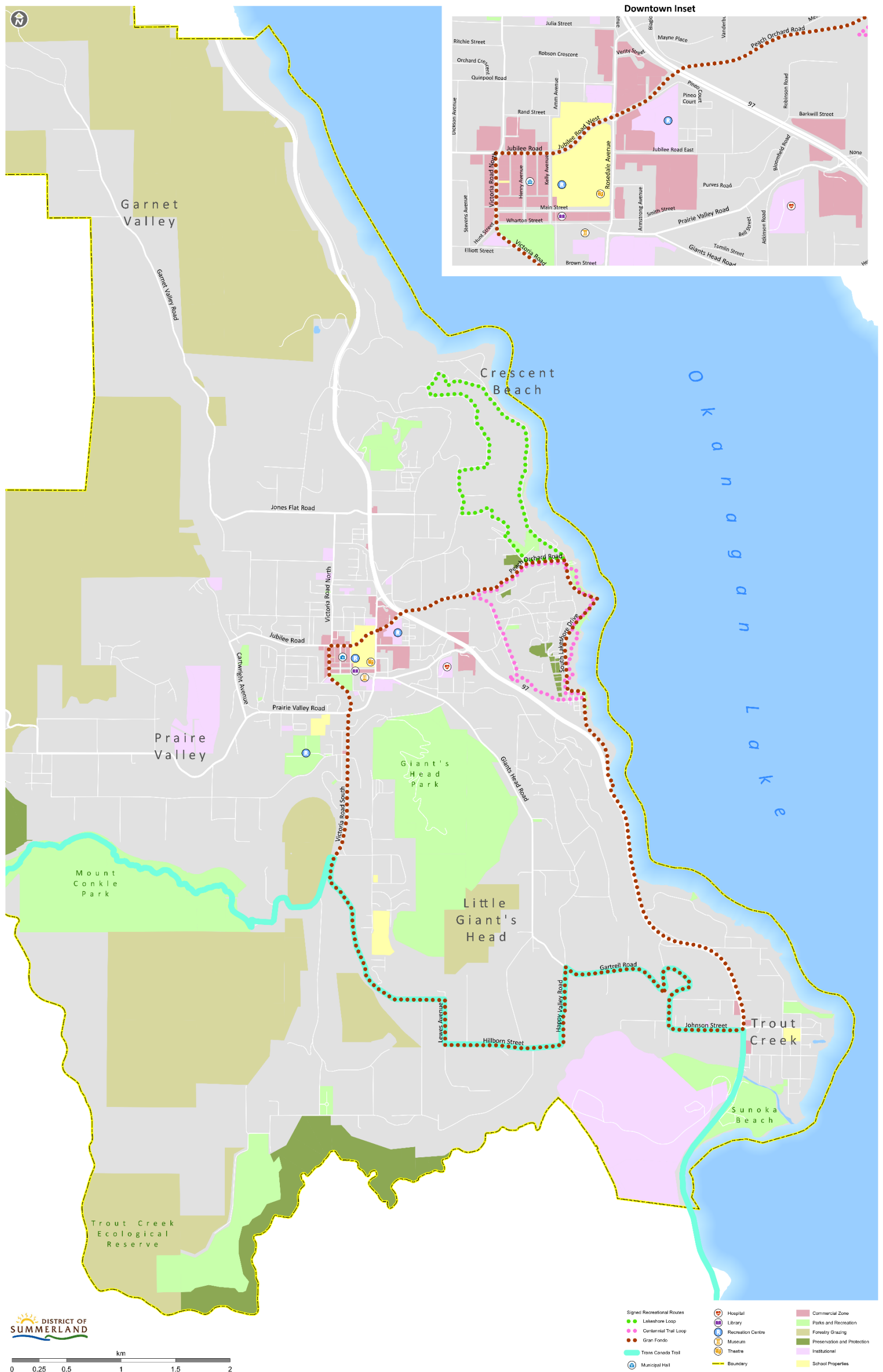


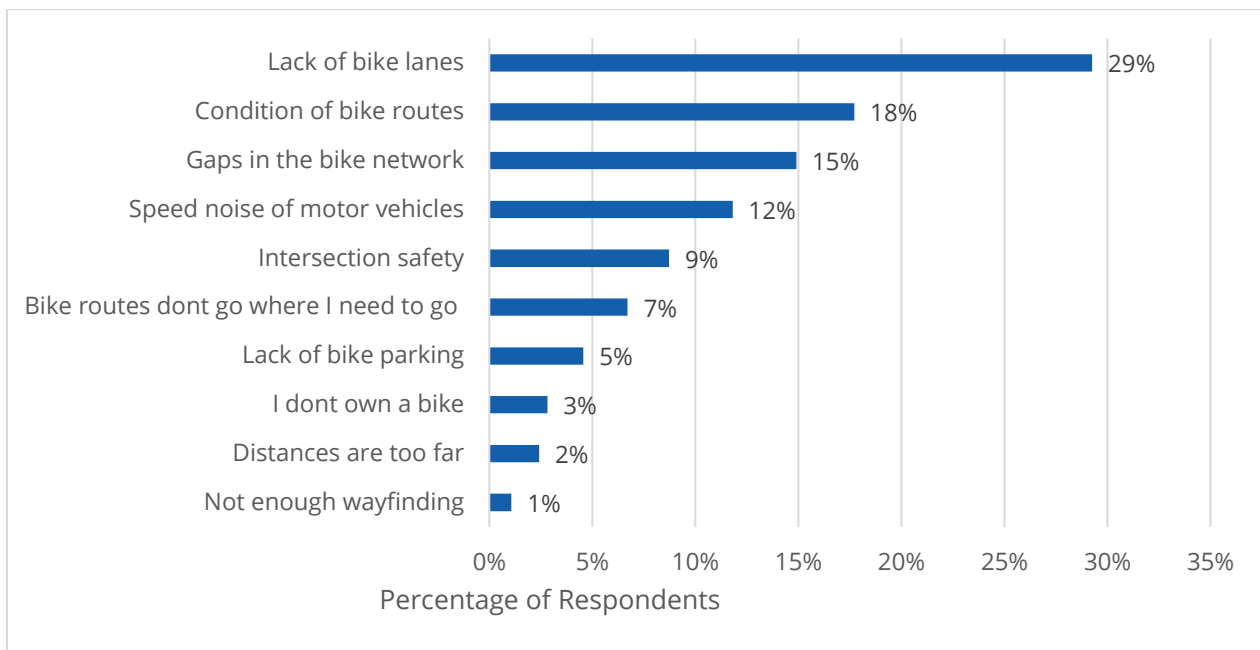
Figure 2: Signed Recreational Routes

## 2.2.2 KEY ISSUES AND OPPORTUNITIES

Key issues and opportunities were discussed with stakeholders and interested residents through several engagement events and the online survey.

### *Issues*

Online survey respondents were asked to select what they felt were the top three challenges for cycling on Summerland roads from a list of 10 challenges, the results are seen in **Figure 3**. The top three challenges selected were lack of bike lanes (29%), condition of bike routes (18%), and gaps in the bike network (15%). The feedback heard from the online survey was consistent with the feedback received when meeting with stakeholders and at the two Open Houses.



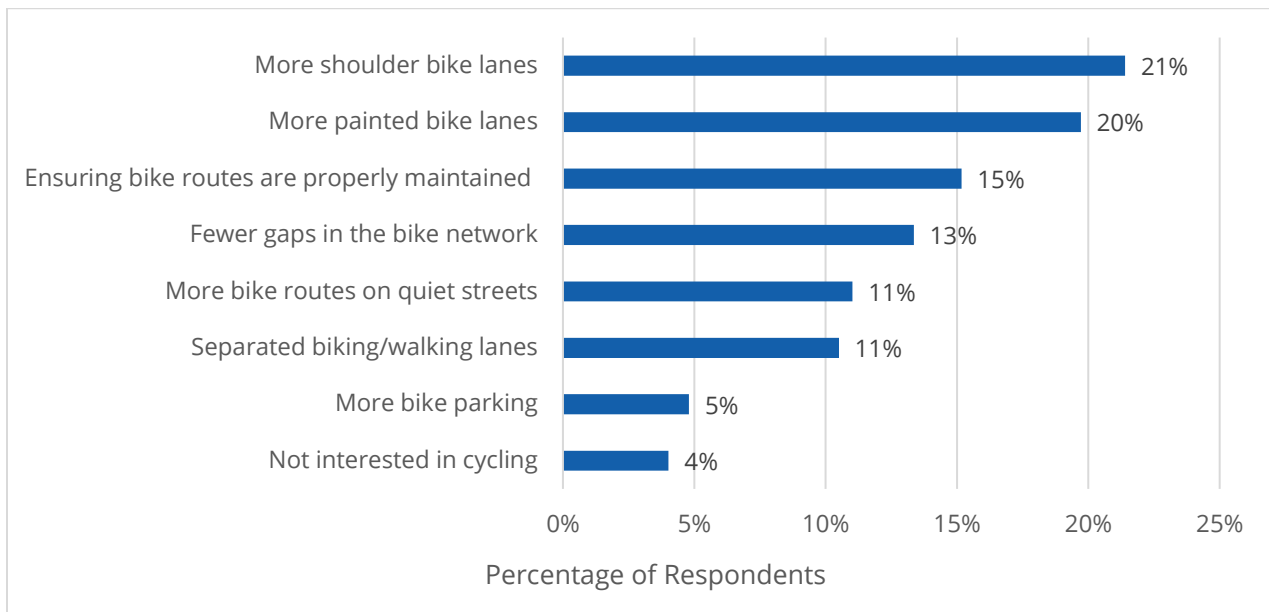
**Figure 3: Online Survey Top Cycling Challenges (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

The online survey included an interactive map for respondents to identify specific challenges or areas for improvements. Respondents could drag and drop ‘topic pins’ onto specific locations and provide comments to help explain what challenge they have experienced or suggest improvements. A large number of survey responses indicate that gaps in the network are located surrounding downtown, along Prairie Valley Road, Giants Head Road, Victoria Road, and South Lakeshore Drive. These locations were identified with topic pins indicating a lack of bicycle lanes or a discontinuous or end of a bicycle lane.



### Opportunities

When survey respondents were asked what the District could do to encourage them to cycle on the road more often the desire for a larger connected bicycle network was evident with 65% of the responses related to increasing the cycling network (**Figure 4**). Ensuring properly maintained cycling infrastructure was the third most common response which is consistent with what was heard during the in-person engagement.



**Figure 4: Cycling Issues (On Street) (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

Other key opportunities for developing a connected cycling network in Summerland include improving the visitor experience for tourists as well as residents. The District's cycling routes, particularly trails, are a major attractant for visitors and having a well-developed network is key to attracting visitors to enjoy what Summerland has to offer. The cycling network, along with all types of active transportation, encourage healthy active lifestyles and connections with green space and natural areas, both of which are identified as important goals for healthy built environments by Interior Health.



# THEMES AND ACTIONS

The framework of the Cycling Master Plan consists of four overarching themes: **Cycling Network, Maintenance and Accessibility, End-of-Trip Facilities and Amenities,** and **Education and Awareness.** This section outlines more detailed actions to improve cycling in Summerland as it relates to each of these four themes. As identified through community engagement and technical analysis, the actions items under each theme address a variety of identified strengths, opportunities, challenges and concerns with cycling infrastructure, policies, standards, and support programs.

The implementation of these strategies and actions will help Summerland work towards achieving the vision and goals of the Cycling Master Plan.

## THEME 1: CYCLING NETWORK

Cities across North America are increasingly focusing on expanding their bicycle networks as a key strategy to increase levels of cycling. Providing a complete and interconnected network of bicycle routes throughout Summerland is critical to supporting and encouraging more cycling. It is important that bicycle routes are direct and that they provide connections to key destinations within the community. Providing direct routes that connect to key destinations will ensure that cycling travel times are competitive with automobiles. Expanding and enhancing Summerland's bicycle network will require a combination of strategies, ranging from upgrading existing routes to addressing safety concerns, connecting gaps, and providing more bicycle routes, designed based on best practice, that are comfortable for people of all ages and abilities.

Expanding and enhancing the cycling networks will require operating and maintenance budget increases for items such as snow clearing, vegetation management as well as signage and enforcement by Bylaw and RCMP.

### **Action 1.1: Provide a complete and connected on-street bicycle network through a phased implementation plan.**

Developing a complete and connected network of bicycle routes for a variety of users and people cycling is an important component for encouraging more cycling over the long-term. **Figure 6** presents the long-term recommended bicycle network for Summerland. A well-designed cycling network needs to be visible, intuitive, and provide links between destinations and neighbourhoods. A cycling network should ideally be designed to serve users of all ages and abilities, offering 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. The network should also provide district-wide coverage, ensuring that most residents are within proximity of a designated bicycle facility. In addition, the network should provide direct routes to key destinations such as downtown and other commercial destinations, schools, parks and community facilities. By developing a complete network, the District is helping to make cycling a competitive and viable transportation option. Finally,

an important component of improving the connectivity of the bicycle network is ensuring that existing routes are high quality and are well integrated into the proposed network. A key focus of the Cycling Master Plan is to identify opportunities to enhance existing infrastructure to improve comfort, safety and accessibility, such as along Victoria Road, Giants Head Road, Jubilee Road and Peach Orchard Road, to name a few.

Many cities within Canada and internationally have been moving towards providing bicycle infrastructure that is comfortable and attractive for a broad array of users, such as children and seniors and part of a complete street. An 'All Ages and Abilities' (AAA) bicycle route is intended to be suitable for persons ranging in age from children to elderly (aged 8 to 80) and is comfortable to use for most bicycle users regardless of their ability and experience.

Research conducted by the UBC Cycling in Cities Program suggests that three types of bicycle infrastructure are most effective at increasing ridership: off-street pathways, protected bicycle lanes, and neighbourhood routes. This type of infrastructure is the most effective because it is the most preferred type of infrastructure by users, it also tends to be the safest type of infrastructure.

The District's proposed cycling network is made up of four bicycle route types: Off-Street Pathways, Primary AAA (On-Street), Secondary, and Recreational. The long-term bicycle network for the District includes a combination of different infrastructure types, including both AAA routes and non-AAA routes. A description of each of the route types proposed in the long-term network as well as the infrastructure that would fall under each category are listed below. More details about each infrastructure type can be found in the Bicycle Infrastructure Design Guide (**Appendix C**):

- **Off-Street Pathways** are typically considered an AAA facility. They are physically separated from motor vehicles by an open space or a barrier, depending on the application. Off-street pathways can provide enough width to be used by a variety of users including, people walking, cycling, and other forms of active transportation like inline skating and joggers. Off-street pathways can have paved or unpaved surfaces. Paved or firm surfaces are often preferable for people cycling and people with mobility aids or strollers. Off-street pathways are an effective facility where right-of-way is available. They can be installed parallel to a major roadway, within a park or along a utility corridor.
- **Primary AAA (On-Street)** routes can include infrastructure such as protected bicycle lanes, bicycle boulevards, and buffered bicycle lanes. These types of infrastructure tend to be the most effective at increasing ridership as they are most preferred by users and are proven to be safest types of facilities. Primary On-Street routes are proposed within the downtown and on major roadways connecting neighbourhoods.

Below is description of the different infrastructure types that are suitable for Primary AAA routes

- **Protected bicycle lanes** are physically separated from motor vehicle travel lanes but are located on-street within the roadway surface. Protected bicycle lanes combine the benefits of increased comfort offered by off-street pathways due to their separation from motor vehicle traffic, with the benefits of route directness provided by on-street facilities. They also provide separation between people walking and people cycling.

There are many types of protected bicycle lanes, offering varying types of treatments to provide protection. Types of separation include concrete barriers, elevation, bollards, parked cars, visual surface treatments such as pavers, and painted buffers.

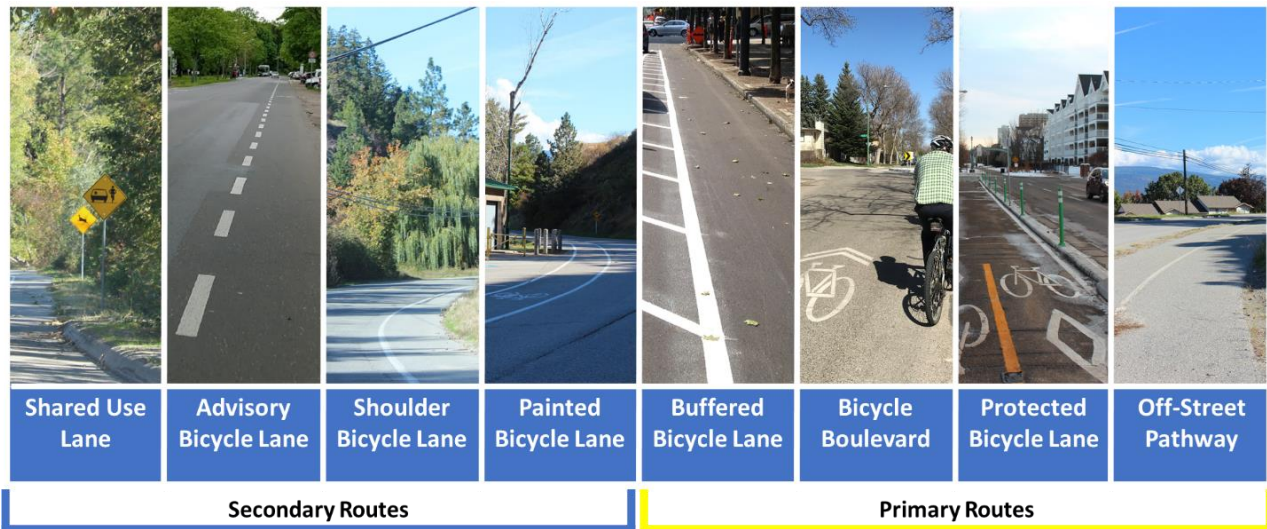
Protected bicycle lanes are usually installed in locations with high cycling demand and potential, such as within town centres or routes that provide direct connections to important destinations. They are often located on streets where motor vehicle volumes and speeds are higher.

- **Bicycle boulevards** are bicycle routes located on streets with low traffic volumes and speeds. These streets have been optimized to varying degrees to prioritize bicycle traffic. Bicycle Boulevards are often found on low volume streets that run parallel to major roads or within neighbourhoods on residential streets connecting existing trails and pathways. Bicycles and motor vehicles share the roadway.

In cases where the existing streets have relatively low traffic volumes and speeds, the only improvements required may be signage and pavement markings identifying the road as a bicycle route, and enhancements to crossings where the bicycle boulevard intersects with major roads. However, they can and should be further enhanced with traffic calming measures such as traffic circles and traffic diverters if volumes and speeds are high.

- **Buffered bicycle lanes** are conventional bicycle lanes (described below) that have a painted buffer. The painted buffer can be located between the bicycle and motor vehicle lanes or between the bicycle lane and parked vehicles. Buffered bicycle lanes are more comfortable than conventional painted bicycle lanes as there is spatial separation between people cycling and adjacent traffic lanes. Buffered bicycle lanes are distinguished from protected bicycle lanes, as the former do not provide a physical barrier, such as bollards, curbs or planters.

- **Secondary Routes** are typically not considered to be AAA and are considered part of the supporting network. Secondary Routes can include infrastructure such as, painted bicycle lanes, shoulder bikeways and shared use lanes.
  - **Painted bicycle lanes** are designated exclusively for bicycle travel. Bicycle lanes help to define the road space for bicyclists and motorists. Bicycle lanes are generally suitable on streets with moderate traffic volumes.
  - **Shoulder bikeways** can be used in rural areas to provide a dedicated space for people cycling on rural roads and highways, they are located on streets without a curb.
  - **Shared use lanes** using ‘sharrow’ pavement markings indicate a shared space for bicycles and other vehicles.
  - **Advisory Bicycle lanes** are more commonly found in European countries but have recently been seen more frequently in North America including Ottawa. 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.
- **Recreational Routes** are routes that are being used for largely recreational purposes, they have some wayfinding signage but no on street pavement markings or regulatory signage.



**Figure 5: Bicycle Infrastructure Types by Level of Comfort**

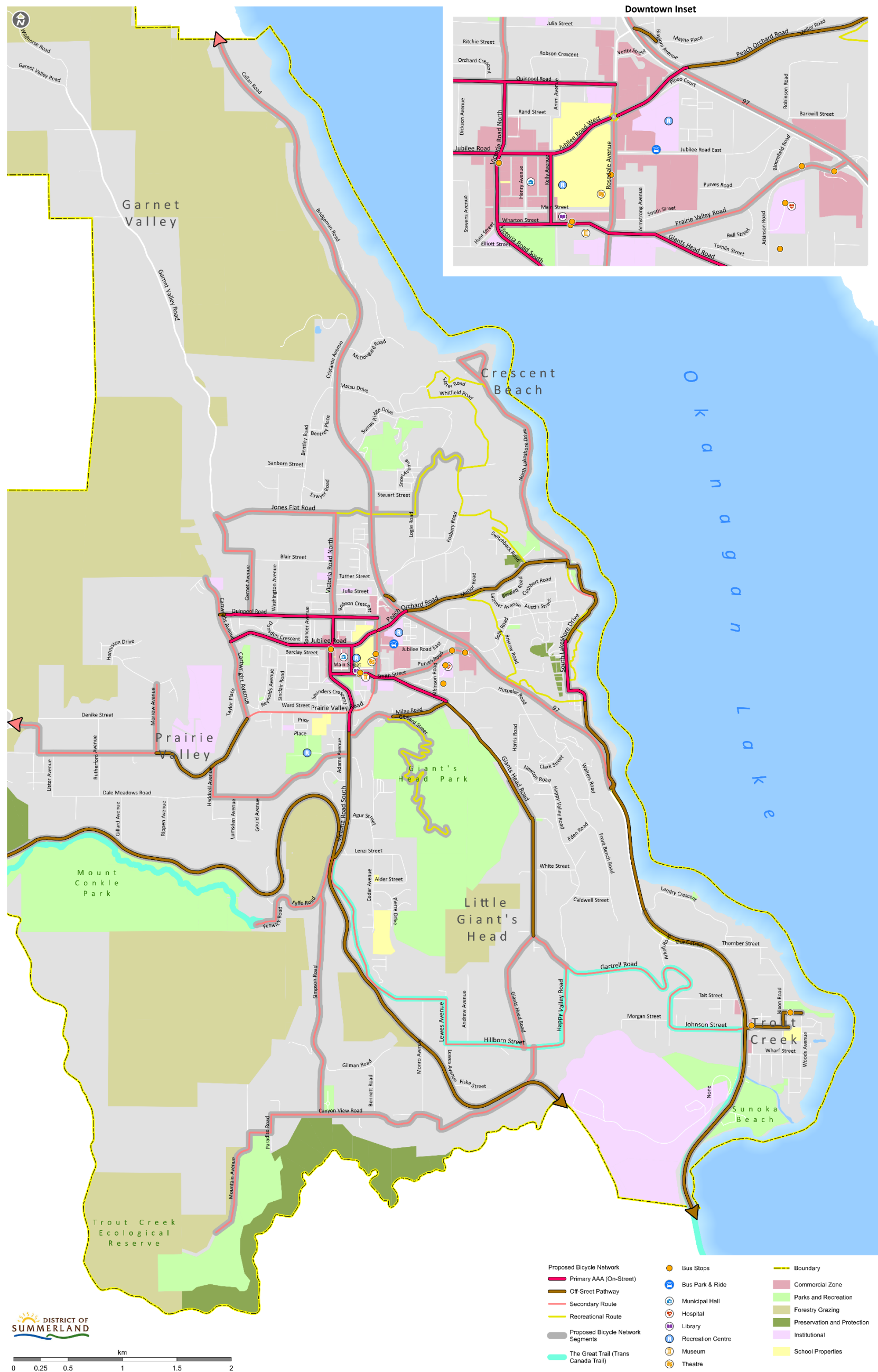


Figure 6: Proposed Cycling Network

### **Action 1.2: Work with partners to provide regional cycling connections to adjacent communities.**

Summerland is part of the larger Regional District of Okanagan Similkameen, the closest communities to Summerland are Peachland and Penticton. Penticton Indian Band land is located within the District and adjacent to the District's boarder to the south.

There are several important regional trail systems both existing and planned that move through Summerland that include the Kettle Valley Railway, the Brigade Trail, and the trail network on Cartwright Mountain beyond the District's border. Maintaining and improving these connections is key to improving active transportation and tourism connections to locations outside the District. Partnerships with neighbouring jurisdictions as well as local volunteer organizations are critical to developing these connections. More information about these relationships is outlined in the District's Trails Master Plan.

The District should continue to work with partners to explore opportunities to extend the cycling network into communities and land outside of the District's boundary. This action ties in closely with a number of strategies outlined in the Trail Network Plan and the proposed off-street pathway routes identified in **Figure 6**. Some of the key partners the District should work with include, the Regional District of Okanagan Similkameen, the Regional District of Central Okanagan, the Ministry of Transportation (for potential cycling connections on Highway and adjacent to Ministry infrastructure) and the Penticton Indian Band.

### **Action 1.3: Ensure the cycling network is seamlessly integrated with the trails and sidewalk network.**

Considerations for implementing new bicycle infrastructure will be made through the design and implementation of new and upgraded roads and other infrastructure projects. This will require different internal departments and agencies, as well as external partners, to work collaboratively and share information on appropriate opportunities to incorporate different components of the Cycling Master Plan. The District's Cycling Master Plan was developed in conjunction with the Sidewalk Master Plan and the Trails Master Plan, as a result, there are a number of projects that have been identified in the two other plans that can have an impact on the cycling network, as a result it is important that when discussing any new active transportation project in the District, all three plans are reviewed.

### **Action 1.4: Incorporate the Bicycle Infrastructure Design Guidelines into the update to the Subdivision and Development Servicing Bylaw.**

As part of the process for developing the Cycling Master Plan, bicycle infrastructure design guidelines were developed based on national and international best practices and with a focus on providing design standards for high quality bicycle infrastructure, including both on-street and off-street pathway facilities (**Appendix C**). These design guidelines should be



incorporated into the update to the Subdivision and Development Servicing Bylaw. The engineering cross sections for new roads should be updated based on the recommendations provided in the guidelines and in **Table 1** below. The recommendations outlined below build off the work outlined in the TMP and have been updated to reflect current best practice.

**Table 1: Recommended Cycling Facilities for New Roads**

Infrastructure Type	Collector		Local
	Rural	Urban	
Cycling	Paved shoulders (minimum width 1.8 metres) or Painted Bicycle Lane where there are sidewalk facilities (min width 1.8m)	Protected Bicycle Lane or parallel Off-Street Pathway	No special provisions (No Change for Cycling)

### **Action 1.5: Follow Bicycle Infrastructure Design Guidelines and emerging best practices for all new bicycle infrastructure, where feasible.**

Where feasible, the District should use the recommendations of the Bicycle Infrastructure Design Guidelines, developed as part of the Cycling Master Plan to install and upgrade designated cycling routes using a consistent standard that meets or exceeds local and national design guidelines as well as design options that have been successfully implemented elsewhere. These guidelines provide some recommendations on infrastructure type selection based on the characteristics and context of a given street. The Bicycle Infrastructure Design Guide can be found in **Appendix C**.

### **Action 1.6: Review data collected by ICBC and RCMP to monitor cycling collision locations and identify safety mitigation measures.**

Every two years the District should review safety data collected to monitor cycling and pedestrian hot spot collision locations and identify safety mitigation measures to improve safety. Hot spot collision locations refer to locations with a higher concentration of report collisions or incidents. Hot spots can include corridors as well as specific intersection locations. Through the identification of hot spot collision locations, the District can develop mitigation measures using engineering, education or enforcement.

### **Cycling Network: Summary of Actions**

The actions that have been developed to under the theme **Cycling Network** are summarized below:

- **Action 1.1:** Provide a complete and connected on-street bicycle network through a phased implementation plan.
- **Action 1.2:** Work with partners to provide regional cycling connections to adjacent communities.
- **Action 1.3:** Ensure the cycling network is seamlessly integrated with the trails and sidewalk network.
- **Action 1.4:** Incorporate the Bicycle Infrastructure Design Guidelines into the update to the Subdivision and Development Servicing Bylaw.
- **Action 1.5:** Follow Bicycle Infrastructure Design Guidelines and emerging best practices for all new bicycle infrastructure, where feasible.
- **Action 1.6:** Review data collected by ICBC and RCMP to monitor cycling collision locations and identify safety mitigation measures.

## THEME 2: MAINTENANCE AND ACCESSIBILITY

Cycling infrastructure should be well maintained and accessible for people of all ages and abilities throughout the year. For people cycling, poorly maintained infrastructure (including pathways and roadways with bicycle routes), pavement quality, snow and ice, and inaccessible infrastructure can make it more difficult and less desirable to cycle. While the implementation of infrastructure to promote cycling is seen typically as a top priority, undertaking ongoing rehabilitation and maintenance and improving the accessibility of existing infrastructure also needs to be an important focus.

It is important to note that the installation of more, and certain types of, cycling infrastructure will have an impact on the District's operations and maintenance budget and should be considered when approving new capital projects.

### **Action 2.1: Design bicycle routes to facilitate drainage, snow removal and snow storage.**

One of the best ways to avoid drainage issues and flooding of bicycle infrastructure is through thoughtful roadway design. The design of infrastructure can also facilitate the removal of snow from bicycle routes. Unfortunately, with roadways that include typical, unprotected bicycle lanes at the edge of the roadway, the bicycle lane often becomes the area for snow storage and can also result in accumulation of debris and gravel. This means people cycling are either trying to share the motor vehicle lane or riding on the edge of the road while trying to avoid piled-up snow, debris or pools of water. There are several roadway planning and design considerations that can be taken to avoid this situation, including:

- Ensuring drainage issues are addressed at time of construction.
- Plan new or renewed roadways with sufficient right-of-way to provide enough space for a bicycle lane and an adequately sized storage space on the side of the road. This would allow a typical truck-mounted snowplow to plow snow into the storage space rather than the bicycle lane. A 1.8 m bicycle lane would also allow for some narrowing of the bicycle lane due to adjacent snow storage, while still maintaining functionality.
- Provide a wide bicycle lane buffer. Where feasible, a wide protected or unprotected bicycle lane buffer can provide ample storage space for snow, while providing cyclists protection from vehicles. A minimum 0.9 metre buffer is preferable to accommodate moderate snowfall with minimum encroachment upon the bicycle lane. This design would require the use of a smaller bicycle lane snow plow to clear this portion of the roadway.
- Restrict on-street parking during snow events. Where a bicycle lane is located between on-street parking and the vehicular lane, parking along the roadway can be

restricted during snow events to allow this space to become snow storage space. While this isn't an option for all roadways, it could be utilized along priority bicycle routes in the winter.

- Provide enough width for small truck snowplows and invest in acquiring a fleet to maintain existing and future protected bicycle lanes and infrastructure in house.
- Recessed Thermoplastic Green Pavement Markings. The use of 'green paint' at conflict zones and at intersections can play an important role in making cyclists more visible at high conflict locations. However, ensuring that the application of paint is well maintained and worth the level of investment there are some strategies to enhance the lifespan of the paint through winter months. For example, milling the area of pavement 3mm in depth where thermoplastic pavement markings are applied has shown to be effective in reducing damage as a result of snowplows in a 2010 study. Minneapolis, MN mills the area of pavement where thermoplastic bicycle lane indicators are placed to help reduce damage as a result of snowplows. While this method results in more expensive installation costs, if the bicycle lane is located on a street that receives heavy plowing, it may save in long-term maintenance costs (and help preserve safety conditions along the roadway). Milling may also be applied to off-road trails that receive heavy plowing.

### **Action 2.2: Ensure roads designated as bicycle routes are maintained in a state of good repair.**

Throughout the process of developing the Cycling Master Plan, maintenance concerns and the need for smooth even roadway surfaces on routes used by people cycling was identified as a key opportunity to enhance cycling in Summerland. The District should review road maintenance practices and include considerations of on-street bicycle infrastructure and routes when prioritizing roadway maintenance and resurfacing schedules.

### **Action 2.3: Ensure the District has the equipment to maintain all types of proposed bicycle infrastructure.**

Bicycle infrastructure along existing roadways have been found to increase cycling safety which can result in an increase in ridership. It does however, present challenges related to maintenance, especially if appropriate equipment to sufficiently maintain the different facility types within the network isn't available. Protected bicycle lanes in particular can create maintenance challenges as special equipment may be needed and there can be additional costs associated with removing snow from site due to a lack of storage space.

It is recommended that when considering potential cycling capital projects, maintenance costs be factored into the approval process. Maintenance will also depend on the space available within the separated lane and the type of physical separation used.

Based on work in other communities it is known that maintenance costs will vary significantly based on the design of infrastructure. The following costs have been identified help to highlight the additional maintenance expenditures that should be considered when planning and designing future bicycle infrastructure in the District. The costs provided are rough costs as design and scale has not been applied. These costs are meant to represent possible considerations for increased maintenance demands and are not prescriptive. Below are the estimated maintenance costs based on the type of separation used:

- \$270 per kilometre annually for painted bicycle lanes.
- \$630 per kilometre annually for concrete separation
- \$840 per kilometre annually for plastic delineator posts

This demonstrates an increase in maintenance costs for separated bicycle routes compared to painted lanes. It is also important to note that maintenance costs could be higher depending on expectations around clearing snow and debris, the design and materials used, and the selected routes as each roadway presents unique challenges for maintenance.

#### **Action 2.4: Update the District's Snow, Ice, and Rubbish Removal Bylaw to provide snow removal polices procedures for bicycle infrastructure.**

Currently the District has limited requirements for debris, snow, and ice removal on bicycle routes. Current snow removal practices for on-street routes are based on existing roadway snow removal requirements. Through the public engagement process concerns over the storage of snow in the bicycle lane was identified as a safety issue for people cycling.

Typically, within in the District, road snow clearing, and maintenance operations are based on the following priorities in order of precedence:

- School bus routes on school days
- Roads that are collector roads or considered especially steep
- All remaining roads within each zone, regardless of classification, that are deemed to be dangerous or impassable.

The District should consider reviewing existing requirements and provide additional guidance for snow removal specific to on-street bicycle routes and identify a winter cycling network. Routes that are included in the winter cycling network should have available space for snow storage to help facilitate removal. It is ideal that bicycle routes are plowed to bare pavement (0 to 4 cm of snow) to the edge of the curb.

## Maintenance and Accessibility: Summary of Actions

The actions that have been developed to under the theme **Maintenance and Accessibility** are summarized below:

- **Action 2.1:** Design bicycle routes to facilitate drainage, snow removal and snow storage.
- **Action 2.2:** Ensure roads designated as bicycle routes are maintained in a state of good repair.
- **Action 2.3:** Ensure the District has the equipment to maintain all types of proposed bicycle infrastructure.
- **Action 2.4:** Update the District's Snow, Ice, and Rubbish Removal Bylaw to provide snow removal polices procedures for bicycle infrastructure.

## THEME 3: END-OF-TRIP FACILITIES AND AMENITIES

Making cycling convenient focuses on integrating transit and cycling, as well as providing amenities such as bicycle parking and end-of-trip facilities. Investing in these areas will help to make cycling and other forms of active transportation a more practical option for day-to-day travel.

### Action 3.1: Review and update requirements for short-term and long-term bicycle parking and end-of-trip facilities.

Having safe and secure bicycle parking is critical, as most trips by bicycle require a place to park when the rider reaches their destination. At its most basic, this means locking a bike to something within the street right of way. The fear of theft or vandalism is a significant barrier to biking regardless of the cost of an individual's bicycle. There are many different types of bicycle parking, which can be suitable in different situations depending on the duration of the stay. As a result, providing safe and secure bicycle parking at key locations in Summerland is important for facilitating cycling.

- **Short Term Bicycle Parking** (typically referred to as Class II bicycle parking) facilities often consist of bicycle racks distributed in the public right-of-way in commercial areas and at key destinations throughout Summerland. Short-term bicycle parking can take a variety of forms, such as a Post-and-Ring Rack or Inverted 'U' Rack. Bicycle racks are generally oriented to residents and visitors, who may stop in the area for shopping or other personal business and should be located as close to destinations as possible in convenient locations and highly visible for users. It is desirable to provide a limited number of covered bicycle racks to provide protection from the elements.
- **Long-Term Bicycle Parking** (typically referred to as Class I bicycle parking facilities) is more secure than typical bicycle racks. 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. Major employment areas and multifamily are ideally suited to long-term parking facilities. With the increasing prevalence of electric bicycles, it is also important to have receptacles for charging bicycles while they are parked.

Summerland's Zoning Bylaw requires bicycle parking for multi-family residential land uses as well as all non-residential uses, the facility requirements are based on dwelling units and gross floor area. Further recommendations were made in the TMP to make changes to the bicycle parking requirements, as seen in **Table 2**, and update the Zoning Bylaw to require shower facilities for retail and office spaces that have more than 10 employees. Class I

parking spaces noted below are long-term secure spots while the Class II facilities are intended for short term bicycle parking.

**Table 2 - Bicycle Parking Recommendations (Transportation Master Plan)**

Use	Bicycle Parking Requirement
Residential multi-family	1 space per residential unit (80% Class I, 20% Class II)
Hotel/Motel	1 space for every 15 rooms (60% Class I, 40% Class II)
Commercial, retail	1 space per 200m <sup>2</sup> GFA (25% Class I, 75% Class II)
Commercial, office	1 space per 400m <sup>2</sup> GFA (75% Class I, 25% Class II)
Recreational/Cultural/Educational	1 space per 200m <sup>2</sup> GFA (25% Class I, 75% Class II)
Parking Structure/Lot	10% of motor vehicle spaces provided
Other Uses	As determined by the District

Other end-of-trip facilities, such as changing rooms, showers and storage space for equipment can also make cycling more convenient as well as to help build a culture for active transportation within a specific development or place of employment. This is particularly important in cities that experience variable weather conditions including rain and snow, as more gear is required at certain times of year and having a place to store it has a significant impact on convenience.

The District is planning an upcoming update to their Zoning Bylaw, as part of this work a review and update of the bicycle parking recommendations from the TMP should be completed. Parking requirements should be reviewed and incorporate changes to the designated zoning uses and classifications and should separate out the parking requirements more clearly for Class I and Class II requirements. The District could also consider specific bicycle parking requirements for schools as there may be additional demands for the facilities.

There are a number of existing documents that provide guidance on the design and placement of bicycle parking such as, the Association of Pedestrian and Bicycle Professionals Essentials of Bike Parking guide which is available for free download.

### **Action 3.2: Ensure bicycle parking is provided at all District owned and operated facilities.**

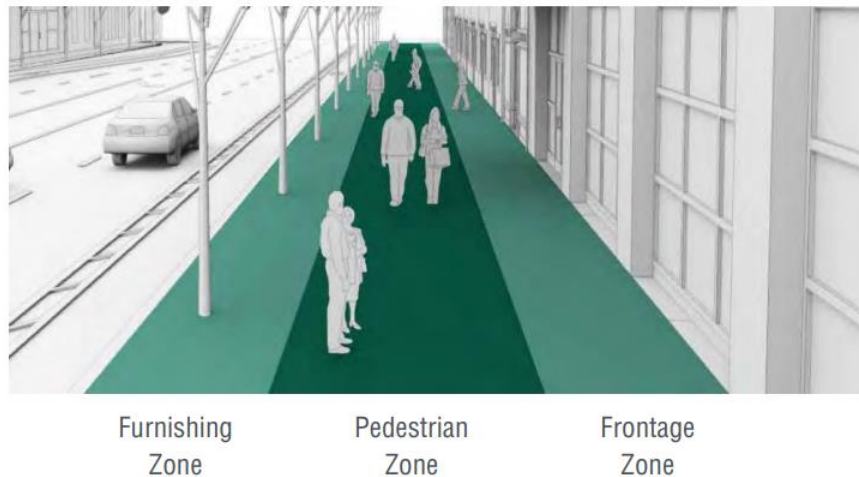
Installing and improving existing bicycle parking and end-of-trip facilities at District owned and operated buildings can help send a message to residents and businesses that the District



supports cycling as a means of transportation. Continuing these investments can benefit employees, residents and visitors by providing better access to facilities within the District. This can include the provision of short-term facilities at locations and buildings that see a lot of visitor activity and longer-term bicycle parking and other end of trip facilities should be considered at locations where there are high concentrations of employees and where space is available.

### **Action 3.3: Provide bicycle parking within the public right-of-way at key cycling destinations.**

The District should consider the development of a formal program for the installation of bicycle parking at key cycling destinations. These destinations include parks, schools, libraries and hospitals but also within the public right of way (within the furnishing or frontage zones as seen in **Figure 7**).



**Figure 7: Sidewalk Areas**

The District may also want to consider a Bike Rack Sponsorship Program, similar programs have been implemented in other British Columbian cities. This program invites individuals, businesses, service clubs and other organizations to sponsor a bike rack in Summerland. The District can then work with sponsors to determine the best placement and location of the parking facility within Summerland.

### **Action 3.4: Work with partners to consider the feasibility of developing an on-street bicycle corral program on commercial streets within the existing right of way.**

Bicycle corrals are a grouping of bicycle racks located on-street. They are typically located in a parking space that may normally be allocated to motor vehicles or in unutilized space within the road right of way. Because they are often located within the road right of way,

bicycle corrals minimize sidewalk clutter, free up space for people walking and other uses and increase bicycle parking at locations with high demand. The District of Summerland should work with the Chamber of Commerce and local businesses to consider the feasibility of developing an on-street bicycle corral program to look for opportunities to replace on-street parking in strategic locations or utilize unused space within the right of way for bicycle corrals.

### **Action 3.5: Expand on the existing central hub for cycling currently located at Memorial Park.**

Summerland's downtown is a hub of activity, being centrally located it acts as a gateway to many of the Districts recreational cycling routes. Expanding on the existing cycling hub located at Memorial Park could include an additional location with 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 Region. By expanding this concept, the District can help to create an area for promoting cycling, sharing information and combine business, tourism and transportation interests.

### **Action 3.6: Work with BC Transit to identify opportunities to improve bicycle-transit integration throughout the day.**

Summerland should work with BC Transit to consider the provision of both short- and long-term parking at transit stops within the downtown. This can help provide a safe and secure place for people to lock up their bicycle if they are travelling the rest of their journey by transit, or if there is no space available on the bike racks on the bus. The District should also continue to work with BC Transit to look for opportunities to increase bike carrying capacity on buses.

## **End-of-Trip Facilities and Amenities: Summary of Actions**

The actions that have been developed to under the theme **End-of-Trip Facilities and Amenities** are summarized below:

- **Action 3.1:** Review and update requirements for short-term and long-term bicycle parking and end-of-trip facilities.
- **Action 3.2:** Ensure bicycle parking is provided at all District owned and operated facilities.
- **Action 3.3:** Provide bicycle parking within the public right-of-way at key cycling destinations.
- **Action 3.4:** 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 3.5:** Expand the existing central hub for cycling currently located at Memorial Park.
- **Action 3.6:** Work with BC Transit to identify opportunities to improve bicycle-transit integration throughout the day.

## THEME 4: EDUCATION AND AWARENESS

Although “hard” measures such as cycling infrastructure are critical to encouraging active transportation, a range of “soft” support measures are also recommended to encourage people to walk and cycle in Summerland. These “soft” measures provide awareness and information about cycling. Education and encouragement initiatives can include providing information to the public on the benefits of cycling, information on cycling routes, and programs that teach skills and awareness around road safety and cycling. Education and encouragement initiatives are important and cost-effective measures to enable residents to feel more safe and comfortable cycling throughout Summerland.

### **Action 4.1: Develop and implement cycling wayfinding plan based on best practices.**

A seamless, consistent and easy-to-understand District-wide system of wayfinding, signage for cycling is important to make the network easier to navigate. Wayfinding should be simple, easy to read, intuitive, and provide people cycling with a level of confidence that they are travelling the most efficient and accessible route.

As the District works to provide more on-street and off-street pathway cycling infrastructure it should consider developing and implementing a wayfinding program and guidelines specifically for on-street routes. This can include a plan for the installation of wayfinding throughout the Summerland as well as agreed-upon protocols for route naming and identification of destinations including trailheads and regional connections. Consistent design and application of route markings and cycling signage. The guidelines should provide information on all wayfinding signs available, including decision, confirmation, and turn signs. In addition, the guidelines can provide information specific to prioritizing locations for wayfinding signage. There are a number of great examples of wayfinding guidelines the District can build off of include, TransLink’s Wayfinding Guidelines for Utility Cycling in Metro Vancouver (available for free download online). The District may want to consider partnering with other local organizations such as Tourism Summerland or interested businesses.

### **Action 4.2: Develop an online cycling network map showing local routes, regional connections, and signed recreational routes.**

Organizations such as Tourism Summerland have developed and distributed maps showing hiking and biking trails in the District. The City has an online mapping tool that allows users

to turn on and off various layers (including sidewalks), currently on-street bicycle infrastructure is not included as a layer. It is recommended that the District upload the existing cycling network inventory developed as part of this plan to the existing GIS mapping tool to ensure information about the cycling network is easily accessible, printable and in an easy to read format will be important to ensure that people interested in cycling have access to the most accurate network information.

The map should be regularly updated as new infrastructure is installed and provided in both print and interactive online formats. The map should also display other information including key destinations, transit routes, locations for bicycle parking and bicycle retailers, as an example. The District could consider working in partnership with other organizations or groups to develop and update the map.

### **Action 4.3: Continue to support and develop cycling education programs**

While improving infrastructure can make active transportation more safe and attractive, it is also important to ensure that residents have the skills, information, confidence and support they need to cycle more within the District. There are a number of education and awareness programs and initiatives that the District can develop and support with its partners. This can include partnerships with agencies and organizations such as ICBC (i.e. road safety campaigns), RCMP, Interior Health, and local groups and businesses to deliver 'share the road' and road safety campaigns, promote bike/walk to work week, and road cycling skills workshops. Educational information around active transportation can be delivered through a variety of formats, including an online walking and cycling webpage on the District of Summerland website, promotional safety brochures, radio/television commercials, skills training sessions / workshops, and in-school classes.

Additionally, the District can consider developing an Active and Safe Routes to School program. This term used to describe an international movement to improve children's safety as they walk and bicycle to school. The initiative is built on five program elements, called the "5 E's" of safe routes to school: engineering, education, encouragement, enforcement, and evaluation. There are sometimes provincial grants available to help fund these types of programs and studies.

### **Action 4.4: Consider the impact of changing technologies and different users on the cycling network.**

The District should consider the impact of new technologies and the influence they may have on cycling infrastructure. For example, the placement of electric motor vehicle and electric bicycle (ebike) charging stations and how they interact with cycling infrastructure should be considered in future designs and may need to be regulated through District-wide policies or

Bylaws. Additionally, the District may want to provide more regulation for people skateboarding or using mobility scooters on bicycle lanes and off-street pathways. For example, in 2016 Vancouver City Council approved a pilot Bylaw that allows people on skates, skateboards and push scooters to use protected bicycle lanes.

There are also opportunities to consider an electric bike share program or working with a local bike rental business to increase resident and visitor access to ebikes as a way to visit and tour the District and the entire region by bike.

The District can consider updating policies and Bylaws to regulate how new technologies, other types of active transportation and people of all ages and abilities are integrated into the existing and future active transportation network.

#### **Action 4.5: Continue to actively market and promote active transportation.**

Campaigns and District-wide communications through various forums such as radio advertisements, bus shelter advertisements, online/website content and others can be effective tools for reaching out to Summerland residents, increasing awareness and interest in active transportation. The District already has a website dedicated to the Cycling, Trails and Sidewalk Master Planning process, and should ensure that the content on this website is regularly updated with news updates, project information and other materials and resources. The District should also continue to support 'GoByBike' weeks and other initiatives that promote cycling.

#### **Action 4.6: Consider the development of an Active Transportation Advisory Committee**

Through the process of developing the Cycling, Trails and Sidewalk Network Plan, various stakeholders were identified, and meetings were held to help steer the direction of the Plan. The Committee was made up of representatives from several existing groups, agencies and committees. The District should consider the retention of an Active Transportation Committee to advise on proposed projects, policies and standards, programs, events and other initiatives undertaken to implement the Cycling, Trails and Sidewalk Plans. The Committee should include representatives from key stakeholder groups and residents and could be a sub-committee to an existing Council committee.

## Education and Awareness: Summary of Actions

The actions that have been developed to under the theme **Education and Awareness** are summarized below:

- **Action 4.1:** Develop and implement cycling wayfinding plan based on best practices.
- **Action 4.2:** Develop an online cycling network map showing local routes, regional connections, and signed recreational routes.
- **Action 4.3:** Continue to support and develop cycling education programs
- **Action 4.4:** Consider the impact of changing technologies and different users on the cycling network.
- **Action 4.5:** Continue to actively market and promote active transportation.
- **Action 4.6:** Consider the development of an Active Transportation Advisory Committee



# IMPLEMENTATION STRATEGY

The District of Summerland Cycling Master Plan outlines long-term actions which include a variety of projects and policy directions to enhance and encourage cycling within the District. Recognizing that the long-term vision will require significant investment, an Implementation Strategy is required to prioritize improvements and identify priority projects.

This Implementation Strategy details the priorities and costs for capital improvements within the District's jurisdiction that are required for implementation of the Cycling Master Plan. The Implementation Strategy identifies cycling capital projects as a high priority project or a longer-term priority.

The following sections summarize the priorities and costs for the capital improvements that are within the District's jurisdiction that are required for implementation of the Cycling Master Plan. The implementation strategy includes order-of-magnitude cost estimates for each capital project based on typical unit costs and recent construction pricing in Summerland and British Columbia. Cost estimates have been provided to identify the relative cost between projects for planning purposes but should not be used for budgeting purposes. Wherever possible, the District should work with other agencies and levels of governments to establish cost sharing agreements or to seek grant opportunities in order to off-set total project costs.

It is important to note, the Cycling Master Plan is intended to be a flexible, working, document. For the proposed networks and infrastructure projects there has been a level of flexibility assigned regarding the specific corridors, facility types and level of priority that are recommended. It should also be noted that these priorities may change over time. The District will need to review the feasibility and desirability of each infrastructure project in regard to changes to the overall transportation network and as the District grows and develops. 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 District should seek to maximize the opportunity. Additionally, the list of projects provided in the Plan is not exhaustive and the District recognizes the need to be flexible and adapt to change.

Summerland should engage in further public consultation to implement many recommendations of the Cycling Master Plan. Many of the initiatives in the Plan require more detailed input and technical work. Summerland will work closely with partners, residents and stakeholder groups to move forward with priorities identified.



## 4.1 PRIORITIES

Strategies for implementing each of the actions identified in the Cycling Master Plan are outlined in **Table 3**. This table provides guidance with respect to:

- **Timeframe.** Each action is identified as either a short-term (within 5 years), medium-term (within 10 years) or long-term (10 years and beyond) initiative. Many actions will be implemented on an ongoing basis, in which case they are shown under each timeframe. It should also be noted that these priorities may change over time.
- **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.
- **Responsibility.** This column suggests responsibility for each action. Many actions are the primary responsibility of the District, some of the actions can be supported by external agencies.

**Table 3: Cycling Master Plan Themes and Actions**

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY
	Short 5 yr	Medium 5 -10 yr	Long-Term 10+ yr	Capital	Operations and Maintenance	Policy and Programming	
<b>1. Cycling Network</b>							
Action 1.1: Provide a complete and connected on-street bicycle network through a phased implementation plan.		Ongoing		✓			District
Action 1.2: Work with partners to provide regional cycling connections to adjacent communities.		Ongoing				✓	District with support from partners and stakeholders
Action 1.3: Ensure the cycling network is seamlessly integrated with the trails and sidewalk network		Ongoing		✓		✓	District
Action 1.4: Incorporate the Bicycle Infrastructure Design Guidelines into the update to the Subdivision and Development Servicing Bylaw.		Ongoing		✓			District
Action 1.5: Follow Bicycle Infrastructure Design Guidelines and emerging best practices for all new bicycle infrastructure, where feasible.		Ongoing		✓	✓		District
Action 1.6: Review data collected by ICBC and RCMP to monitor cycling collision locations and identify safety mitigation measures.		Ongoing				✓	District
<b>2. Maintenance and Accessibility</b>							
Action 2.1: Design bicycle routes to facilitate drainage, snow removal and snow storage.		Ongoing		✓	✓		District
Action 2.2: Ensure roads designated as bicycle routes are maintained in a state of good repair.		Ongoing		✓	✓		District
Action 2.3: Ensure the District has the equipment to maintain all types of proposed bicycle infrastructure.	✓			✓	✓		District
Action 2.4: Update the District’s Snow, Ice, and Rubbish Removal Bylaw to provide snow removal polices procedures for bicycle infrastructure.		Ongoing				✓	District
<b>3. End-of Trip Facilities and Amenities</b>							
Action 3.1: Review and update requirements for short-term and long-term bicycle parking and end-of-trip facilities.	✓					✓	District
Action 3.2: Ensure bicycle parking is provided at all District owned and operated facilities.		✓		✓	✓		District
Action 3.3: Provide bicycle parking within the public right-of-way at key cycling destinations.		✓				✓	District & local businesses
Action 3.4: Work with partners to consider the feasibility of developing an on-street bicycle corral program on commercial streets within the existing right of way.			✓				District & local businesses

	TIMEFRAME			METHOD OF IMPLEMENTATION			RESPONSIBILITY
	Short 5 yr	Medium 5 -10 yr	Long-Term 10+ yr	Capital	Operations and Maintenance	Policy and Programming	
Action 3.5: Expand on the existing central hub for cycling currently located at Memorial Park.		✓				✓	District & interested partners
Action 3.6: Work with BC Transit to identify opportunities to improve bicycle-transit integration throughout the day.		✓					District & BC Transit
<b>4. Education and Awareness</b>							
Action 4.1: Develop and implement cycling wayfinding plan based on best practices.		✓		✓		✓	District
Action 4.2: Develop an online cycling network map showing local routes, regional connections, and signed recreational routes.	✓					✓	District
Action 4.3: Continue to support and develop cycling education programs	✓						District & Other
Action 4.4: Consider the impact of changing technologies and different users on the cycling network.		Ongoing				✓	District
Action 4.5: Continue to actively market and promote active transportation.		Ongoing				✓	District
Action 4.6: Consider the development of an Active Transportation Advisory Committee	✓					✓	District

Cycling network improvements focus on increasing cycling routes throughout the District. Routes have been prioritized on major roads, streets that provide access to schools, and within the downtown and Urban Growth Areas. Prioritization of infrastructure projects was based on these criteria as well as feedback received from stakeholders and residents through the process of developing the Cycling Master Plan. **Table 4** identifies the short-term and medium-term sidewalk and off-street pathway projects. All other projects identified in **Figure 6** are identified as longer-term projects.

**Table 4: Summary of Priority Cycling and Pathway Projects**

Project Name	Project Extents	Facility Type
<b>High Priority Projects</b>		
Lakeshore Drive	Peach Orchard Road to Crescent Beach	Secondary Route
Giants Head Road	Prairie Valley Road to Milne Road	Primary AAA (On-Street)
Giants Head Road	Harris Road to Gartell Road	Off-Street Pathway
Victoria Road South	Beavis Place to Simpson Road	Off-Street Pathway
Prairie Valley Road	Cartwright Avenue to Morrow Avenue	Off-Street Pathway

## 4.2 COSTS

The Cycling Master Plan includes order-of-magnitude capital cost estimates for the implementation of on-street cycling infrastructure and off-street pathways. The cost estimates presented are based on typical unit costs and recent construction pricing in Summerland. The cost estimates have been provided to identify the relative cost for planning purposes and should not be used for budgeting purposes. Wherever possible, Summerland will work with developers, other agencies and levels of governments to establish cost sharing agreements or to seek grant opportunities in order to offset total project costs. The capital cost estimates for the Plan have been broken down into two types of projects: sidewalk infrastructure projects and off-street pathway projects. It is important to note that the same off-street pathways projects are recommended as part of the Trails Master Plan and Sidewalk Master Plan.

The cost to implement the proposed cycling network is approximately **\$9,000,000** over the long-term as seen in **Table 5**. However, by prioritizing projects as high priority and identifying longer term priority projects, it is estimated that the highest priority projects for implementation over the short-term would cost approximately **\$725,000**. The estimated cost for the off -street pathway network is outlined in more detail in the Trails Master Plan.

**Table 5: Summary of Cost and Priorities of Cycling Infrastructure**

Priority	Distance (km)	Cost Estimate
High	3	\$720,000
Longer-Term	41	\$8,400,00
<b>Total</b>	<b>44</b>	<b>\$9,100,000</b>

## 4.2 FUNDING STRATEGIES

The costs of implementing the improvements identified in the Cycling Master Plan can be significantly reduced by pursuing external funding sources and partnership opportunities for many of the identified projects. This section describes some funding strategies and potential funding sources that the District may consider to help leverage its investments and to maximize its ability to implement transportation improvements. The District should regularly check with all levels of government to keep up to date on current funding opportunities. The District should also pursue all available sources of funding for transportation infrastructure and programs, including the programs identified below (Note: as funding opportunities change regularly, the information in this section is subject to change):

- **Provincial Programs and Initiatives.** The Provincial Government administers the **BikeBC** program, which promotes new, safe and high-quality cycling infrastructure

through cost-sharing with local governments. Some possible projects include new bicycle trails and bicycle lanes, improvements to existing cycling infrastructure, and providing for bicycle lockers and other equipment that makes cycling a safer and more convenient option for travellers. The BikeBC program provides funding for infrastructure which forms part of a bicycle network plan adopted by a BC local government.

Funding for cycling infrastructure projects may also be available through the **New Building Canada Fund — Small Communities Fund**. The provincial and the federal governments will each allocate funding to support infrastructure projects in communities with a population of less than 100,000 people. This 10-year funding program runs from 2014 to 2024.

- **Federal Funding.** 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 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.
- **Carbon Tax Rebate.** Each municipality that has signed the Climate Action Charter received an annual rebased based on completion of the CARIP form. The District, in keeping with its Climate Action Funding Policy, could allocate a portion of this funding towards sustainable transportation projects, such as funding bicycle and pedestrian infrastructure.
- **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, and 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.

- **Developers.** The District should explore opportunities for road improvements to be constructed as development occurs within the District. This process could be formalized through an update to the *Subdivision Development Servicing Bylaw* or through individual negotiations.
- **Private sector.** Many corporations wish to be good corporate neighbours — to be active in the community and to promote environmentally-beneficial causes. Bicycle and pedestrian routes and facilities are well-suited to corporate sponsorship and have attracted significant sponsorship both at the local level and throughout North America. Examples in B.C. include Construction Aggregates in Sechelt, which constructed an overpass over a gravel conveyor to provide a link for pedestrians and cyclists, and 7-Eleven and Molson Breweries, which have sponsored off-street pathways in Metro Vancouver.
- **Development Cost Charges.** Opportunity to update the DCC bylaw to incorporate active transportation projects that benefit new growth in the community. Local governments are now enabled to create unique reserve funds by bylaw for 'transportation infrastructure that supports walking, bicycling, public transit or other alternative forms of transportation' (LGA 906 (7)). The District may wish to consider this option to allocate a portion of payment in-lieu of parking to fund alternative transportation improvements. This would create an additional revenue stream to standard levies such as Development Cost Charges that fund capital works for roads, parks, water, storm, and sewer infrastructure.
- **Service Clubs.** In many communities, service clubs have been involved in funding and building bicycle infrastructure and facilities including rails with trails and bicycle parking.
- **Advertising.** If the District is creating a bicycle route map it may want to work with local business who would be interested in providing advertising and therefore revenue to cover some or all of the cost of advertising.



**CLOSING**

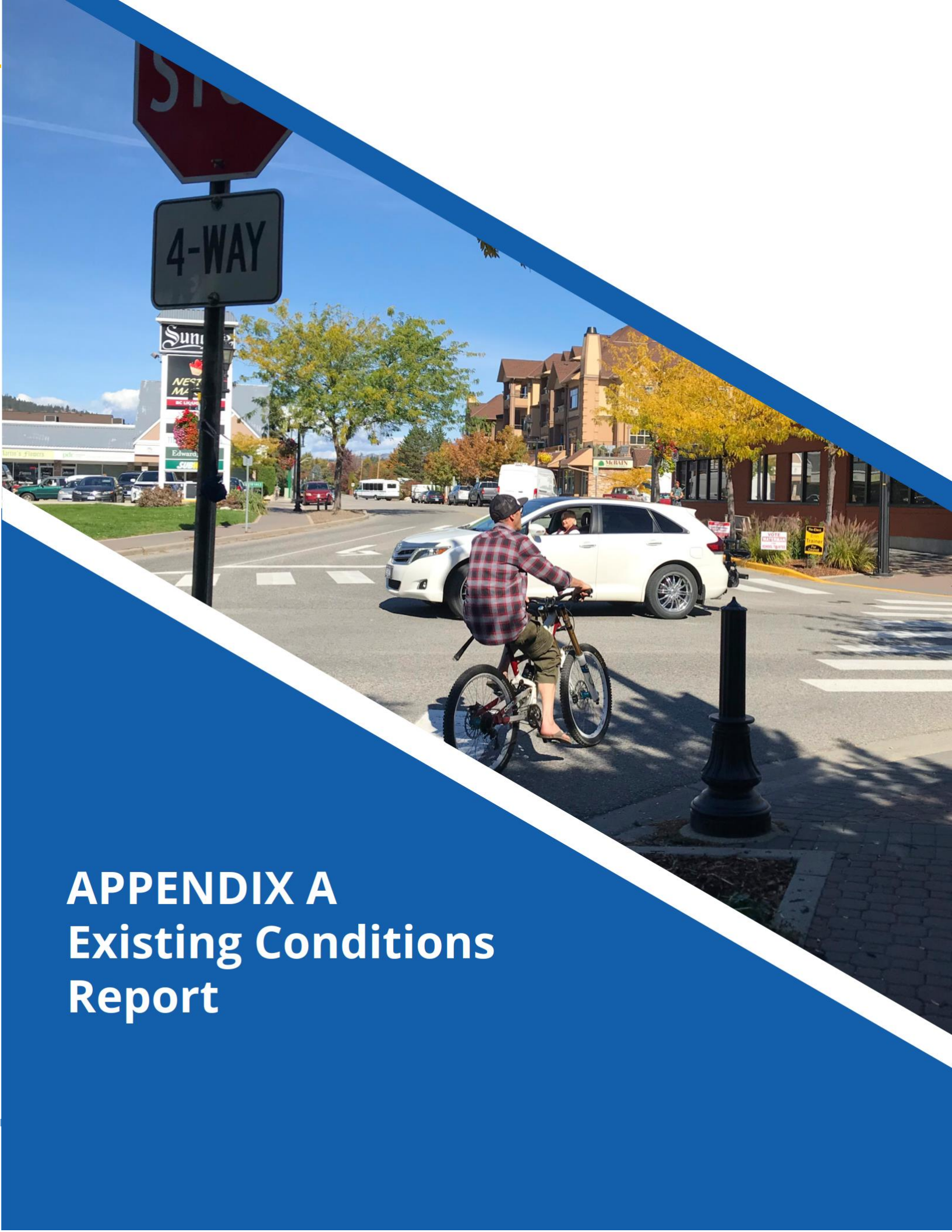


The Cycling Master Plan provides an approach to guide Summerland’s investments in cycling over the next 20 years and beyond. The Plan includes recommendations for improving cycling related transportation policies, standards, infrastructure and programs over the long-term, along with priorities over the short- and medium-term.

The Cycling Master Plan is one step towards implementing the vision for active transportation in Summerland, it is not the last. The 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.

The Cycling Master Plan has been developed based on technical work and engagement with the Summerland community over a four-month period. Through this public engagement process, hundreds of community members provided input into the development plan at various phases.

The District of Summerland would like to thank all community members for their participation in the process and valuable input developing the Cycling Master Plan.



# APPENDIX A

## Existing Conditions

### Report

REPORT FOR:

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District of Summerland  
Box 159  
Summerland, BC V0H 1Z0

PREPARED BY:

Urban Systems Ltd.  
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# 1 INTRODUCTION

The District of Summerland is a vibrant community in British Columbia's Okanagan Valley, located between Kelowna and Penticton with a population of over 11,500 residents. The District covers a large area in a diverse and picturesque landscape characterized by lakes, creeks, and sunny and dry Okanagan hillsides. The District unique topography allows residents and tourists to enjoy stunning vistas of Okanagan Lake framed by Conkle Mountain, Giant's Head Mountain and Cartwright Mountain.

Based on 2016 Canadian Census Journey to Work data, approximately 1% of residents in Summerland travel by bicycle to work and/or school. However, this does not take into consideration the number of trips made for recreational purposes. Existing cycling infrastructure in Summerland consists of shared use lanes, painted shoulders, multi-use pathways and local streets with low traffic volumes and speeds that are comfortable for cycling. Additionally, several residents and visitors use the District's extensive trail network for cycling activities. Many of the key plans and policies that are guiding Summerland's development and growth highlight the role cycling will play in maintaining a healthy and sustainable community. These documents include the 2015 Official Community Plan and 2008 Transportation Master Plan which contains a plan for future cycling routes.

The Cycling Master Plan is being developed concurrently with the Trails Master Plan and the Sidewalk Master Plan with the understanding that all three plans will collectively influence active modes in Summerland. The three plans should be considered in conjunction with each other and an understanding of the overlap of infrastructure such as multi-use pathways which serve both trail users and commuter cyclists. An existing conditions summary report has been developed for each of the three plans.

## 1.1 CYCLING MASTER PLAN PURPOSE AND OBJECTIVES

The key objectives and deliverables of the **Cycling Master Plan** include:

- Identifying regional cycling connections to promote commuter cycling within Summerland and throughout the Okanagan.
- Reducing the number of motor vehicle kilometres travelled and in turn reducing traffic congestion and greenhouse gas emissions.
- Providing an update of the 2008 Summerland Bicycle Network by identifying a proposed network of comfortable, safe and accessible cycling routes for all.
- Identifying policies and procedures for maintenance, installation of end-of-trip facilities, education and awareness.
- Preparing design guidelines for bicycle infrastructure.

## 1.2 CYCLING MASTER PLAN PROCESS

The Cycling Master Plan is being developed through a phased approach with a Draft Plan being presented to District Council in early 2019. The following four phases allow the plan to be developed with comprehensive feedback and engagement from the internal project team, stakeholders and interest groups, as well as community members.

- **Phase 1: Project Launch (September 2018).** This phase included collecting and reviewing existing background information and data, consulting with District Staff and developing a Public Engagement Strategy for public engagement in future phases of the planning process.
- **Phase 2: Understanding Existing Conditions (October 2018).** This phase focused on understanding the existing state of cycling in the District. This included a review of existing cycling related policy documents, existing bicycle facilities and programs, and engaging with the public to better understand existing issues and opportunities related to cycling.
- **Phase 3: Setting the Future Direction (October/November 2018).** This phase will focus on exploring possibilities for the future of cycling in the District of Summerland. This includes identifying a vision, goals, proposed bicycle network and policies and procedures to enhance cycling for all. These possibilities will be reviewed and prioritized based on feedback from public and stakeholders.
- **Phase 4: Develop an Implementation Plan and Finalize Cycling Master Plan (November/December 2018).** This final phase will consist of refining and prioritizing the draft plan presented in Phase 3 and develop an Implementation and Monitoring Plan.

This report summarizes the findings of the first two phases of Cycling Master Plan process.

## 1.3 COMMUNICATIONS AND ENGAGEMENT

An effective and meaningful community engagement strategy is critical to the success of the Cycling Master Plan. As such, the process to develop the Plan includes several opportunities for residents and stakeholders to participate and provide feedback. Engagement for the Cycling Master Plan will be combined into one consultation process with the Sidewalk and Trails Master Plans.

A variety of engagement activities are being used to allow feedback to be heard from a wide audience of residents and stakeholders.

During the first phase of the project, an interactive online survey was used to collect existing conditions information such as travel patterns and highlight specific concerns flagged by survey respondents. The online survey was open between October 5<sup>th</sup> to 30<sup>th</sup>, 2018. The survey was

viewed 553 times and completed 403 times. Meetings with targeted stakeholders were held on October 18<sup>th</sup> with representatives from Summerland schools, community groups and associations, youth groups, service clubs, business groups, as well as trail, cycling, environmental and parks groups. A public Open House was held on October 25 (5:00pm to 7:00pm) to identify issues and opportunities related to cycling, sidewalks and trails, there were approximately 85 attendees.

The engagement process will continue through the plan development. A second series of stakeholder meetings as well as another Open House will be held later in the process to present the proposed plan directions, vision, goals, policy recommendations, and network maps.

The results of the first round of engagement have been presented in this document.



## 2 SETTING THE CONTEXT

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

### 2.1 COMMUNITY PROFILE

The District of Summerland is a picturesque and diverse community of approximately 11,600 residents on the southwestern shore of Okanagan Lake, approximately 15 kilometres north of the City of Penticton. Summerland is located within the Regional District of Okanagan Similkameen (RDOS). The District is a desirable location for retirement aged residents to relocate to and has attracted a large population of retired individuals who have moved to the District to enjoy the beauty and seasonable climate, this is evident in median age according to the 2016 Census and discussed further in **Section 2.1.4** below.

#### 2.1.1 Land Use

Summerland's location provides both residents and visitors with numerous amenities, including trails and parks, a scenic waterfront on Okanagan Lake, and abundant recreational activities in the hills surround the municipality. The region is a popular destination for tourists visiting fruit orchards, vineyards and the many beaches. The Downtown, Prairie Valley, Garnet Valley, Crescent Beach, Lower Town, and Trout Creek residential neighbourhoods are surrounded by vast agricultural lands that primarily produce fruit and vegetables.

#### 2.1.2 Neighbourhoods

Summerland is a municipality made up of diverse neighbourhoods that provide a range of living environments from rural agricultural homes, to multi-family residence. For the most part, Summerland's neighbourhoods are relatively low-density, comprised predominantly of single detached, semi-detached, and townhouses.

Summerland is comprised of the following six informal neighbourhoods located throughout the District.

- **Downtown** - the commercial centre of Summerland housing the highest density of amenities and services.
- **Prairie Valley** - is the residential neighbourhood to the west of the Downtown neighbourhood. This neighbourhood is primarily a residential neighbourhood which becomes agricultural west of Cartwright Mountain.



- **Lower Town** – is the neighbourhood east of the highway running along the shore of Okanagan Lake. This neighbourhood is home to key destinations along the waterfront.
- **Trout Creek** – is a neighbourhood at the southern end of the District on the east and west side of the highway.
- **Garnet Valley** – is the neighbourhood north of the Downtown neighbourhood. Garnet Valley is primarily a rural residential neighbourhood with farm and agricultural land.
- **Crescent Beach** – is a residential neighbourhood at the northern end of the District along Okanagan Lake.

### 2.1.3 Barriers

Summerland's geography leads to physical barriers that create mobility challenges for people on bicycles.

**Highway 97** - Highway 97 is a major barrier between the neighbourhoods west of the highway and the beaches along the water in the Lower Town. Three signalized crossings and highway underpasses provide a highway crossing for people cycling. One of the three signalized intersections is in Trout Creek at the south end of the District.

**Topography** - Other physical barriers are the topography of the Cartwright and Giant's Head Mountains that frame Summerland to the south and west, and the lakeshore banks that separate the Lower Town from Downtown. The topography and steep grades create a challenge for people riding their bicycles between different neighbourhoods and destinations in the District. The topography of Summerland can create a significant barrier to cycling, however, this barrier can be mitigated with the increased popularity of electric bicycles (e-bikes). There are several different types of e-bikes available but generally they are defined as a bicycle with an integrated electric motor that can be used to help propel users while retaining the ability to be pedaled by the rider.

**Size of the District** - The District of Summerland covers over 74 square kilometres west of Okanagan Lake and is located 15 kilometres north of Penticton and 45 kilometres southwest of Kelowna. The residential centre is compact and located in the middle of the District. Two of the neighbourhoods are located at the north and south ends of the District creating connectivity challenges for people cycling. The Crescent Beach neighbourhood and the Trout Creek neighbourhood are both located about five kilometres and on the opposite side of the highway from the Downtown neighbourhood.

### 2.1.4 Demographics

In 2016, Summerland's population was 53% female and 47% male. Children under the age of 15 account for approximately 12% of the District's population compared to nearly 15% for the rest of British Columbia. Persons of age 65 years and over accounted for nearly 30% of the population compared to 18% for the province of British Columbia, and the median age in Summerland is 54.8 years compared to 43 years for British Columbia.

More than 40 percent of the District's population (42%) are either too young to drive, or are senior citizens, both groups that are often in need of transportation alternatives such as bicycle riding. The needs and travel patterns of older residents are unique, therefore providing a range of mobility options is important to ensure that an aging population can participate in their communities at all stages of their lives, regardless of ability.

Despite the older population in Summerland the population of the District is growing as seen by the three percent growth between the 2011 and 2016 census'.



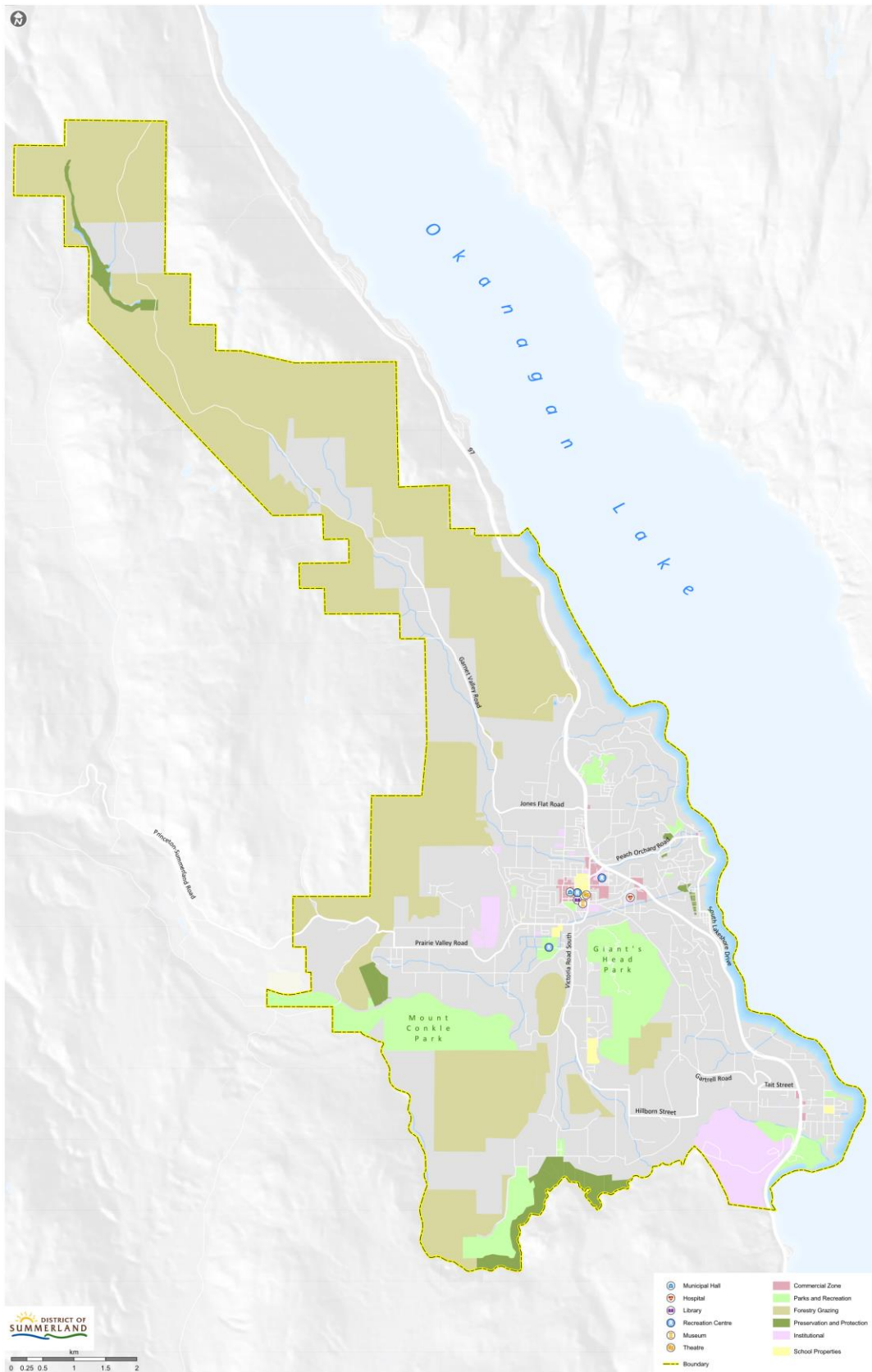


Figure 1 - District of Summerland

### 2.1.5 Policy Context

The Cycling Master Plan is closely linked to, and will be informed by, many of Summerland's key guiding policies and plans as well as initiatives from the Regional District of Okanagan Similkameen (RDOS). The regional policies reviewed were most relevant to the Trails Master Plan with a focus on regional trail connections as outlined in the Trails Master Plan existing conditions report. The following policies, plans, bylaws, and initiatives were reviewed to help inform the development of the Cycling Master Plan.

- **2015 District of Summerland Official Community Plan (OCP).** The OCP vision states that Summerland will "...proactively work to ensure balance among our shared values of protecting our natural environment, supporting a sustained local economy, showcasing cultural and historical legacies, and providing quality facilities and services..." The OCP was developed to meet the goals of the Regional District of Okanagan-Similkameen's Regional Growth Strategy that includes a focus on creating healthy, efficient, and sustainable communities. Four of the twelve transportation objectives from the OCP are directly related to cycling as a means of transportation in Summerland. Including:
  - Ensuring that the planning and design of Summerland's transportation system considers the safest and environmentally friendly options for moving people out of the private automobile to walking, transit, car share, electric carts, and bicycles
  - Recognizing the importance of incorporating pedestrian and cycling facilities in the Downtown
  - Embracing traffic calming policy, enhancing non-vehicular movement and safe pedestrian environments
  - Planning and implementing a network for cycling and pedestrian movement throughout the community as an alternative to vehicular use as well as for recreational enjoyment

The OCP focuses specifically on the need of cycling infrastructure in the Downtown neighbourhood and the Lower Town neighbourhood, stating the need for improved bicycle parking and on-street facilities.

- **2008 Transportation Master Plan (TMP).** The 2008 Transportation Master Plan outlines road improvements that focused on both the motor vehicle network and active modes including walking and cycling. Through the planning process a proposed bicycle network was created. As seen in **Figure 2**, this plan includes proposed primary and recreational routes on streets within the District including, Prairie Valley Road, Victoria Road, Giants Head Road and Peach Orchard Road.

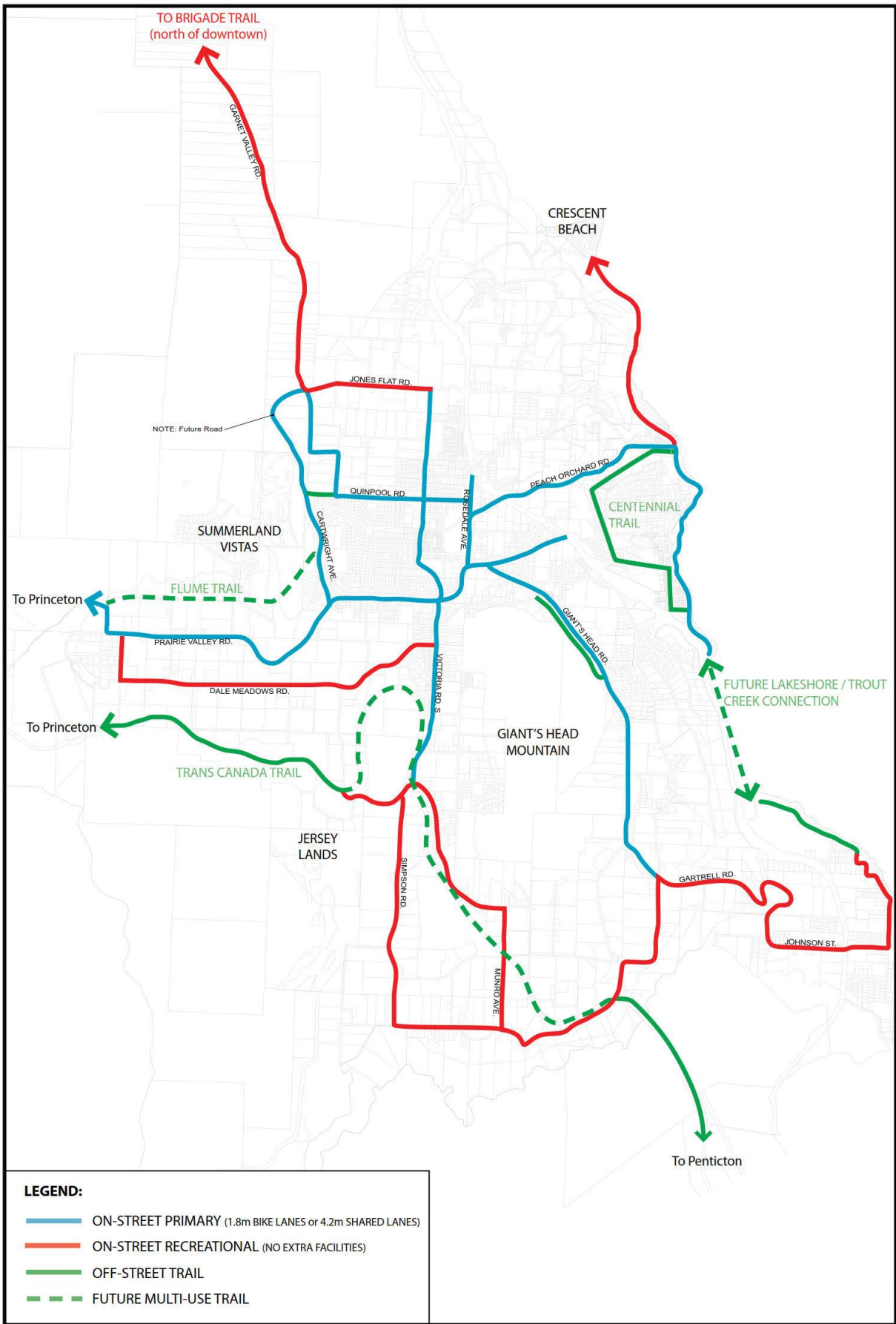


Figure 2 - Bicycle and Trail Plan from 2008 Transportation Master Plan

The plan includes cross sections by road classification which identifies recommended cycling infrastructure and lane widths. Other cycling related recommendations include a bicycle parking requirement that is recommended to be amended into the Zoning Bylaw. Additionally, the TMP suggests transit exchange locations that should be prioritized in for the Cycling Master Plan to encourage multi-modal transportation in Summerland.

- **Summerland's Community Climate Action Plan.** The 2011 Climate Action Plan was developed to create the framework for Summerland to reduce greenhouse gas emissions. The plan notes that as of 2007 55% of Summerland's greenhouse gas emissions were from transportation, it is therefore not surprising that a number of the goals of the plan relate to cycling.
  - Goals 1 and 2 are directly related to cycling with the goals striving for an urban environment that is more conducive to cycling from a land use, infrastructure, and education and promotion standpoint.
  - Goal 7 of the Plan is to demonstrate municipal leadership, with one of the action items being a regularly scheduled community travel survey to understand the mode choice of residents.
- **Zoning Bylaw (2000-450).** 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.
- **2018 Parks and Recreation Master Plan.** The Parks and Recreation Master Plan identifies the need to create a network of bicycle lanes and pathways that connect neighbourhoods, parks, and open spaces, and community amenities to provide active transportation and recreation opportunities. The Parks and Recreation Master Plan also notes that Summerland has fewer kilometres of paved bicycle pathways than the average British Columbia municipality of a similar size.

### Regional District of Okanagan Similkameen

- **2017 South Okanagan Regional Growth Strategy.** The Regional Growth Strategy is a partnership developed by RDOS communities to manage growth in the South Okanagan. The commitment for long-term sustainable development and balancing social, economic and environmental dimensions are expressed through seven policy areas and supporting goals. One of these areas is Infrastructure and Transportation, with an objective to expand safe, accessible efficient transportation options and connections including transit, cycling and walking. Goals specific to this objective include:

- Supporting the development of an integrated active transportation (cycling, walking, scooters, etc.) network and connections in Primary Growth Areas and Rural Growth Areas
- Work with the Province to further develop a regional active transportation network with connections between Primary Growth Areas and Rural Growth Areas in conjunction with highway improvements.

## 3 CYCLING IN SUMMERLAND TODAY

### 3.1 TRAVEL PATTERNS

Understanding the existing travel patterns of residents of Summerland will allow the development of a Cycling Master Plan that meets the needs of the community.

#### 3.1.1 Mode of Travel

Based on 2016 Canadian Census Journey to Work data, approximately 1% of residents in Summerland travel by bicycle to work and/or school. **Figure 3** presents cycling mode share by census tract. The map shows that most of the District has a cycling mode share of 1% or less, with a concentration of higher cycling mode share surrounding the Downtown neighbourhood and on either side of Peach Orchard Road east of the highway.

When comparing Summerland's bicycle mode share with other nearby and comparable municipalities, as seen in **Figure 4**, it is seen that Summerland has a smaller bicycle mode share than many of the municipalities.

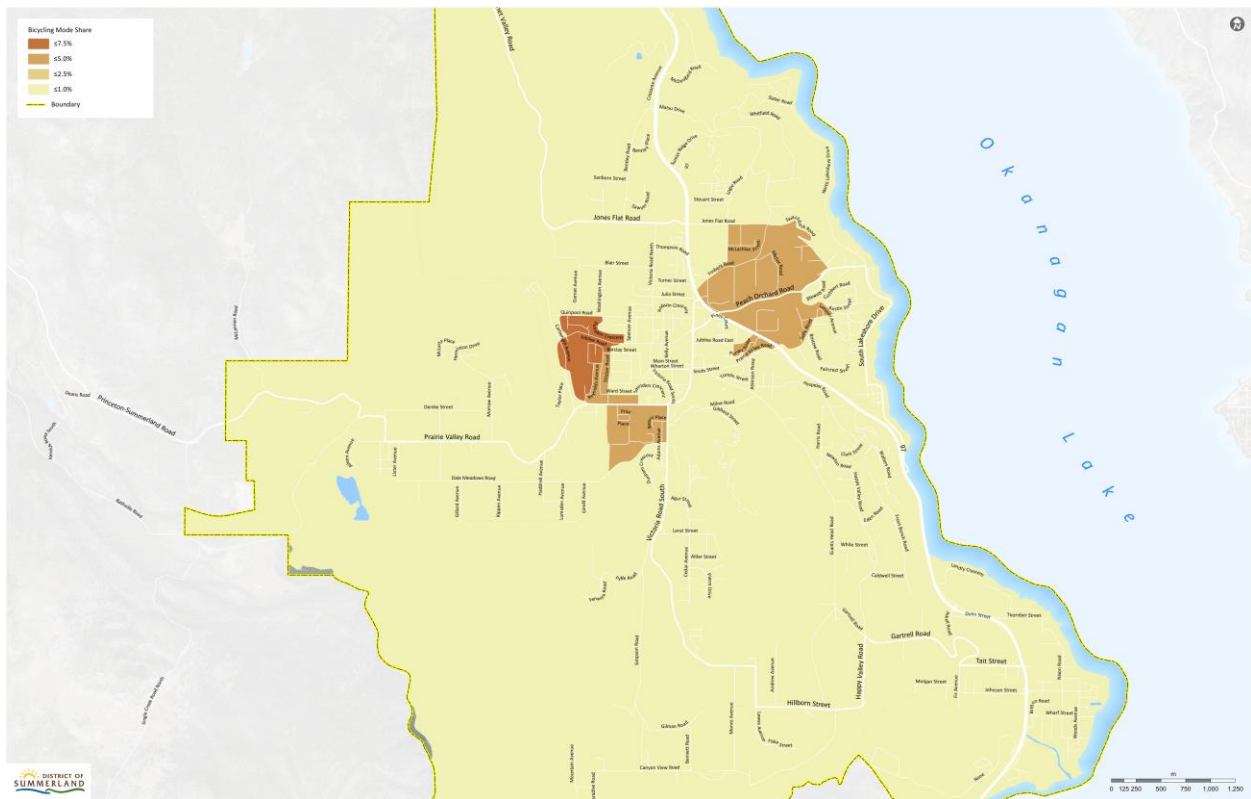
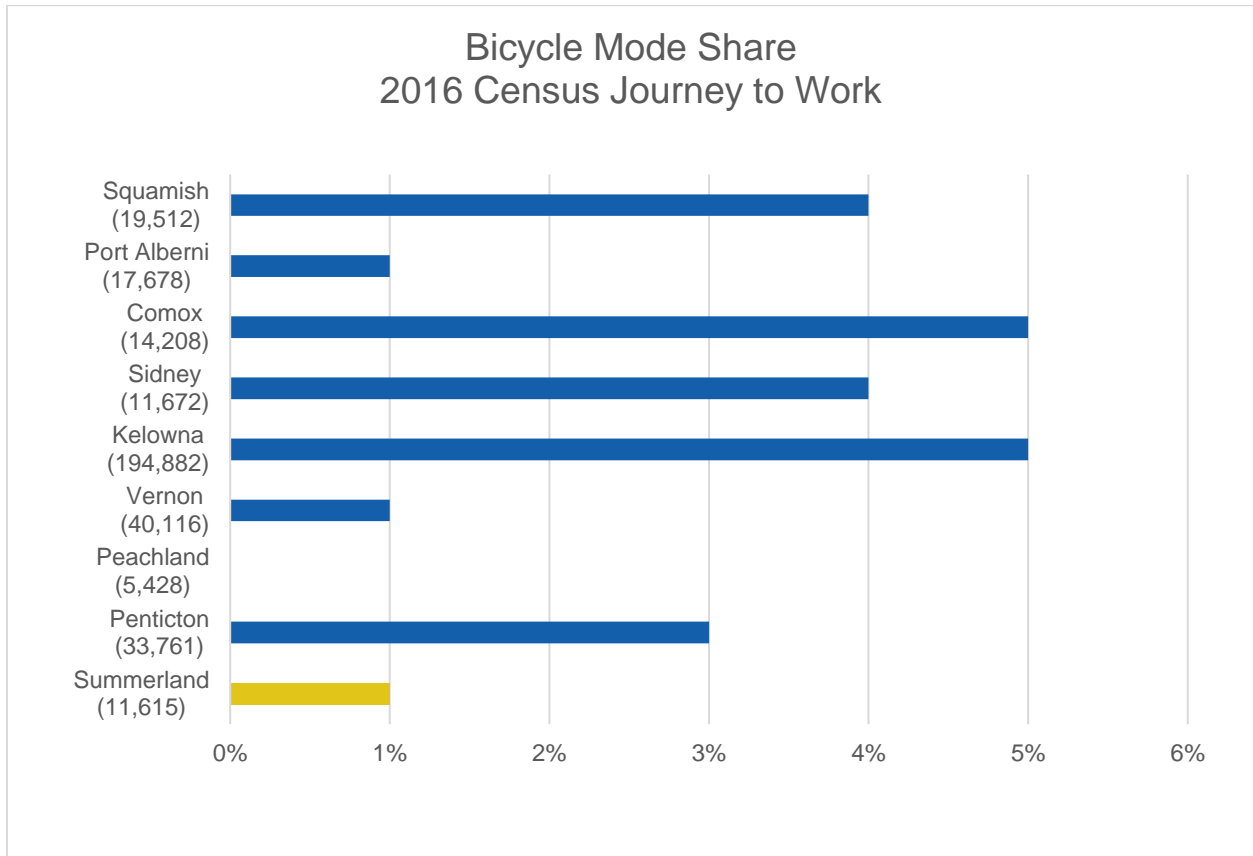


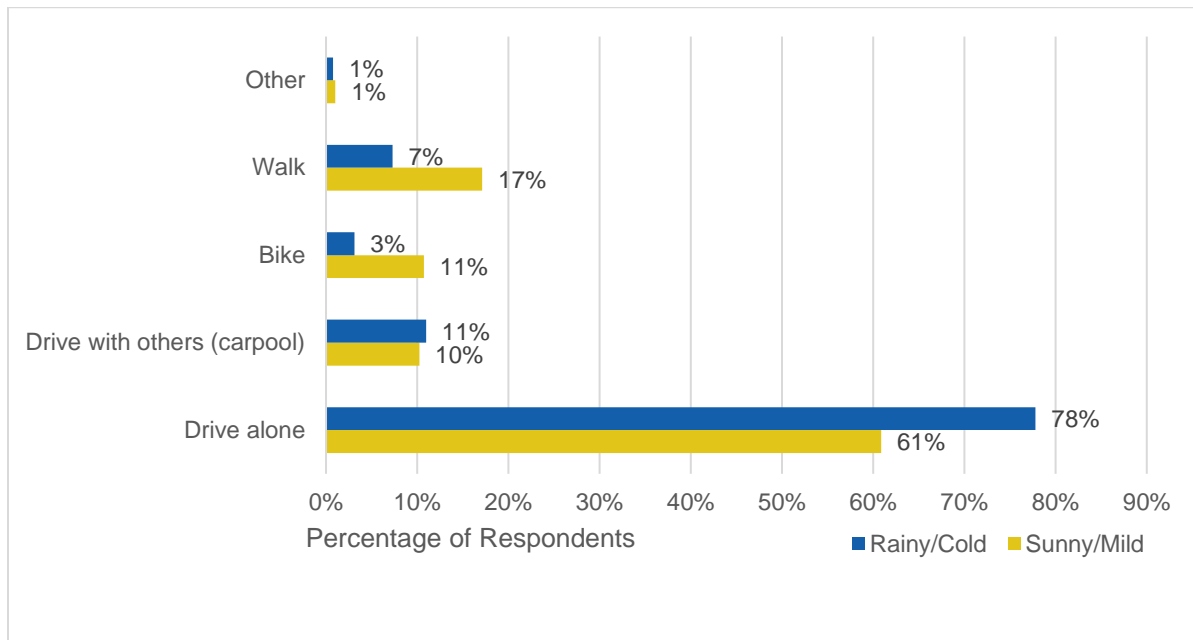
Figure 3 - Cycling Mode Share by Census Dissemination Area (2016 Canadian Census)





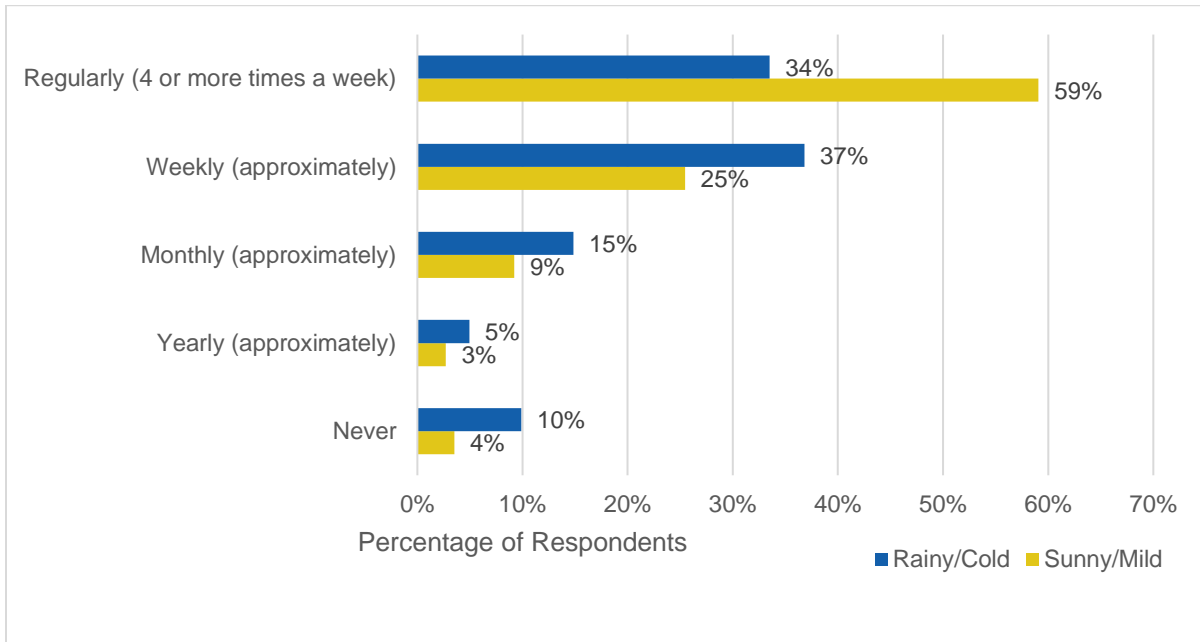
**Figure 4 - Cycling Mode Share Comparison (2016 Canadian Census)**

In addition to Census Data, information collected through public engagement conducted in the first phase of the project has led to a better understanding that people bicycle in Summerland for recreational purposes more frequently than to commute to school or work. Feedback indicates that Summerland acts as a bedroom community to larger employment centres in Penticton and Kelowna resulting in longer distances to travel to work, which can make cycling less feasible. When survey respondents were asked how they typically commute to work, school, or appointments the majority indicated that they drive alone regardless of the weather conditions as seen in **Figure 5**. Cycling accounted for 3% of the trips in cold or rainy weather and 11% when it is sunny and mild.



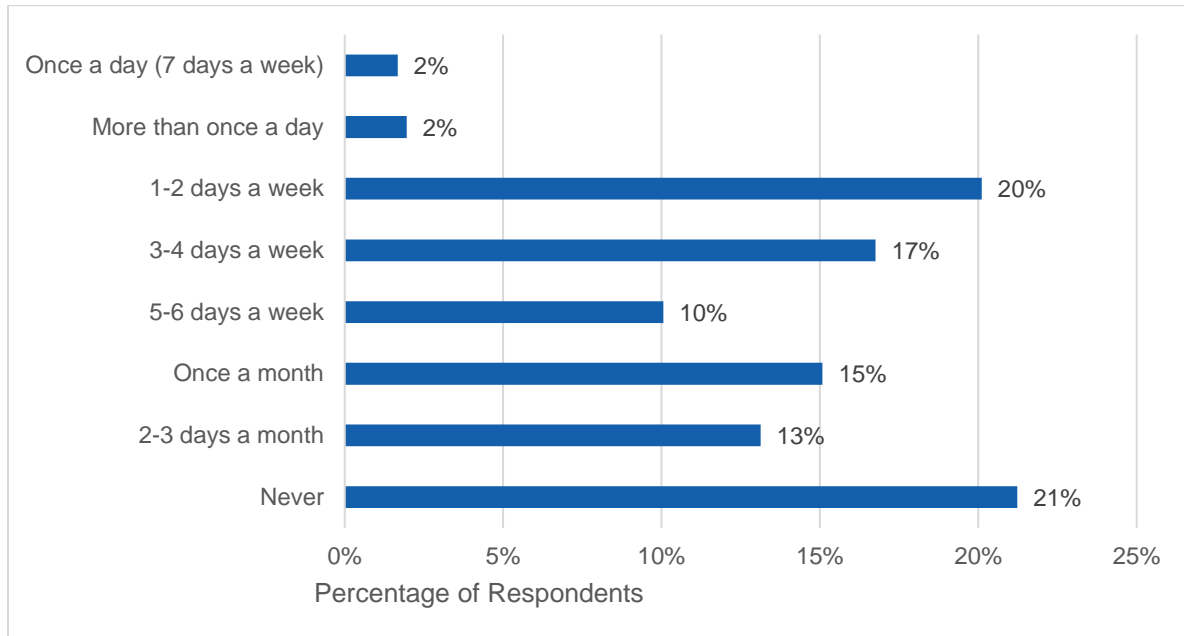
**Figure 5 - Commuter Transportation Mode (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

When survey respondents were asked how often they walk or bicycle on District cycling facilities, sidewalks and trails, 84% of survey respondents indicated they walk or bike at least weekly when it is sunny and mild and 71% when it is rainy or cold seen in **Figure 6**. These survey results are consistent with what was heard through the public and stakeholder engagement sessions and reiterate the importance of cycling facilities as recreational resources.



**Figure 6 - Use of Cycling, Trails and Sidewalks for Recreation (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

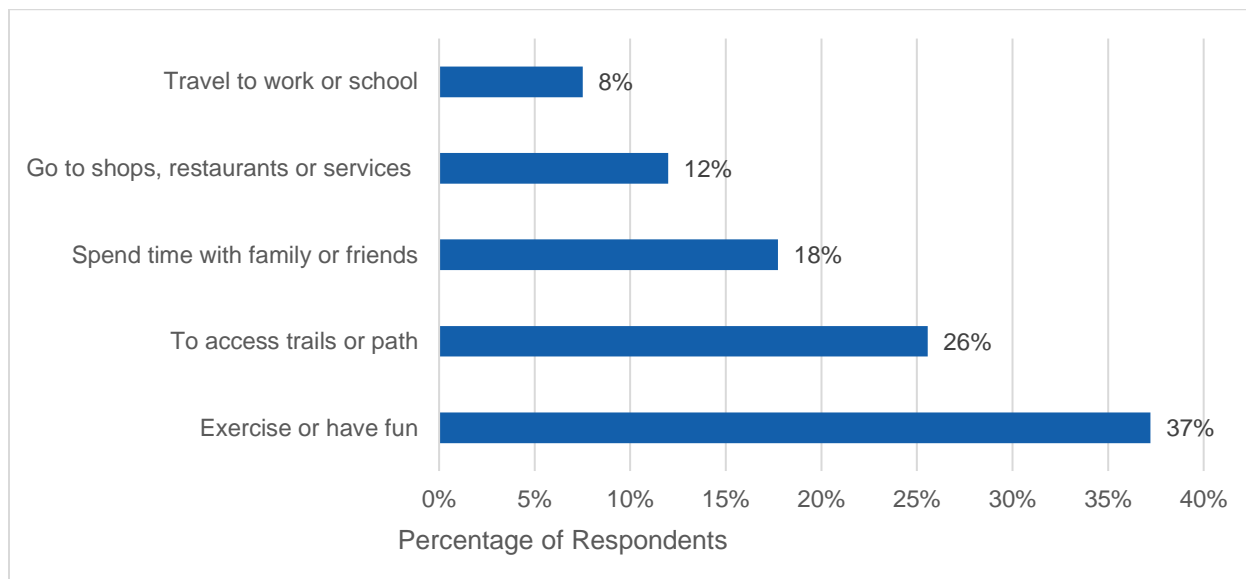
Survey respondents were asked how often they typically bicycle. The survey results show that 49% of respondents indicated that they ride their bicycle multiple times per week, with only 21% of respondents indicating that they never ride a bike (**Figure 7**).



**Figure 7 - Cycling Frequency (Cycling, Trails and Sidewalks Master Plan Survey 2018)**

### 3.1.2 Trip Purpose

Survey respondents were asked why they bicycle, 81% of responses were for recreation purposes, such as exercising and having fun, accessing trails and pathways and spending times with family and friends. Whereas, 12% bicycle to shops, restaurants and other services and 8% ride their bicycle to travel to work or school (**Figure 8**). This is consistent with what was heard during engagement sessions and highlights that cycling is primarily a recreational activity in Summerland.



**Figure 8 - Survey Responses to Why You Cycle (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

### 3.1.3 Destinations

Key destinations in the District include schools, recreation centres, the downtown commercial area, parks, and the beaches along the waterfront. The following map and list of destinations were identified by stakeholders and the public as key destinations people are cycling to. Some of the key findings show that people are travelling to:

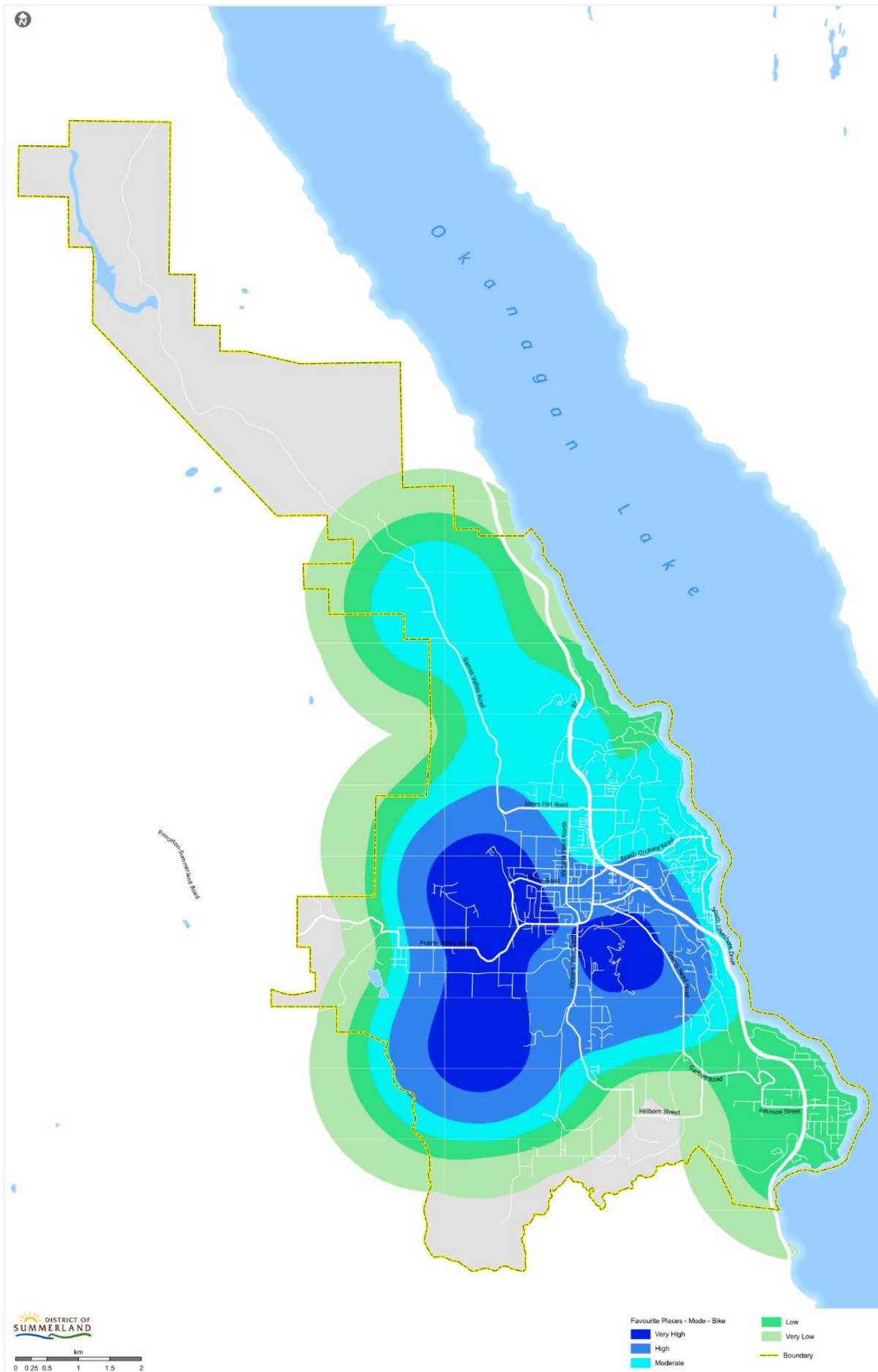
- Peach Orchard Beach Park
- Crescent Beach
- Antler Park (located at the end of Garnet Valley Road)
- Rodeo Grounds
- The trailhead of Fyffe Road
- Deer Ridge
- Cartwright Mountain and the Test of Humanity trail
- Conkle Mountain
- Trans Canada Trail (also known as The Great Trail)
- The trestle bridge and Summerland Sweets
- Wineries
- Dale Meadows Park
- The 10 km loop around Giant's Head Mountain
- Lakeshore Drive
- Downtown
- Golf course

- Recreational cycling loops (as seen in **Figure 11**)

Respondents to the interactive survey were asked to identify locations they frequently travel to by bike (**Figure 9**). Mapping the results of this exercise was particularly helpful to understand cycling travel patterns within the District of Summerland. Survey respondents were asked to identify destinations they bike to for work, shopping, medical services, school, restaurants, recreation, and to access trails. The results show that the destinations survey respondents travel to by bike are for recreation purposes and accessing a trail or pathway (**Table 1**).

**Table 1 - Destinations Travelled by Bike (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

Destination Travelled to by Bike	# of Respondents
Recreation	22
To access a trail or pathway	3
School	1



**Figure 9 - Frequent Destinations Travelled to by Bike (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

## 3.2 INFRASTRUCTURE

### 3.2.1 Existing Network

The existing cycling network is made up of different types of infrastructure including, off-street paved multi-use pathways, painted bicycle lanes, and signed bicycle routes (**Figure 10**). The multi-use pathways and paved trails will also be included in the existing network for the Trails Master Plan and the Sidewalk Master Plan since commuter cyclists will share this infrastructure with recreational cyclists and pedestrians. These facilities have been built over the years based off the direction of the existing and previous OCPs and Transportation Master Plans. The District has a total of 40.4 kilometres of cycling facilities in the District of Summerland (**Table 2**). Cycling facilities are found in the following locations in Summerland:

- Painted bicycle lanes on Prairie Valley Road
- Painted bicycle lanes on Peach Orchard Road
- Painted bicycle lanes on portions of Lakeshore Drive
- Paved multi-use pathway adjacent to Giants Head Road
- Signed Trans Canada Trail route through southern Summerland
- Signed recreational loop routes including the Gran Fondo Route, Lakeshore Route and Centennial Trail. These routes have some wayfinding signage but no on street pavement markings or regulatory signage (**Figure 11**).

**Table 2 - Bicycle Facilities**

Bicycle Facilities	Length	%
Painted Bicycle Lanes	3.4 km	8%
Signed Route	4.3 km	11%
Signed Recreational Route	24.9 km	61%
Paved Multi-Use Pathways	0.9 km	2%
Paved Pathways	7 km	17%

Overall the cycling network is limited in terms of length but provides some useful connections with the current network coverage. Designated recreational cycling routes both provide expanded cycling coverage but with no infrastructure to improve the safety of the people cycling. Recreational cyclists also frequently ride to destinations outside of the District on roadways that lack cycling infrastructure.



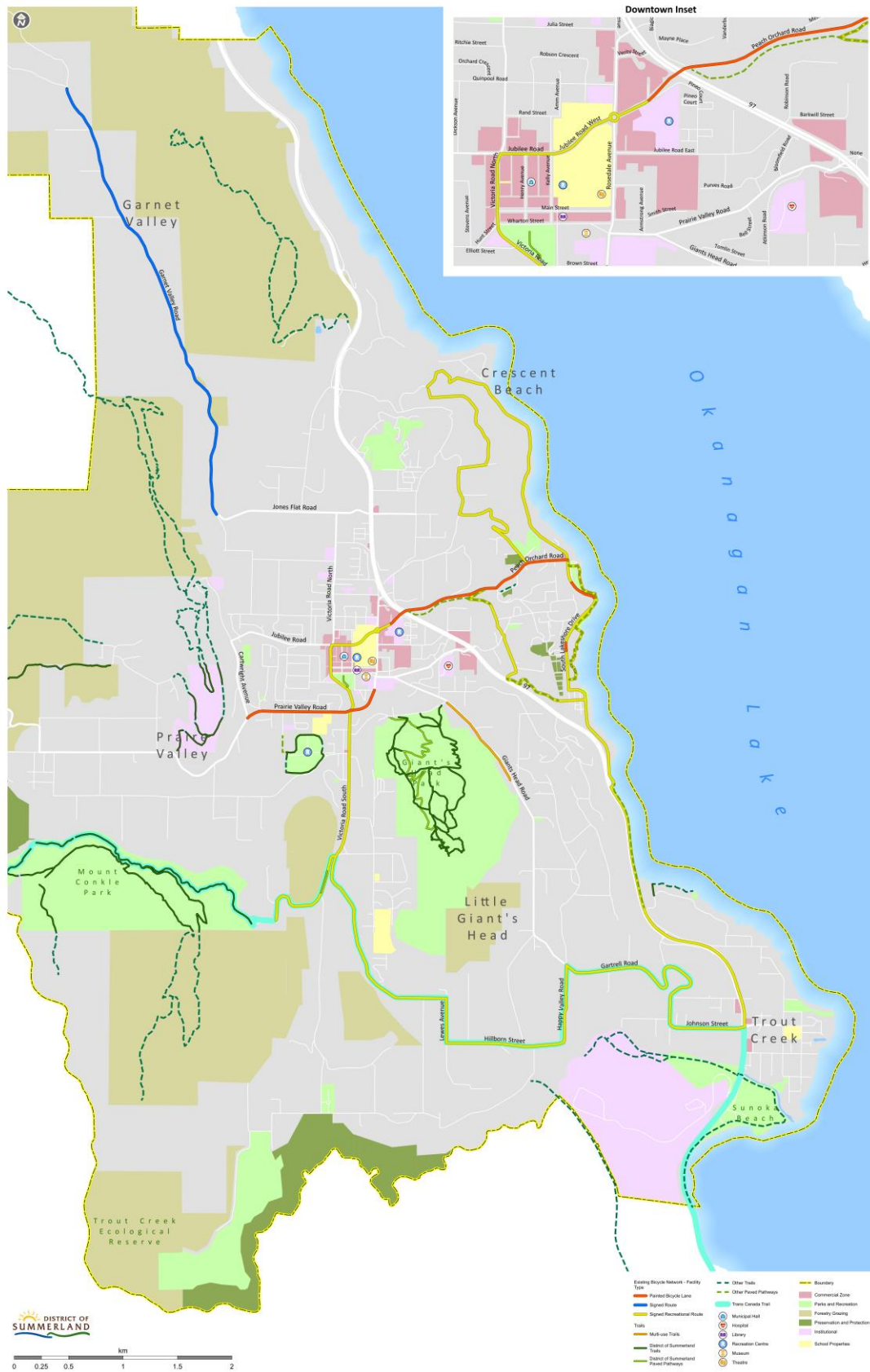


Figure 10 - Existing Cycling Network

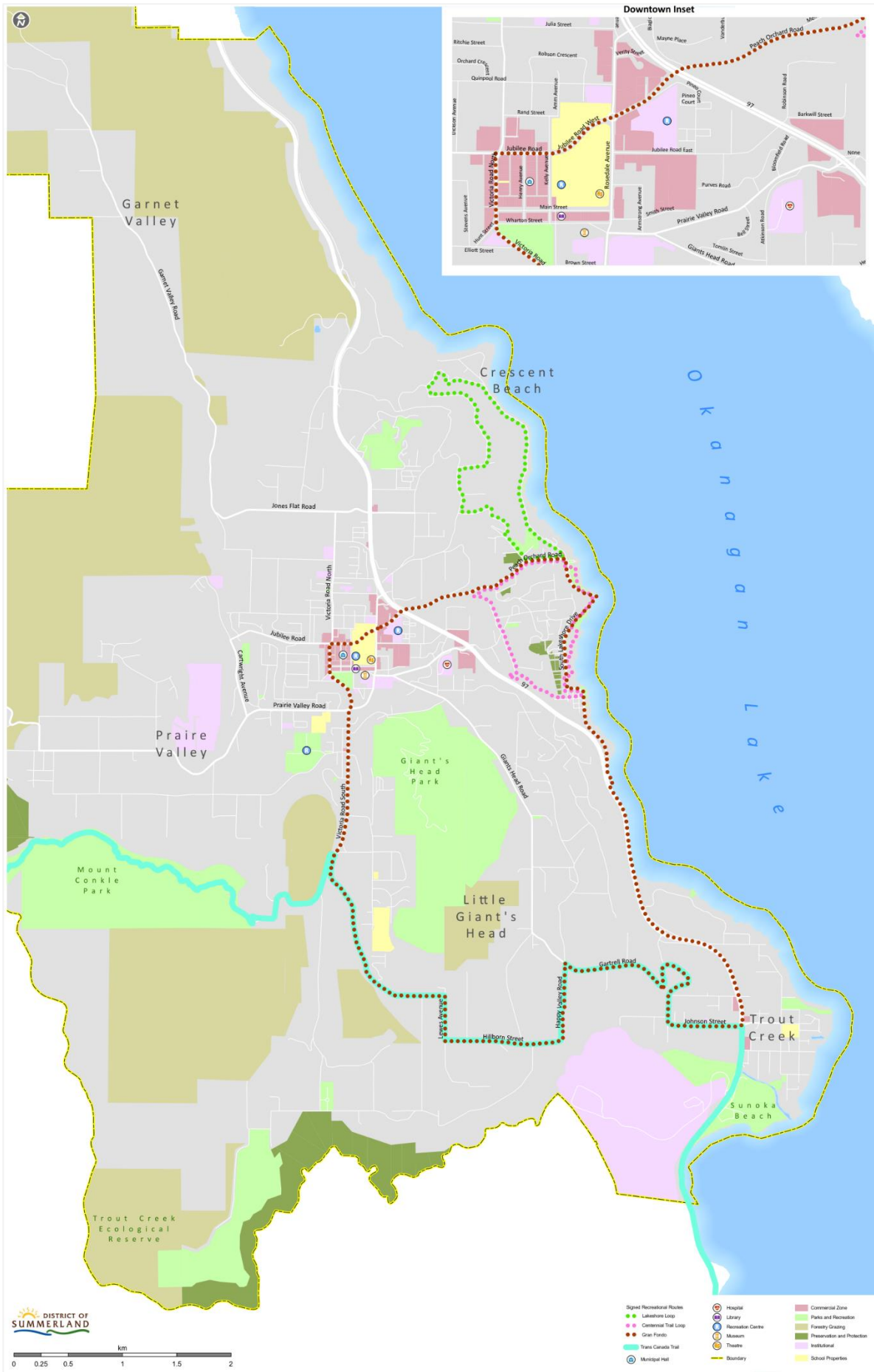


Figure 11 - Signed Recreational Routes

Research has found that all ages and abilities bicycle infrastructure, network coverage and end-of-trip facilities are crucial to increase the safety and comfort of cycling. In particular, research from the Cycling in Cities Program at the University of British Columbia and other sources have found that bicycle infrastructure that provides a greater degree of separation between cyclists and vehicles is more likely to increase bicycle ridership (**Figure 12**). Separated bicycle lanes, or protected bicycle lanes, are often identified as a bicycle facility type with high potential to attract new cyclists, especially in high volume and speed environments. Protected bicycle lanes provide complete separation from motor vehicle traffic at mid-block locations, limiting the conflict between cyclists and automobiles. The District of Summerland has several off-street pathways but currently does not have any protected bicycle lanes within the road right of way.



**Figure 12 - Bicycle Infrastructure Spectrum based on Comfort**

### 3.2.2 Existing Requirements and Guidelines

As noted in **Section 2.1.5** both the existing Transportation Master Plan and the OCP provide guidance on where cycling infrastructure should be provided. **Table 3** from the Transportation Master Plan outlines the recommended cycling infrastructure for each road classification in Summerland's road network.

**Table 3 - Road Classification Characteristics (Transportation Master Plan)**

	Local Roads	Collector Roads		Arterial Roads	
		Rural	Urban	Rural	Urban
Service Function	Traffic Movement secondary	Traffic movement equal to access	Traffic movement equal to access	Traffic movement primary	Traffic movement primary
Land Service/Access	Land access primary	Traffic movement equal to access	Traffic movement equal to access	Land access secondary	Land access secondary
Typical Daily Volumes	>1,000 vpd	<5,000 vpd	<8,000 vpd	<12,000 vpd	5,000 – 20,000 vpd
Typical Vehicle Types	Predominantly passenger cars	All types	Passenger cars and service vehicles	All types, higher percentage of trucks	All types, higher percentage of trucks
Parking	Maybe on both sides	No parking	On one side or both sides	No parking	On one or both sides. May require restrictions in peak hours
Pedestrian and Cyclists	No special provisions	Paved shoulders	Sidewalks on both sides. Shared lanes for cyclists	Paved shoulders	Sidewalks on both sides. Shared or bike lanes.
Transit	Generally avoided	Permitted	Permitted	Permitted	Permitted/Consider bus bays

The following typical road cross sections of each road type with cycling facilities were developed as a part of the Transportation Master Plan (**Table 4**).

**Table 4 – Bicycle Facility Width by Road Classification (Transportation Master Plan)**

Road Classification	Cycling Facility Type	Width
Arterial Road	Bicycle Lane	1.8 metres
Rural Collector	Paved Shoulder	1.5 metres
Bicycle Collector	Shared Use Lanes	4.3 metres
NA	Road Side Multi-Use Path	3.0 metres

It is important to note that since the completion of the Transportation Master Plan the District has reclassified arterial roads under the District’s jurisdiction as collector roads. Currently there are no arterial roads that are under the District’s jurisdiction. The District will be updating the Subdivision Development Servicing Bylaw to remove reference to future arterial roadways.

### 3.2.3 Transit Integration

The District has one transit route that travels through the commercial centre of Summerland and connects through Trout Creek and on to Penticton. Transit service on this route is limited with the route only having four trips in each direction only on week days. Additionally, regional bus routes connecting from Summerland to Osoyoos and Kelowna can be requested. Most BC Transit buses have bicycle racks capable of holding two bicycles at a time, however due to the design of the racks and the obstruction of the headlights, they cannot be used after dark. Bicycle parking racks are found at the bus stop at Wharton Street.

### 3.2.4 End-of-trip Facilities (Cycling)

Some bicycle racks are found throughout Summerland such as at key destinations including the Library, Arena, and the Aquatic and Fitness Centre. Summerland’s Zoning Bylaw requires bicycle parking for multi-family residential land uses as well as all non-residential uses as shown in **Table 5** below. Class A bicycle parking is secure long-term parking inside the building or parking structure which requires secure separate access from the general building access, whereas Class B spots are short-term parking spaces that are in bike racks or structures that are convenient and well-lit to allow surveillance by the occupants of the building using the spaces. The Zoning Bylaw provides a provision for owners of commercial

land that requires Class B bicycle parking to pay \$200 per space required in lieu of installing bicycle parking.

**Table 5 - Bicycle Parking Schedule (Zoning Bylaw)**

Uses	Requirements
Apartment and/or Townhouse <i>Dwelling</i>	2 'Class A' spaces per <i>Dwelling</i> unit  Minimum of 6 'Class B' spaces for any <i>Development</i> with ten or more <i>Dwelling</i> units
All other non-residential <i>Uses</i>	1 'Class A' space per 500m <sup>2</sup> <i>Gross Floor Area</i>  Minimum of 6 'Class B' spaces for any <i>Development</i> with a <i>Gross Floor Area</i> of 1,000m <sup>2</sup> or greater

Further recommendations were made in the Transportation Master Plan to make changes to the bicycle parking requirements, as seen in **Table 6**, and update the Zoning Bylaw to require shower facilities for retail and office spaces that have more than 10 employees. Class I parking spaces noted below are long-term secure spots while the Class II facilities are intended for short term bicycle parking.

**Table 6 - Bicycle Parking Recommendations (Transportation Master Plan)**

Use	Bicycle Parking Requirement
Residential multi-family	1 space per residential unit (80% Class I, 20% Class II)
Hotel/Motel	1 space for every 15 rooms (60% Class I, 40% Class II)
Commercial, retail	1 space per 200m <sup>2</sup> GFA (25% Class I, 75% Class II)
Commercial, office	1 space per 400m <sup>2</sup> GFA (75% Class I, 25% Class II)
Recreational/Cultural/Educational	1 space per 200m <sup>2</sup> GFA (25% Class I, 75% Class II)
Parking Structure/Lot	10% of motor vehicle spaces provided
Other Uses	As determined by the District

### 3.2.5 Safety

Safety issues were identified by stakeholders and the public through the engagement sessions, with many issues identified for the lack of cycling infrastructure on many popular cycling routes, poor road maintenance, and challenges related to the roundabouts in the District. Feedback was received noting that pot holes, and gravel and other debris located in

the shoulder creates a safety hazard for cyclists. The configuration of the roundabouts in Summerland was identified as a safety issue, the narrowing of the roadway in approach of the roundabout creates a confined space that is not comfortable for people cycling and leads to people riding on the sidewalk. Concerns with existing snow removal practices and the act of removing snow from the motor vehicle lanes and storing it in the bicycle lane has been identified as a cycling safety issue by residents and stakeholders.

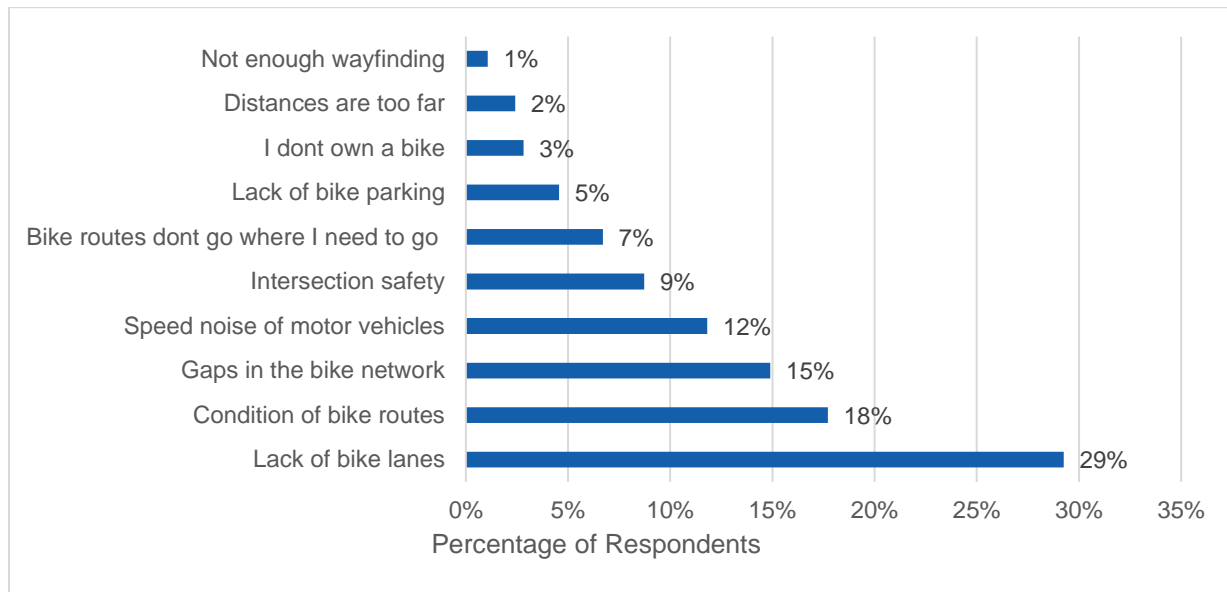
A review of ICBC data found that between 2007 and 2017 there were a total of 18 motor vehicle collisions involving a cyclist. There were 17 collisions that resulted an injury and one fatality. Seven collisions occurred at intersections. The corridors with the highest number of collisions were Highway 97 (6 collisions) and Giants Head Road and Jubilee Road E (2 collisions along each corridor). All other corridors had one collision over an 11-year period.

### **3.2.6 Key Issues and Opportunities**

Key issues and opportunities were discussed with stakeholders and interested residents through several engagement events and the online survey.

#### **Issues**

Online survey respondents were asked to select what they felt were the top 3 challenges for cycling on Summerland roads from a list of 10 challenges, the results are seen in **Figure 13**. The top 3 challenges selected were lack of bike lanes (29%), condition of bike routes (18%), and gaps in the bike network (15%).



**Figure 13 - Online Survey Top Cycling Challenges (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

Similarly, the feedback on the top challenges and opportunities heard at the public and stakeholder engagement events included:

- Desire to connect Summerland to Penticton and Peachland with a cycling connection that is not on the highway;
- Challenges were identified for people cycling in Summerland with many of the existing facilities not providing a comfortable cycling environment;
- Lack of bicycle parking;
- Desire for more separated cycling facilities;
- Considerations for the positive economic impact cycling infrastructure can have on Summerland with an increase in tourism;
- Opportunity to improve wayfinding;
- Address concerns of road pavement quality noted along Giants Head Road, Prairie Valley Road, and the on-street portion of the Trans Canada Trail;
- Challenges with unclear road standards has led to inconsistent development;
- Safety concerns and challenges for cyclist at roundabouts; and
- Gaps in the on-street cycling network.

The online survey included an interactive map for respondents to identify specific challenges or areas for improvements. Respondents could drag and drop 'topic pins' onto specific locations and provide comments to help explain what challenge they have experienced or suggest improvements. **Table 7** outlines the cycling issues identified by theme and **Figure 14** shows the location of issues reported. A large number of survey responses indicate that



gaps in the network are located surrounding downtown, along Prairie Valley Road, Giants Head Road, Victoria Road, and South Lakeshore Drive. These locations were identified with topic pins indicating a lack of bicycle lanes or a discontinuous or end of a bicycle lane.

**Table 7 - Cycling Issues (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

Cycling Issues (On-Street)	# of Respondents
No bike lanes	62
Poor Road Quality	31
Bike lane ends or is discontinuous	24
Conflicts with motor vehicles	17
Traffic volumes and speeds	14
Intersection safety	2

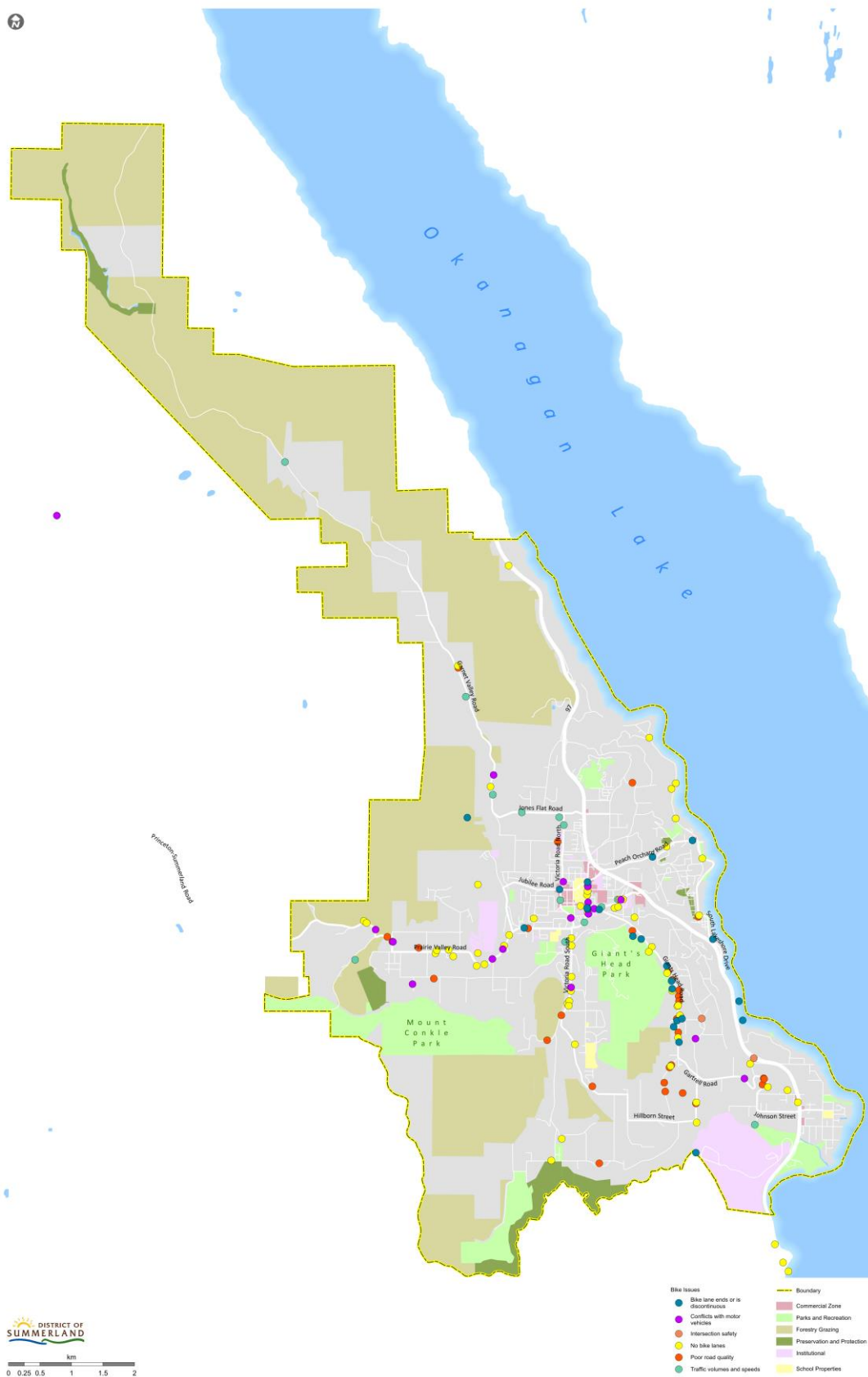
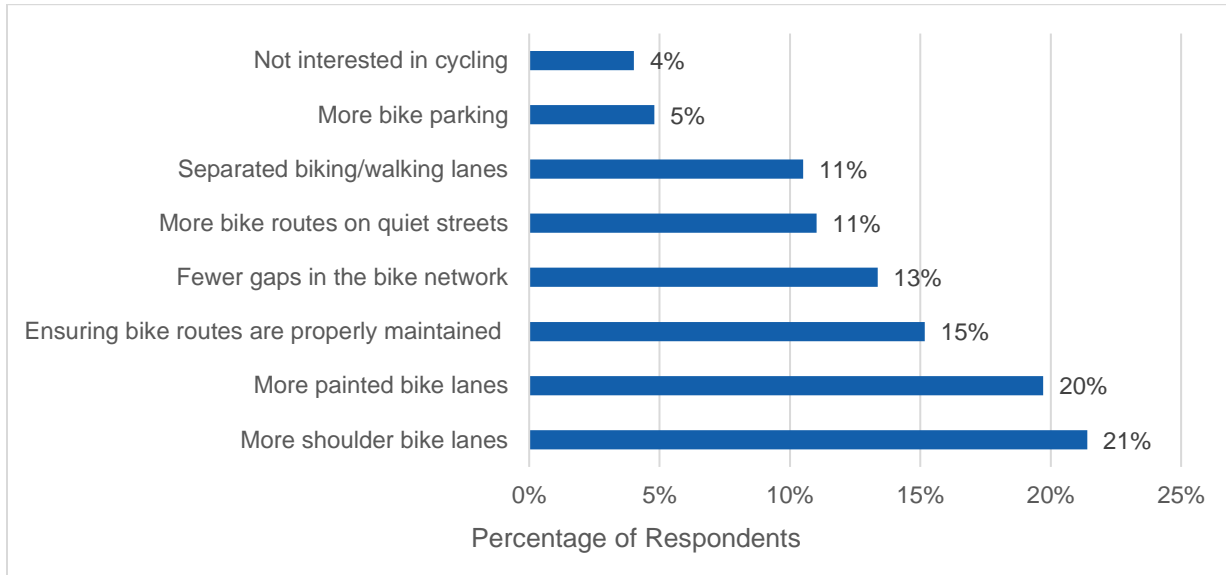


Figure 14 - Cycling Issues (On Street) (Cycling, Trails, and Sidewalks Master Plan Survey 2018)

## Opportunities

When survey respondents were asked what the District could do to encourage them to cycle on the road more often the desire for a larger connected bicycle network was evident with 65% of the responses related to increasing the cycling network (**Figure 15**). Ensuring properly maintained cycling infrastructure was the third most common response which is consistent with what was heard during the in-person engagement.



**Figure 15 – Opportunities to Improve Cycling (Cycling, Trails, and Sidewalks Master Plan Survey 2018)**

## 4 NEXT STEPS

This existing condition report has been prepared as part of the process to develop a Cycling Master Plan. This document summarizes existing conditions for cycling in Summerland today based on technical analysis and public input received to date. The next phase of work will focus on charting the course for the future of cycling in Summerland. Based on input received from the public and stakeholders, a future vision will be developed along with supporting goals, strategies, actions and a proposed cycling network.



# APPENDIX B

## Public Event Summary

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# 1 Introduction

An effective and meaningful community engagement strategy was critical to the success of the Cycling, Trails and Sidewalks Master Plans. As such, the process to develop the Plans included several opportunities for residents and stakeholders to participate and provide feedback. This section outlines the public and stakeholder engagement that occurred throughout the planning process.

During the second phase of the project, an interactive online survey was used to collect information on existing conditions for cycling, trails and sidewalks. The online survey was open between October 5<sup>th</sup> to 30<sup>th</sup>, 2018. The survey was viewed 553 times and completed 403 times. During this time, meetings with targeted stakeholders were held on October 18<sup>th</sup> with representatives from Summerland schools, community groups and associations, youth groups, service clubs, business groups, as well as trail, cycling, environmental, and parks groups. A public Open House was held on October 25 (5:00pm to 7:00pm) to identify issues and opportunities related to cycling, sidewalks, and trails, there were approximately 85 attendees.

During the third phase of the project, a second stakeholder meeting was held on November 29<sup>th</sup> and a public Open House was held on December 6 (5:00pm to 7:00pm). The focus of both the stakeholder meeting and the public Open House was to present the primary themes and actions to be included in the Cycling, Trails and Sidewalks Master Plans as well as the proposed long-term networks. Attendees were asked to provide input on the actions and infrastructure proposed in the plan and how they would like to see them prioritized. A survey was distributed to all Open House attendees to collect their input, there were approximately 65 attendees at the Open House. Open House materials were also available on the District's website and an online version of the survey was available to collect feedback between December 5<sup>th</sup> and 13<sup>th</sup>. The survey received a total of 242 responses.

This document summarizes the results of the communications and engagement process.

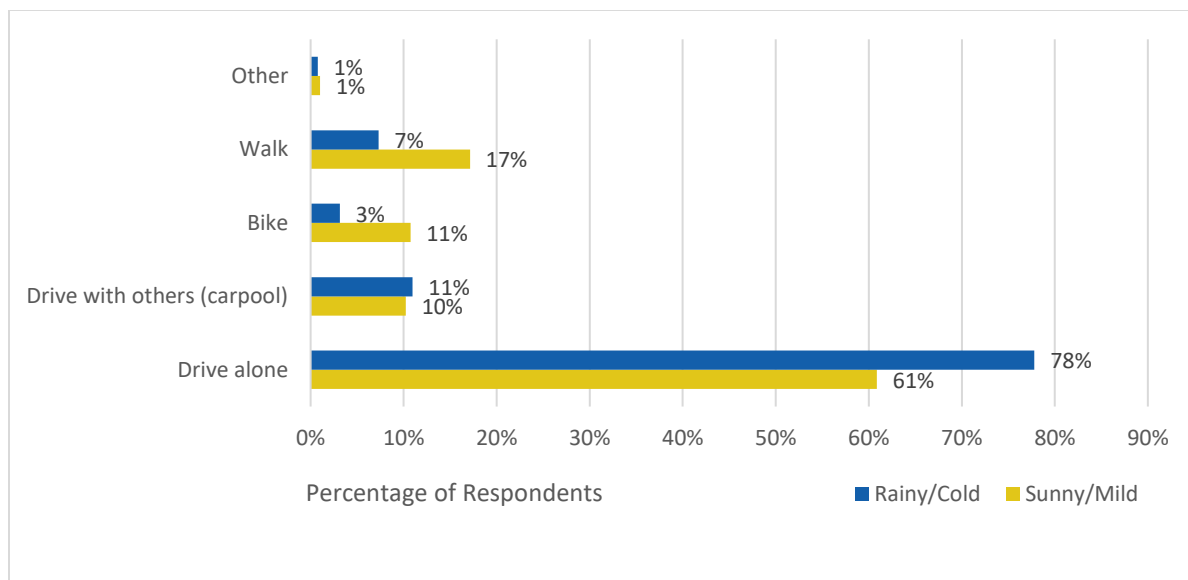
## 2 Survey #1 Summary

As part of the Summerland Cycling, Trails and Sidewalk Master Plans engagement process, residents were invited to provide input to guide the development of future infrastructure and policy direction. The Cycling, Trails and Sidewalk Master Plans online survey was available through the District of Summerland’s website from October 5, 2018 to October 30, 2018 and resulted in 553 views and 404 participant responses.

The following is a summary of what we heard from participants in the Cycling, Trails and Sidewalks Master Plans survey.

### Typical Mode of Transportation: Sunny/Mild days vs. Rainy/Cold days

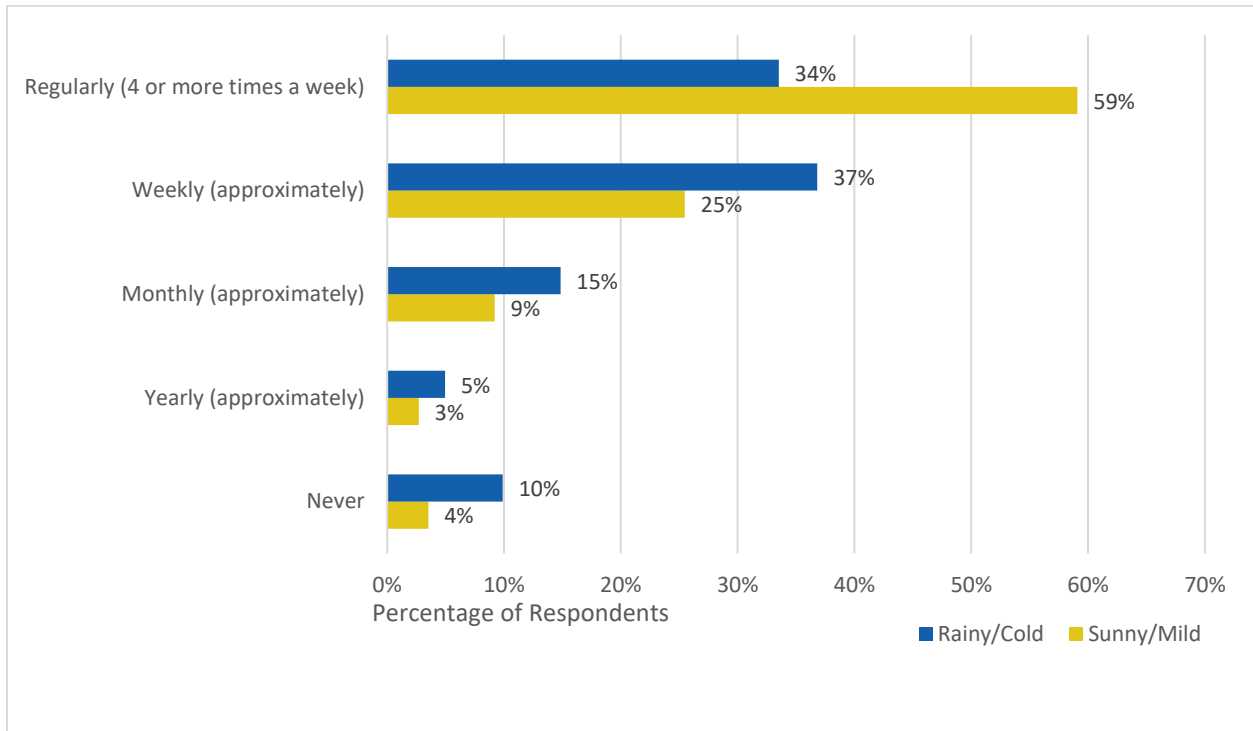
Respondents were asked to specify their typical mode of transportation when commuting for work, school, appointments, etc. Because weather is known to influence a person’s decision to use active modes of transportation, participants were asked to specify the typical mode they would choose when it is sunny and mild or when it is cold or rainy. As shown on the graph below, respondents were more likely to drive alone when it is rainy or cold; and more likely to walk or bike when it is sunny or mild.





## Travel Patterns for Recreation

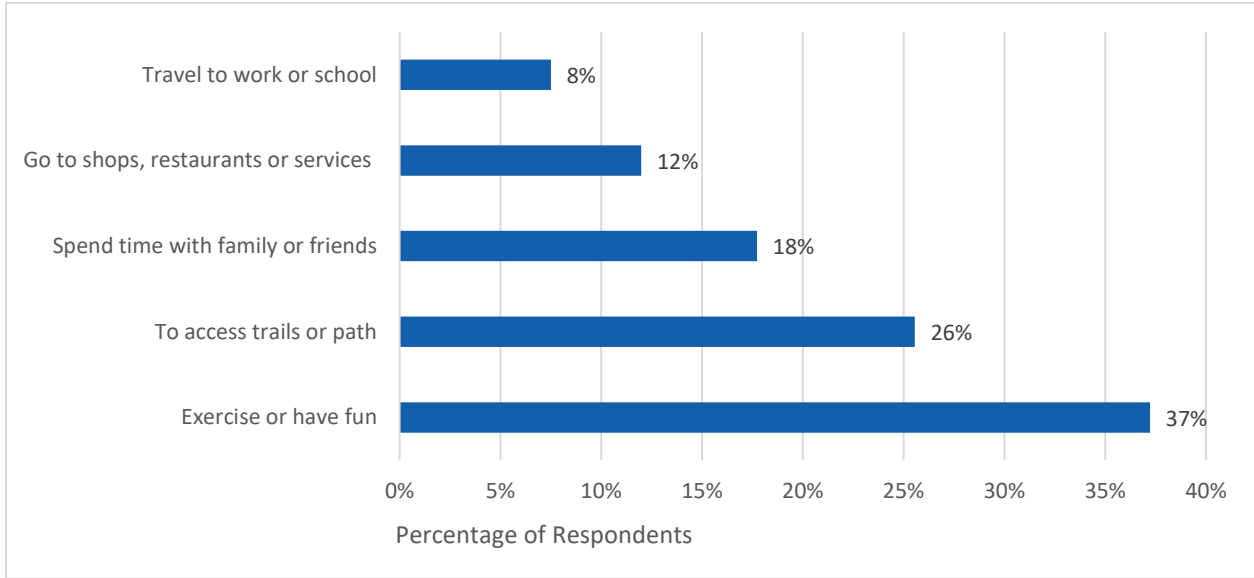
Respondents were asked to specify how often they use Summerland’s pathways, trails, sidewalk and cycling facilities for recreational purposes when it is sunny and mild or when it is cold and rainy. 59% of residents indicated that they used pathways, trails and sidewalks more regularly (four or more times a week) when it is sunny and mild.



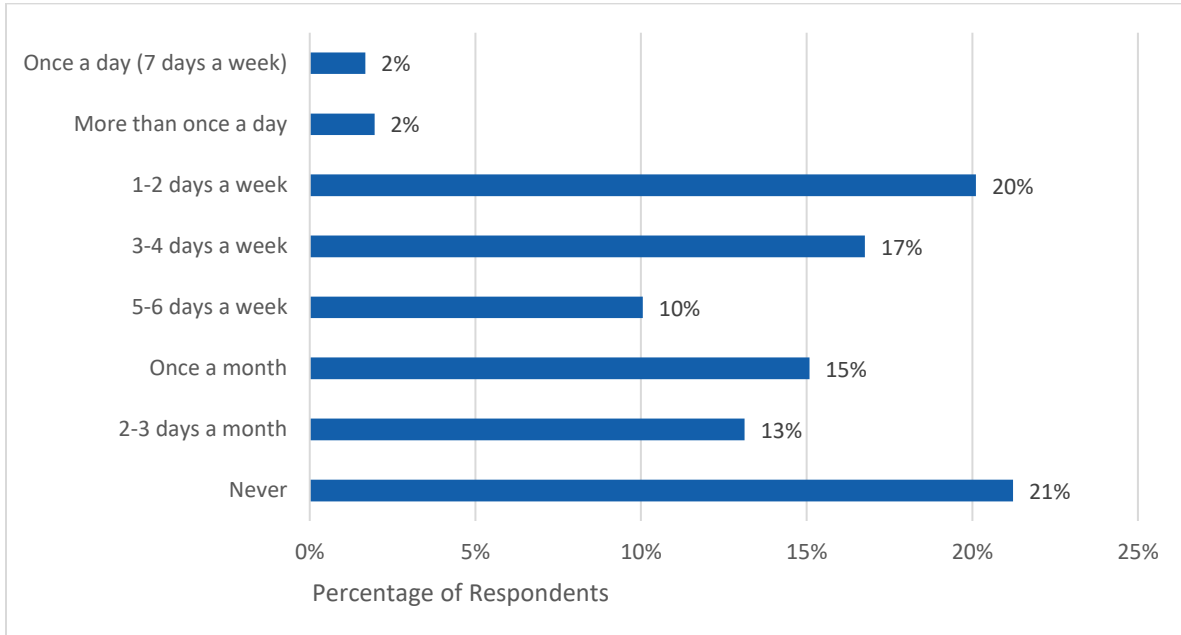
## Cycling

### Cycling Patterns

Respondents were asked to consider what motivates them to cycle by selecting as many options that applied to them. To exercise or have fun was the top choice among respondents, followed by to access trails and paths and spending time with family or friends.

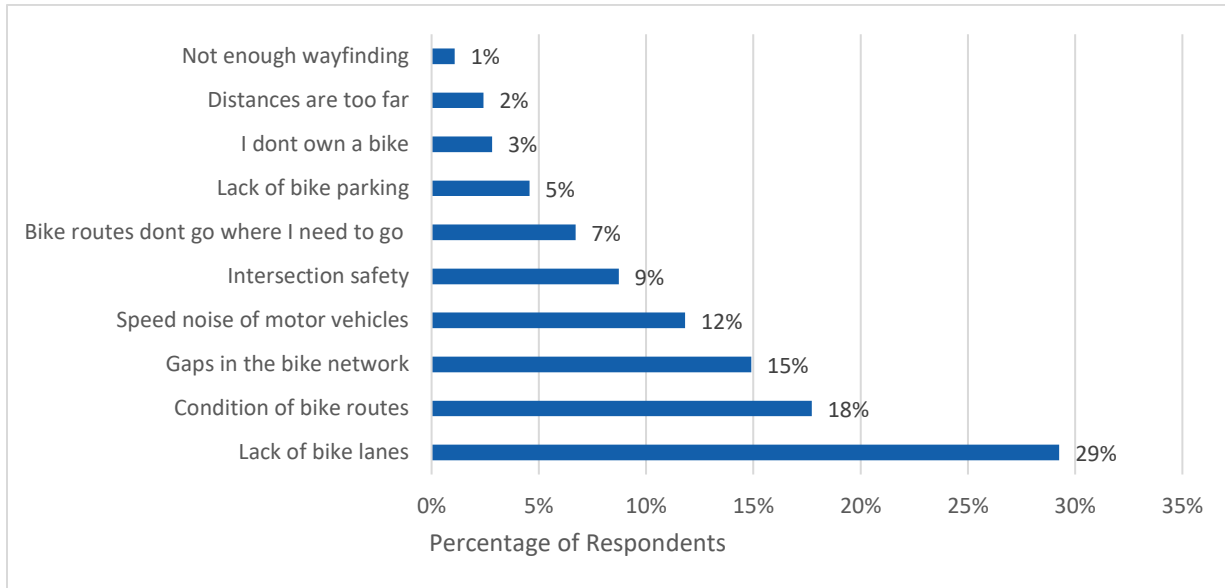


Respondents were also asked to indicate how many times they cycle in a typical month. 21% of respondents indicated that they never cycle in a typical month while 20% of respondents indicated that they bike 1-2 days a week during a typical month.

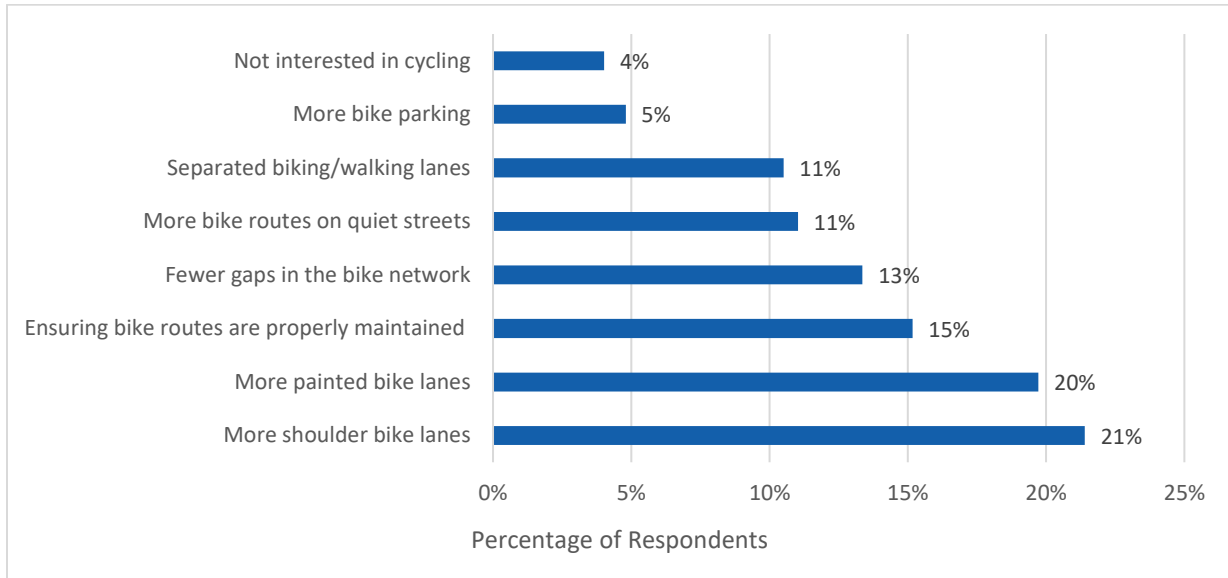


## Cycling Issues and Opportunities

Respondents were asked to select what they felt were the top three challenges for cycling on Summerland roads from a list of 10 challenges. The top three challenges selected were lack of bike lanes (29%), condition of bike routes (18%), and gaps in the bike network (15%).



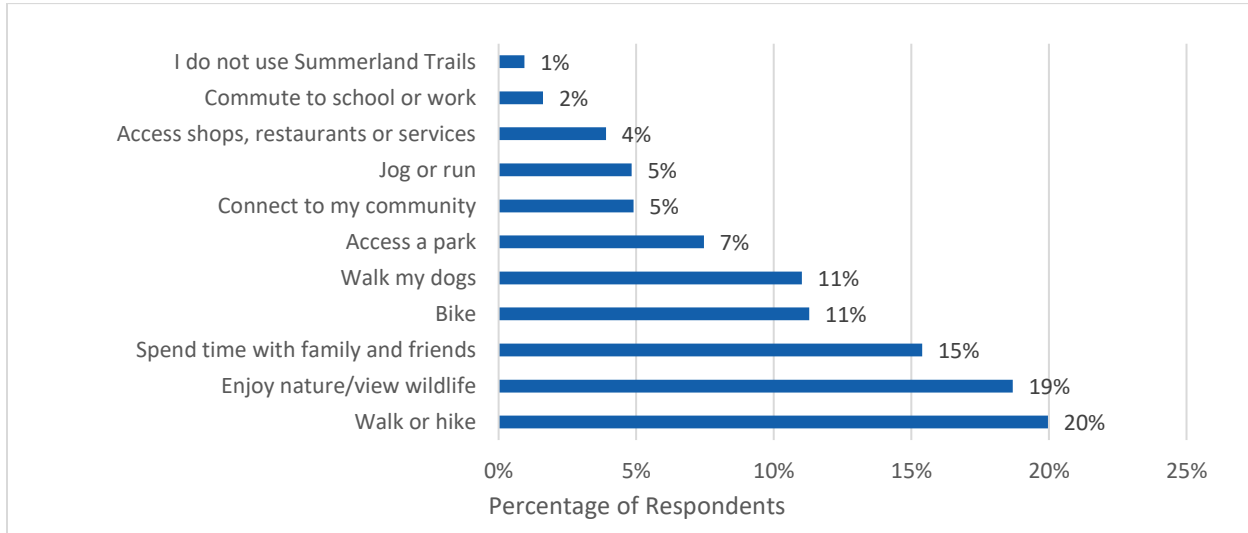
Respondents were then asked to indicate what the district could do to encourage them to cycle on the road more often. They were asked to select three choices from a list of 10 options. The top three choices were more shoulder bike lanes (21%), more painted bike lanes (20%), and ensuring bike routes are properly maintained (15%).



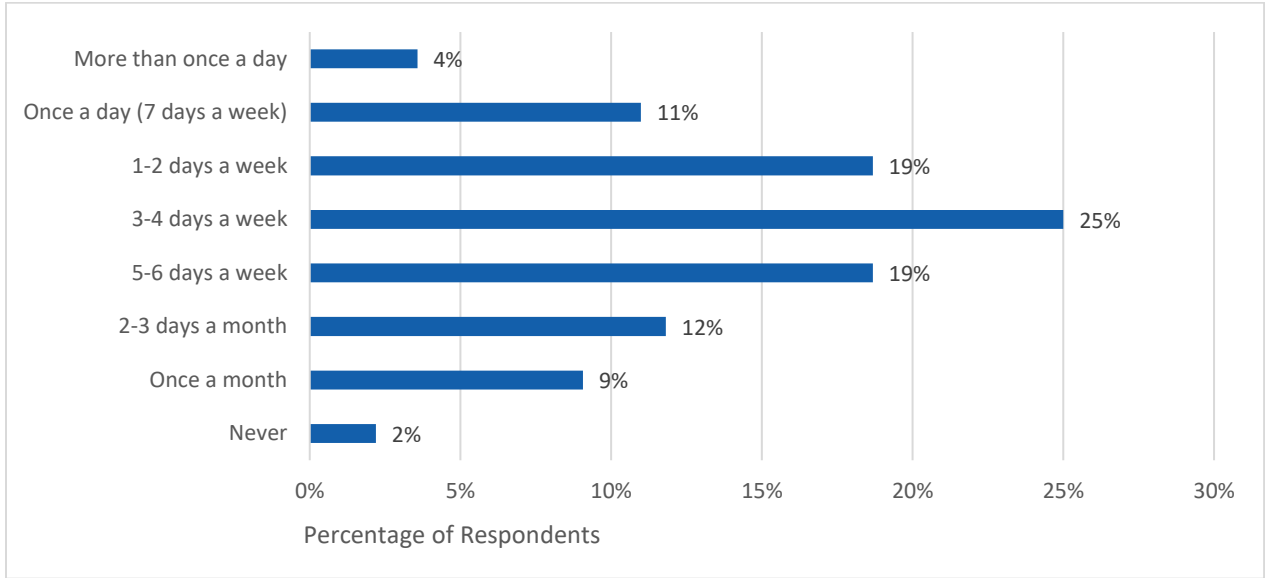
## Trails

### Trails Patterns

Respondents were asked to consider what motivates them to use Summerland trails by selecting as many options that applied to them. To walk or hike was the top choice among respondents, followed by to enjoy nature and view wild life.

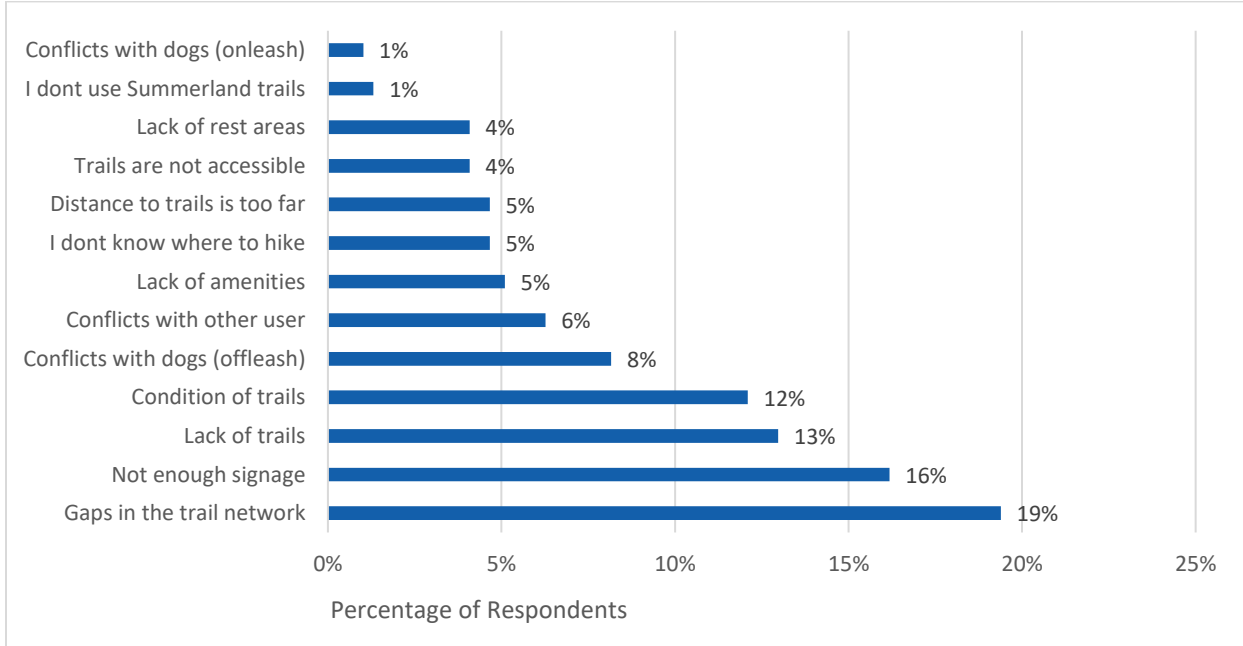


Respondents were also asked to indicate how often they use the trails in Summerland in a typical month. 19% of respondents indicated they use the trails 5-6 days a week, 25% of respondents indicated that they use the trails 3-4 days a week, and 19% of people indicated they use the trails 1-2 days a week. Only 2% of respondents indicated they never use the trails.



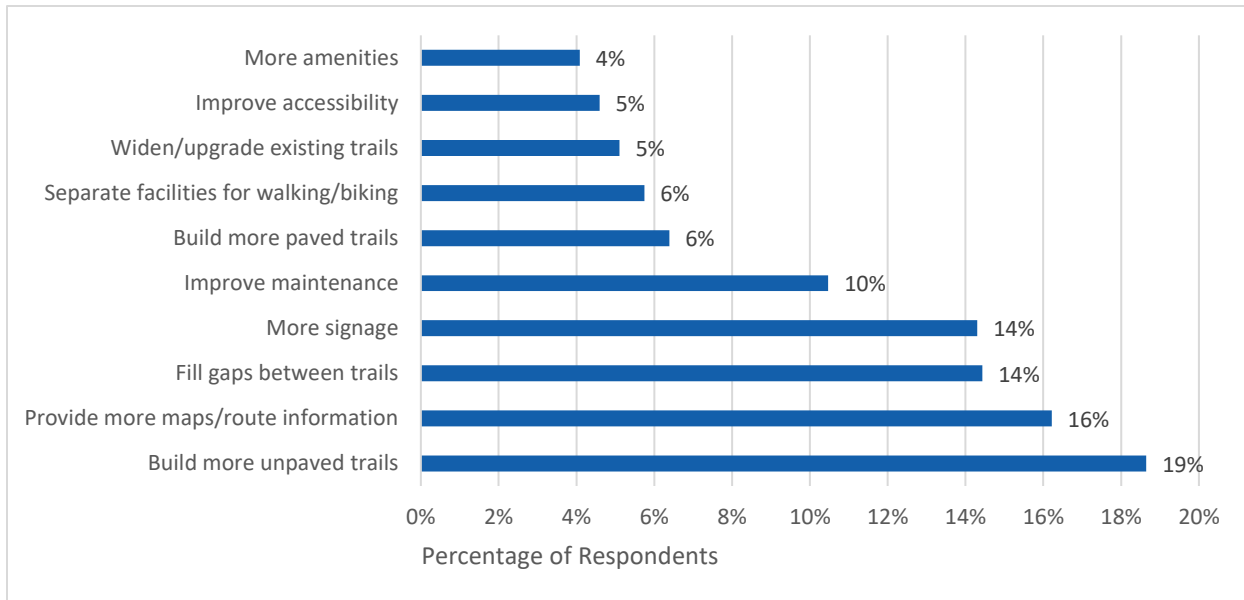
### Trails Issues and Opportunities

Respondents were asked to select what they felt were the top three challenges for using Summerland trails from a list of 13 challenges. The top three challenges selected were gaps in the trail network (19%), not enough signage (16%) and lack of trails (13%).



Respondents were then asked to indicate what the district could do to encourage them to use Summerland trails more. They were asked to select three choices out of 10 options.

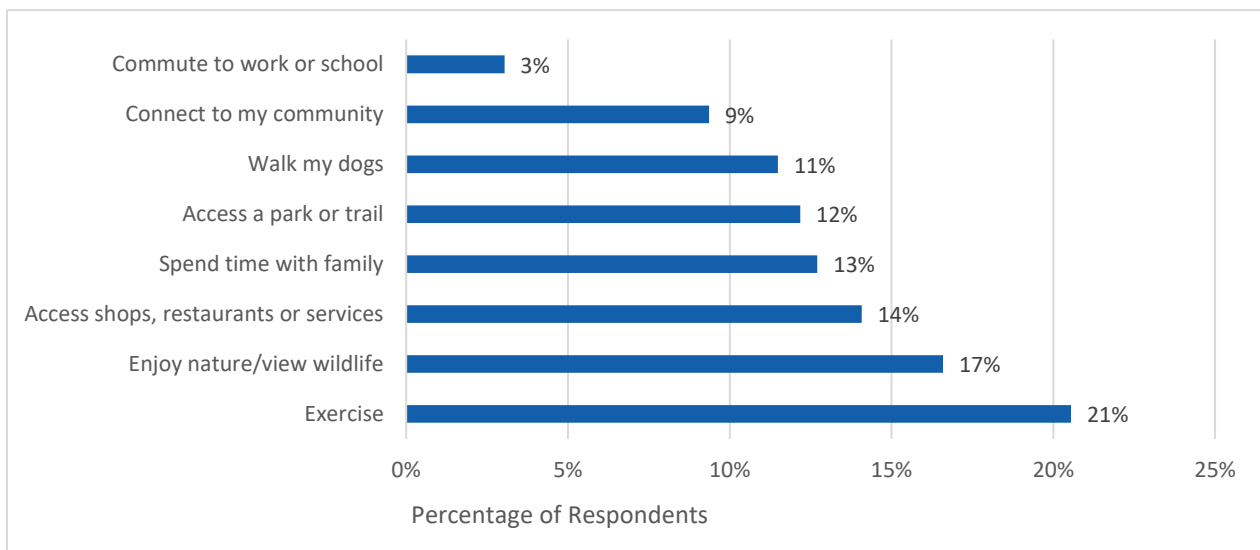
The top choices selected were build more unpaved trails (19%), provide more maps/route information (16%), fill gaps between trails (14%), and more signage (14%).



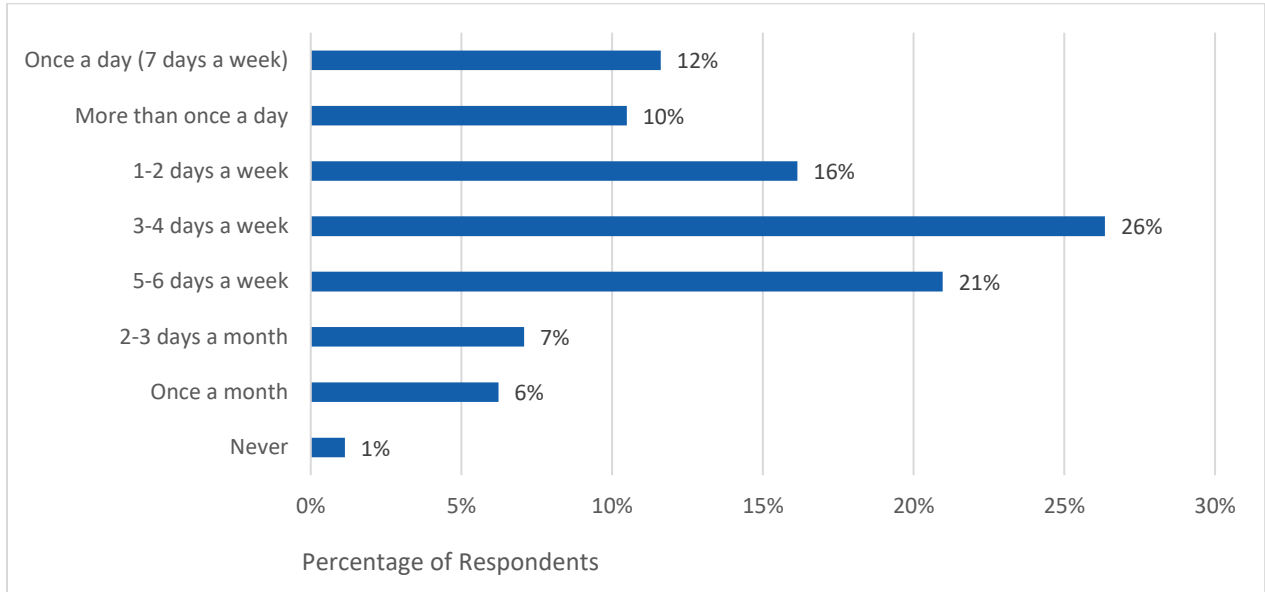
## Sidewalks

### Sidewalks Patterns

Respondents were asked to consider what motivates them to walk by selecting as many options that applied to them. To exercise was the top choice among respondents, followed by to enjoy nature and view wildlife.



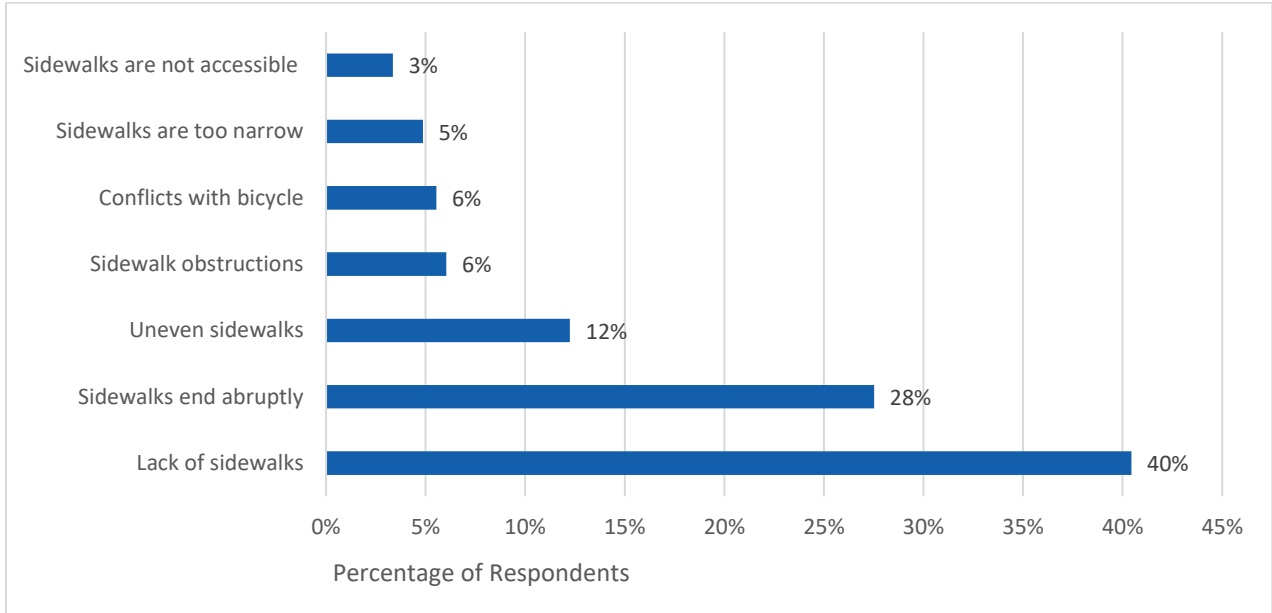
Respondents were also asked to indicate how often they walk in a typical month. 21% of respondents indicated they walk 5-6 days a week, 26% of respondents indicated they walk 3-4 days a week and 16% of respondents indicated they walk 1-2 days a week. Only 1% of respondents indicated they never walk.



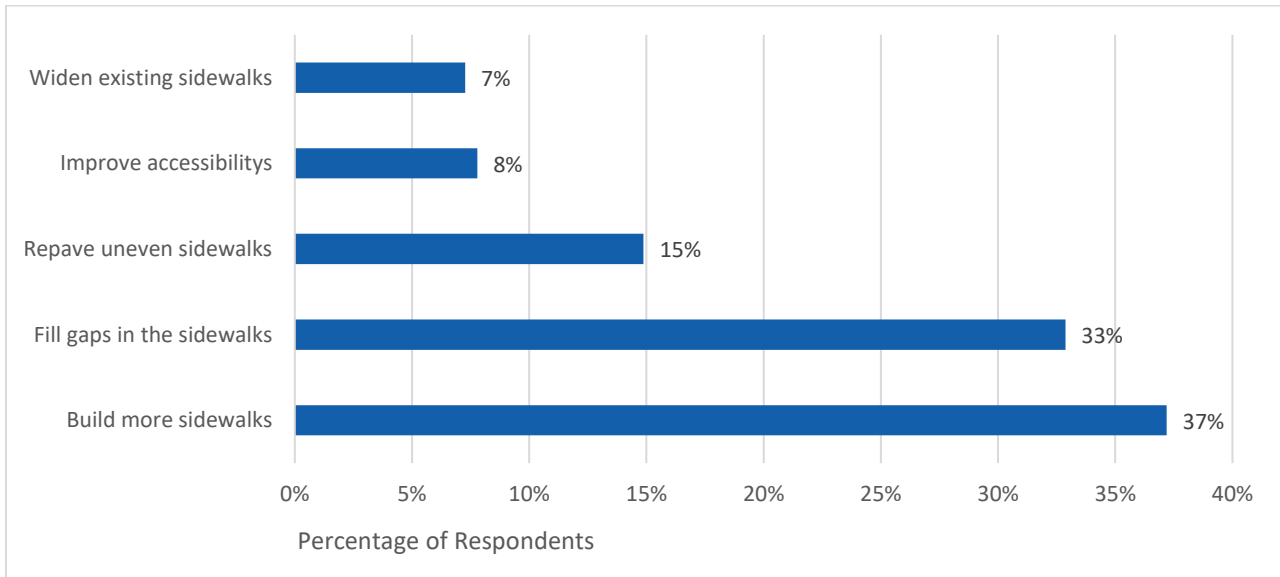
### Sidewalks Issues and Opportunities

Respondents were asked to select what they felt were the top three challenges for using Summerland sidewalks from a list of 7 challenges. The top three challenges selected were lack of sidewalks (40%), sidewalks end abruptly (28%), and uneven sidewalks (12%).





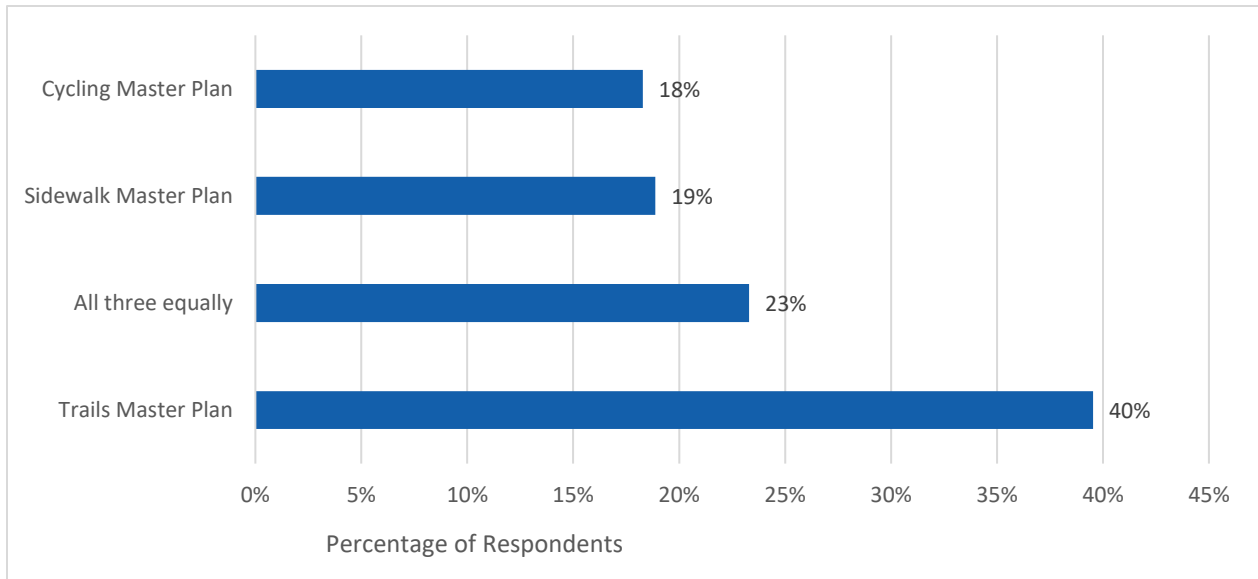
Respondents were then asked to indicate what the district could do to encourage them to use Summerland sidewalks more. They were asked to select three choices out of five options. The top three choices selected were build more sidewalks (37%), fill gaps in the sidewalks (33%), and repave uneven sidewalks (15%).



### Priorities

Of the three master plans, respondents were asked which plan they were most interested in. As shown in the graph, respondents were most interested in the Trails Master Plan (40%). Almost an even number of respondents were interested in the Sidewalk Mater Plan

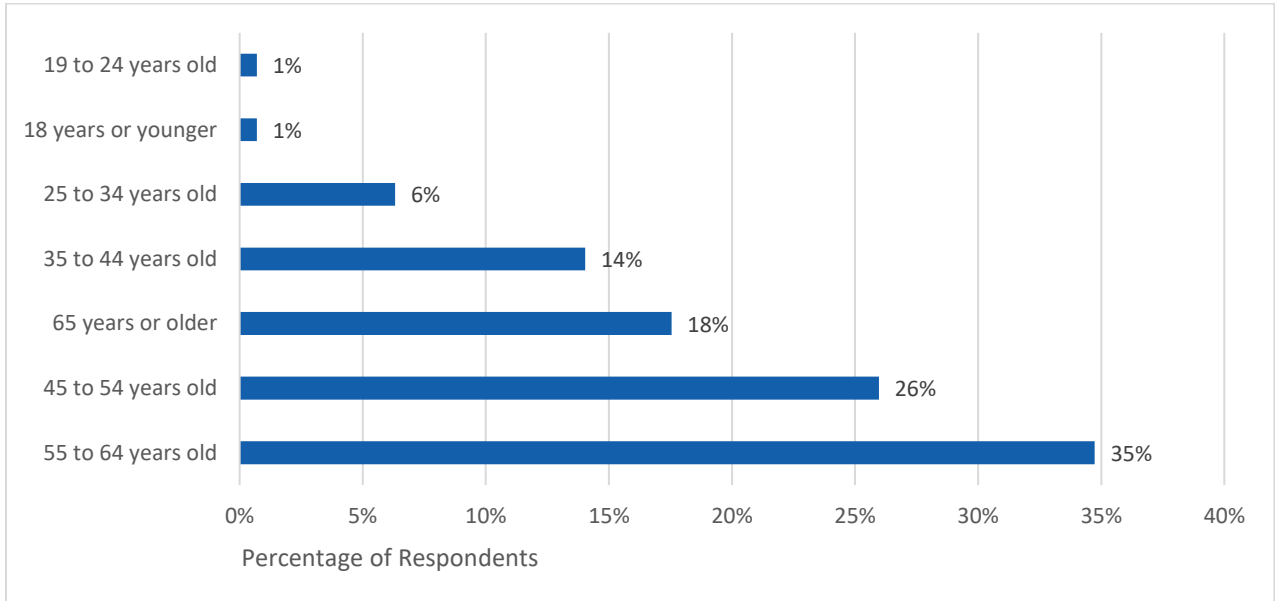
(19%) and the Cycling Master Plan (18%). 23% of respondents were interested in all three plans equally.



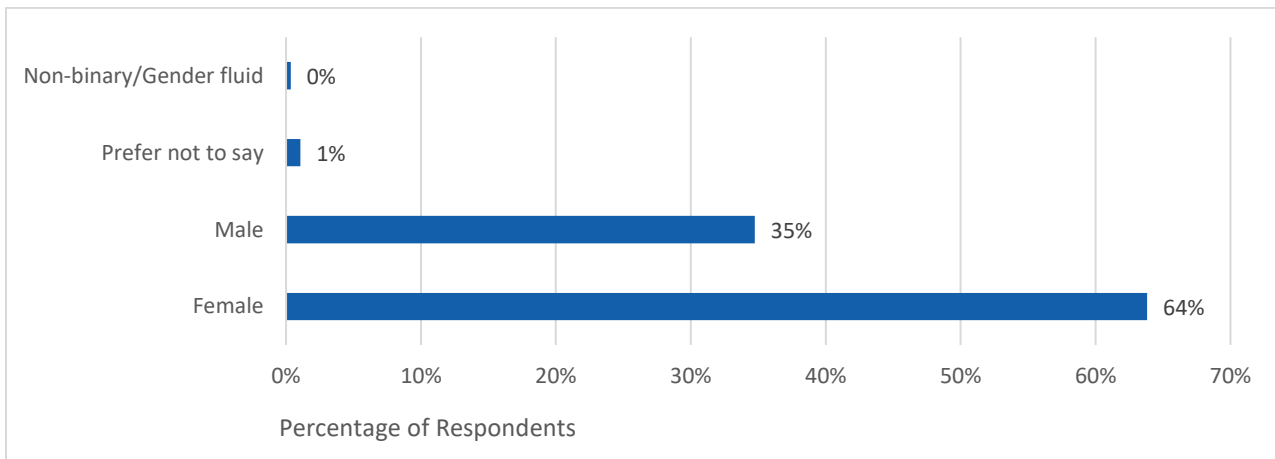
## Demographics

At the end of the online survey, respondents were asked to provide their demographic information, including their age, gender and limitations. This information provided the project team with a better understanding of who responded to the online survey. As these questions were optional, not all respondents disclosed their demographic information and the graphs below do not include the demographic information of all respondents.

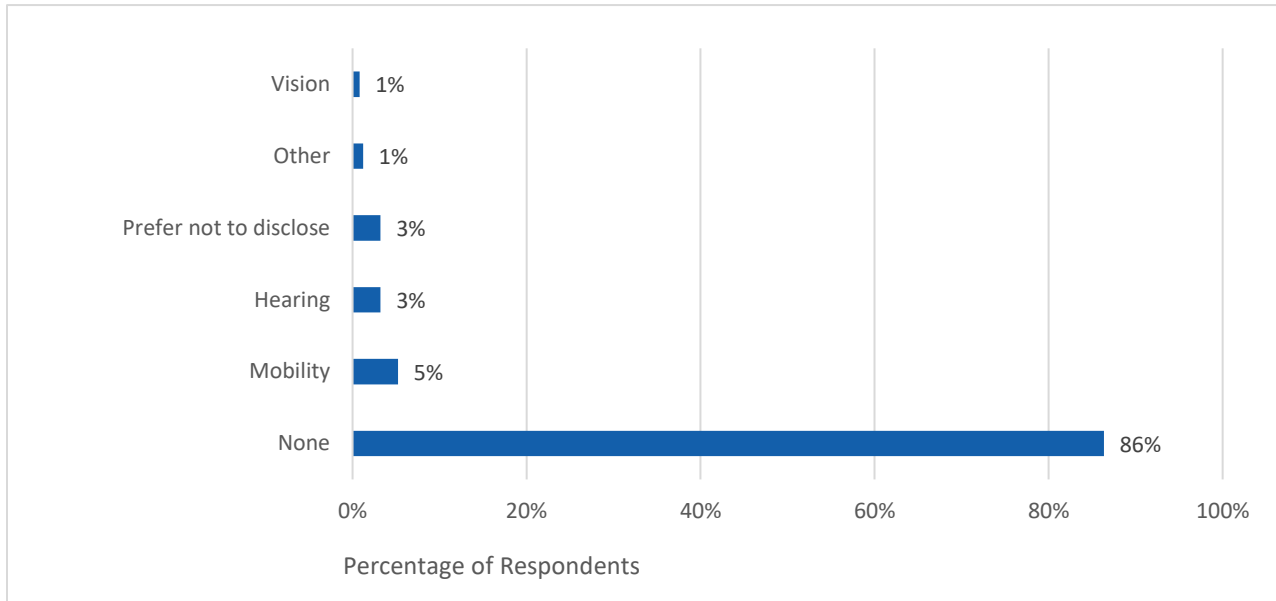
### Age of Respondents



### Gender of Respondents



## Limitations

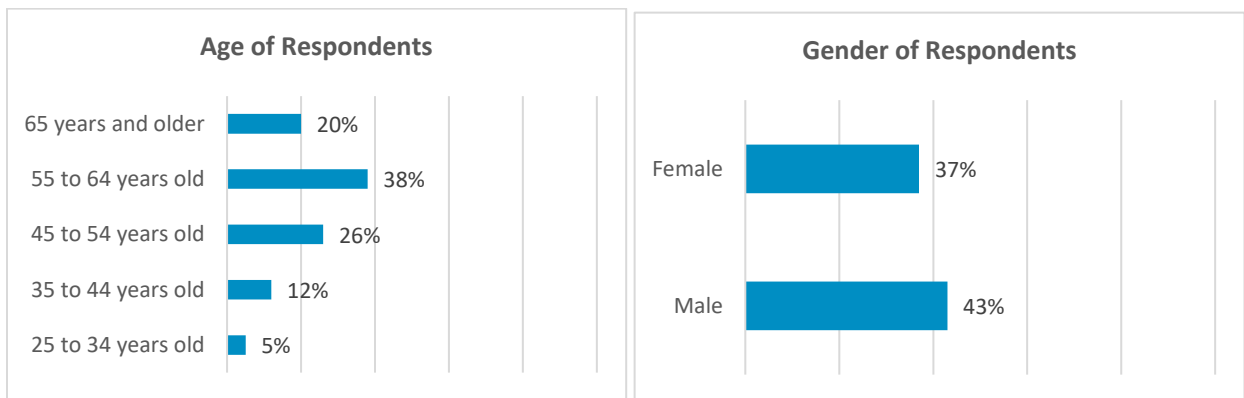


### 3 Survey #2 Summary

As part of the Phase 2 engagement process for Summerland’s cycling, trails and sidewalks master plans, residents were invited to provide their input and the level of support of each of the draft long-term plans and priorities for implementation. The online survey was available through the District of Summerland’s website from December 6, 2018 to December 17, 2018 and resulted in 242 participant responses. *Respondents were not required to answer every question in the survey and percentages were calculated based on the number of respondents per question.*

#### Demographics

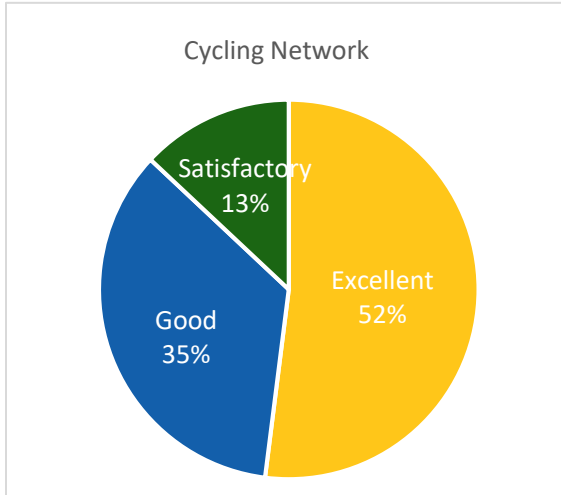
Respondents were asked demographic questions to better understand their needs.



Eleven percent of respondents also indicated that they have limitations with five percent having mobility issues.

#### Cycling Master Plan

Four themes were established for the preliminary directions for cycling in Summerland. For each theme, actions have been developed to be implemented over the long-term.



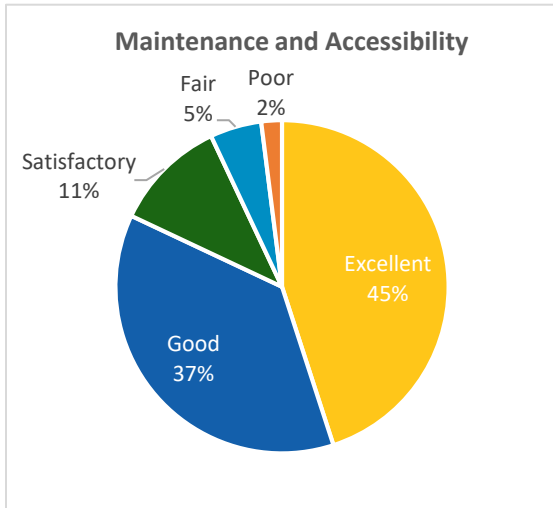
**Theme 1:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance the cycling network.

Eighty-eight percent of respondents indicated that the proposed actions were excellent or good. Thirteen percent of respondents indicated that the proposed actions were satisfactory.

Respondents were asked to indicate their top three priorities for the proposed bicycle routes. Giants Head Road was seen as the top priority route and selected the most frequently as a priority.

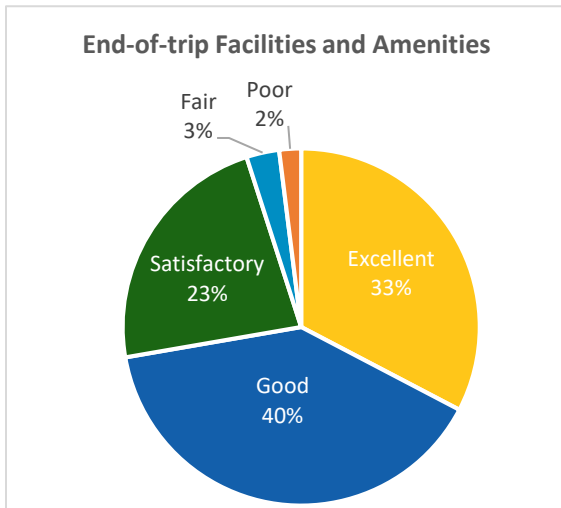
Location	Priority 1	Priority 2	Priority 3
Giants Head Road	14	5	10
South and North Victoria Road	7	7	7
Prairie Valley Road	8	4	1
Lakeshore Road	4	6	2
Garnet Valley Road	3	5	2
Peach Orchard Road	3	4	
Gartrell Road	3	1	2
KVR route	2	1	1
Trans Canada Trail	1	2	1
Conkle Mountain			4
Cartwright Mountain	2	1	
Happy Valley Road	1	2	
Dale Meadows Road		1	1
Hwy 97			2
Matsu Drive Loop	1		
Johnson Street	1		
Jubilee Road		1	
Bathville Road			1



**Theme 2:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance the cycling network’s **maintenance and accessibility**.

Eighty-two percent of respondents indicated that the proposed actions were excellent or good. Sixteen percent of respondents indicated that the proposed actions were satisfactory or fair. Two percent indicated that the proposed actions were poor.

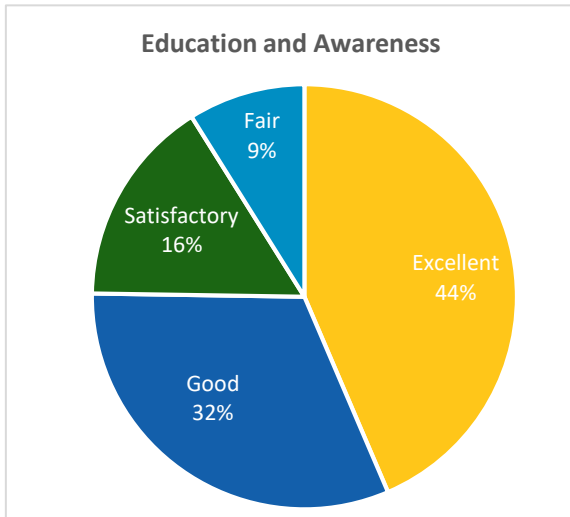


**Theme 3:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance **end-of-trip facilities and amenities**.

Seventy-three percent of respondents indicated that the proposed actions were excellent or good. Twenty-six percent of respondents indicated that the proposed actions were satisfactory or fair. Two percent indicated that

the proposed actions were poor.



**Theme 4:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance **education and awareness**.

Seventy-six percent of respondents indicated that the proposed actions are excellent or good. Twenty-five percent of respondents indicated that the proposed actions are satisfactory or fair.

Respondents were asked to rank the four themes based on their top priorities, with 1 being the top priority and 4 being the lowest priority.

Theme	Average Ranking
Cycling Network	1.43
Maintenance and Accessibility	2.05
Education and Awareness	3.16
End-of-trip Facilities and Amenities	3.29

The cycling network was ranked as the highest priority with an average ranking of 1.43, followed by maintenance and accessibility with an average ranking of 2.05.

As an optional question, respondents were asked if they had any additional comments regarding the proposed themes and actions recommended for the cycling master plan. These verbatim comments are included below.

- Adding a bike wash station at various end of trail locations. This will help reduce the spread of dirt and other debris throughout the urban areas and help encourage cycle us to get out into the natural environment
- Appreciate all the work on this initiative, and for listening to our input. This town could have an incredible cycling system of trails
- As a cyclist my primary concern is safety. Having designated cycling or multi-use trails greatly reduces the risk associated with riding your bike. Having to share roads with motor vehicles can put cyclists in very dangerous situations.
- As an avid cyclist, road and mountain bike, there needs to be a re-route section along Prairie Valley to take Dale Meadows to Haddrell and avoid the curve in the



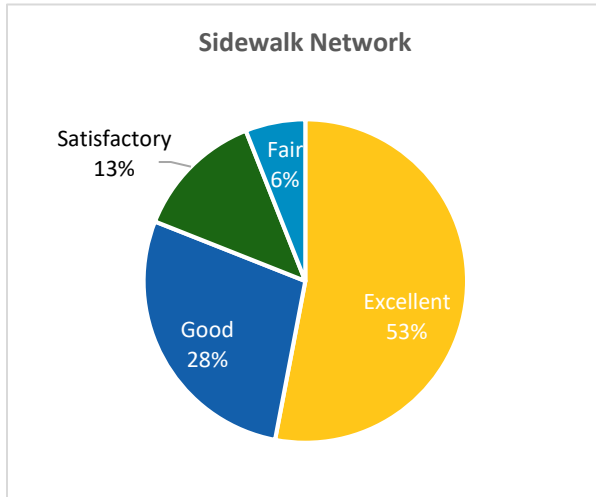
road along Prairie Valley to just before Morrow. Truck traffic often hugs the side of the road making it extremely dangerous to ride along the shoulder.

- Consider creating proper parking areas at trail heads with maps, signage and garbage cans.
- Create cycling infrastructure for short distance (casual cyclists). The growth in cycling will come from short distance casual trips not hard core racers on mountain bikes. For example, make it easy and safe for uptown residents to ride to the grocery store in Summerland
- Earlier removal of sand on main cycling roads.
- Ensure e-bikes are included in single track as it addresses and encourages the old population of Summerland to keep active and help to maintain rain the trails.
- Ensure whatever possible, that the cycling network is a separate path or trail from the road traffic to increase safety for cyclists
- Focus on building route for people who cycle to work, go to doctor appointments, shopping and visiting friends. Most of these type of trips are 5km or less and involve route in core areas.
- Focus on safe cycling lanes for kids to ride bikes to school without having to ride on Sidewalks. Upgrading mountain biking trails to encourage out of town guests.
- Great place to cycle but many of the roads are in rough shape and require some upgrades like replacing really rough pothole sections, broken shoulder edges
- Have more routes that take you along orchards and boneyards for the views and the less traffic. Have loops with names given. Like switchback route, lakeshore route, Jones flat route, garnet valley route, quinpool route, Cartwright route many more. Improve north Victoria rd up the hill with a sidewalk for safety and cyclists heading to jones flat rd area.
- I cycle regularly and the main concern I have is with the traffic circles. I feel educating drivers on how to safely use a traffic circle should be a priority. Drivers need to understand who has the right of way and that bicycles are vehicles too. It could be as simple as putting up a few signs in the roundabouts. I've been dangerously cut off numerous times, sometimes while pulling my child in a chariot. I'd hate for a cyclist to be hurt before something is done.
- I would love to see Summerland become the e-bike capital of the Okanagan by connecting us to both Penticton across the PIB Reserve and through Garnett Valley to Peachland, and by providing secure lockups in the downtown area.
- If the result is to encourage people to commute by bicycle, then main arterials to downtown should be improved. These same routes also lead to the Trans Canada Trail and the highway and Penticton where many people work
- Include in Theme 4 education and awareness of car drivers

- Include the Province in support multi-modal transportation to Princeton and throughout the Okanagan Valley
- Make sure schools are a key part of the plan, ensuring safe access for kids going to and from school on their bikes.
- Make the roads safe (Surface/ shoulder/ debris/ signage/ lanes etc) and comfortable for bikes. This will be the most effective way to encourage more more commuters and will yield better access to trails.
- Push to make cycling rights and awareness a part of the provincial driving training and licensing, provide or indicate access to public washrooms on routes
- Road riding on Prairie Valley Road is hazardous right now. This needs consideration
- Routine and regular maintenance repair damage and vandalism quickly
- Safety of the bike rider is very important to me. Separate routes or protected routes. Sharing the road has bicyclists at a disadvantage.
- Theme 1 is so much more impactful than the other 3 themes
- Theme 1 is the absolute most critical path item. You could drop themes 3 &4 if it meant success with Theme 1. Focus on connecting all of Summerland property. Include Lower town and Trout Creek
- There is too much emphasis on cycling. I find most cyclist hog the road, never dismount, and would rather run over a dog or child to keep on going.
- This plan is confusing and doesn't seem to be realistic? Many examples but a secondary route out to Paradise road (who goes there? the rest is private property on Mountain?) Many of the trails and paths just don't make sense?
- Two of Summerland's busiest street, Rosedale and Prairie Valley do not have bike lanes. If Summerland is serious about biking, create bike lanes of these two streets
- Very happy this is being implemented
- We should look at both road bike and mountain bike facilities. There needs to be dialogue with the Penticton Indian Band about how to access trails across the Trout Creek trestle to mutual advantage. E.g. an access fee that goes towards trail maintenance with acknowledgment of the PIB and their culture.
- You need to build a network for all users to be more friendly and respectful of one another cyclists dog owners and horse riders and hikers

## Sidewalk Master Plan

Three themes were established for the preliminary directions for sidewalks in Summerland. For each theme, actions have been developed to be implemented over the long-term.



### Theme 1:

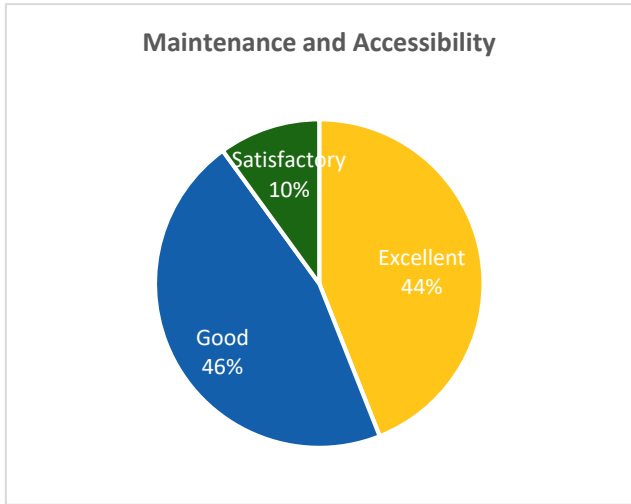
Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance the sidewalk network.

Eighty-eight percent of respondents indicated that the proposed actions were excellent or good. Thirteen percent of respondents indicated that the proposed actions were satisfactory.

Respondents were asked to indicate their top three priorities for the proposed sidewalks.

North and South Victoria Road were seen as the top priority and was selected most frequently as a priority.

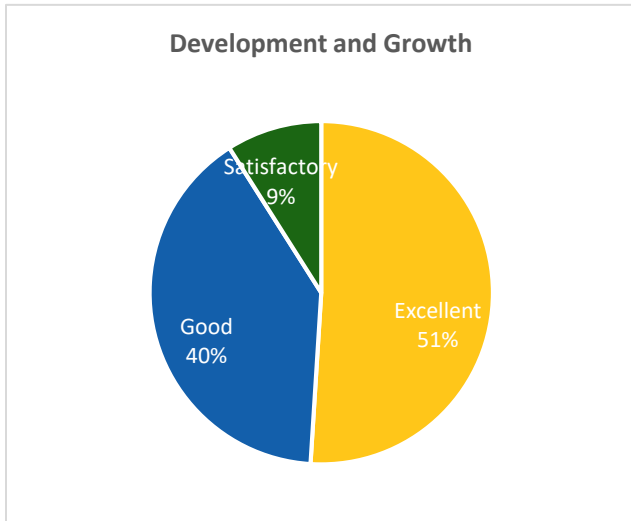
Location	Priority 1	Priority 2	Priority 3
North and South Victoria Road	11	6	4
Giants Head Road	3	5	4
Solly Road	5	1	2
Prairie Valley Road	5	1	2
Peach Orchard Road	1	4	3
Lakeshore Drive	3	2	2
Jubilee Road		5	2
Downtown Area	2		
Wharton Street	1	1	
Sinclair Road	1		1
Cartwright Road		1	1
Johnson Street	1		
Trans Canada Trail	1		
Trout Creek		1	
Hwy 97			1



**Theme 2:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance sidewalk **maintenance and accessibility**.

Ninety percent of respondents indicated that the proposed actions were excellent or good. Ten percent of respondents indicated that the proposed actions were satisfactory.



**Theme 3:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to ensure sidewalks are considered under **development and growth**.

Ninety-one percent of respondents indicated that the proposed actions were excellent or good. Nine percent of respondents indicated that the proposed actions were satisfactory.

Respondents were asked to rank the three themes based on their top priorities, with 1 being the top priority and three being the lowest priority.

Theme	Average Ranking
Sidewalk Network	1.81
Development and Growth	2.08
Maintenance and Accessibility	2.12

The sidewalk network was ranked as the highest priority with an average ranking of 1.81, followed by development and growth with an average ranking of 2.08.

As an optional question, respondents were asked if they had any additional comments regarding the proposed themes and actions recommended for the sidewalk master plan. These verbatim comments are included below.

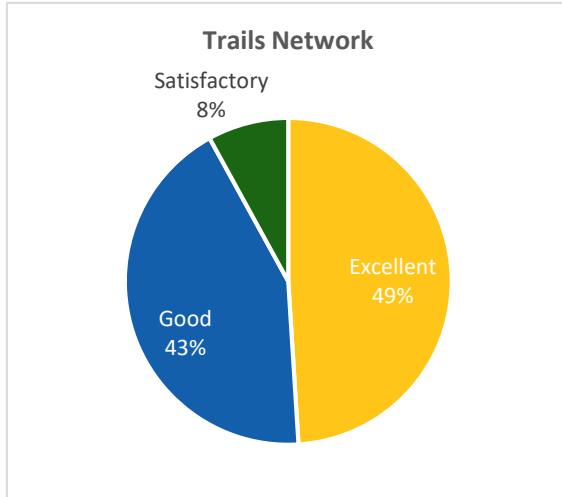
- All new subdivisions and existing updating of subdivisions should have sidewalks as part of their plan
- Any new development if not right in downtown core should be built to move bodies not cars. This is done by making developer build sidewalks and bike lanes.
- Arterial sidewalks should be fully maintained (plowed and landscaped) by the district along entire portion including rights-of-way.
- As a person with health issues that make hiking and cycling impossible, I really appreciate an improvement in sidewalk connectivity and maintenance. I would love to be able to safely walk from Turner Street to downtown and I think there are many others would as well.
- Continue to seek input from users, currently this does not impact my household
- District should maintain primary sidewalks year around
- Ensure that bikes and pedestrians have clear and separate lanes,
- I think we should focus on our waterfront, make that attractive
- In less congested areas, shared cycling and walking on one side of the road should be sufficient. Roads need to be wide enough for vehicle traffic, pedestrians, cyclists and mobility scooters. This would allow winter maintenance to be done with the road and not a separate crew with smaller equipment.
- In the meantime, pedestrians need to be educated how to walk on roads w/out sidewalks ie. facing traffic
- Just the one about making one side of Prairie Valley for bikes. Sidewalks on Solly - or through Old Hospital easement onto Latiuner Avenue to MacDonald
- Love the options avail, hopefully quinpool to Jones flat sidewalk with happen sooner than later, it a busy road going in and out of the core!
- Low volume routes could be shared routes walking and cycling
- Maintaining the safety of Peach orchard trail should be a priority in my opinion.
- Make as many pathways and cycle paths as shared similar to the pathway on Giants Head (just continue that path father)
- Make sure the rude cyclists are not on these pathways.
- Part of development needs to be adding sidewalks in new subdivisions
- Please consider putting a sidewalk all along Lakeshore Dr. N. out to Crescent Beach. There is a large residential population living at Crescent Beach and many Summerlanders use this road to walk and ride and it is also marked for access to Lakeview Trail. In summertime there is really high density of non-drivers on this very narrow, two lane road, with little or no allowance at several places along the road. I

believe it poses a risk/liability issue for the Summerland Corporation and I do not want a death or serious accident to have to occur before this issue is addressed. It is used daily by dog walkers, bikers, walkers, mothers with baby strollers, children, etc. and there really is no where to walk except on the roadway. Work was done during the last two years of high lake water, and several loads of rubble were put into the lake to shore up the road. It would be possible to continue this work and put a sidewalk all along the water side of this narrow road. Please consider this! There is only one development that was required to put in a sidewalk and it is the only safe place along this road to walk, otherwise people have to use the roadway itself. When two cars come and there are many homes at Crescent Beach and only this narrow road access, it is a safety issue of a serious nature.

- Please look at the curb/sidewalk on S Victoria. It is dangerous to walk or cycle. Lots of blind corners, curbs that change (8 times between traffic circle and Simpson road). It is a busy road for vehicles and lots of kids use this road to travel to school
- Proposed district right of way connection makes no sense in areas of Gillard, Rippen, Lumsden, Gould - who would these links serve and they look like they require crossing private property. The TCT already allows people to travel in that direction only a few meters away?
- Safety is key for kids
- Sidewalks should be automatically done through developers
- Subdivisions - make the designer pay
- Theme 2 is my top priority, 2nd theme 1, third theme 3
- There is no mention of accessibility for wheelchairs and scooters
- Walking and cycling in safety will encourage more residents and visitors to use those modes of transportation. Active transportation reduces health costs, both physical and mental health.

## Trails Master Plan

Six themes were established for the preliminary directions for trails in Summerland. For each theme, actions have been developed to be implemented over the long-term.



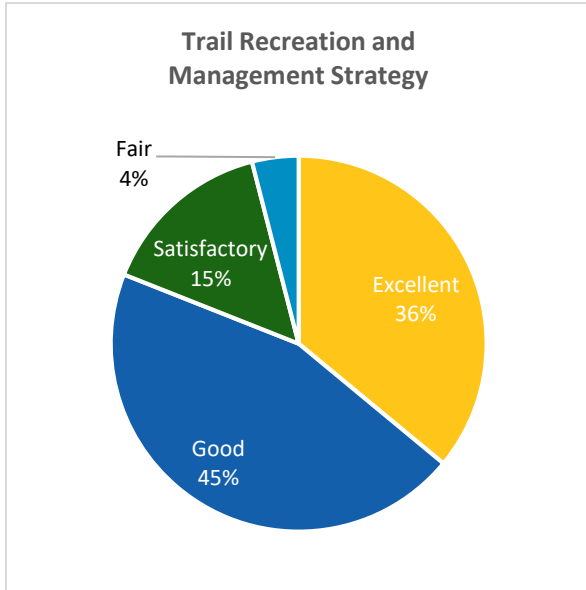
### Theme 1:

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance the trails network.

Ninety-two percent of respondents indicated that the proposed actions were excellent or good. Eight percent of respondents indicated that the proposed actions were satisfactory.

Respondents were asked to indicate their top three priorities for the proposed trail connections or pathways. Gould Avenue to Fyffe Road was seen as the top priority. Williams Avenue to Sunoka Beach was selected the most frequently as a priority.

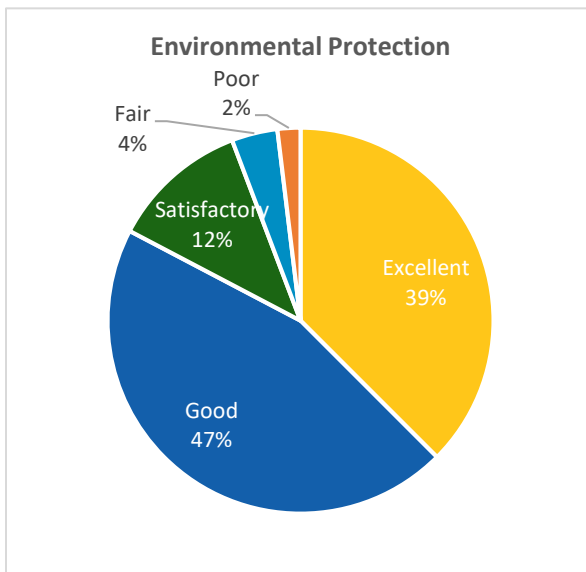
Location	Priority 1	Priority 2	Priority3
Williams Avenue to Sunoka Beach	7	3	5
Gould Ave to Fyffe Road	9	3	1
Dale Meadows Park to Dale Meadows Road	3	2	5
Julia Street to Victoria Road North	4	1	3
Dale Meadows Park to Walker Avenue	4	2	1
Lumsden Avenue to Gillard Avenue	2	2	1
Downtown Avenue to Pohlman Avenue		1	4
Evans Avenue to Nixon Road	1	3	
Cartwright Trail		3	1
Mount Conkle Trail	2		1
Mountford Avenue to Cedar Avenue	1	1	1
Happy Valley Road to Morrison Close	1	1	
Reynolds Avenue to Wright Avenue	1		1
Howis Crescent to Summer Fair		2	
Lakeshore Road		2	
Pollock Terrace to Little Giants Head		1	1
Giants Head Road	1		
Palmer Terrace to Little Giants Head	1		



**Theme 2:**

Respondents were asked to indicate their overall view of the proposed actions being recommended related to the **trail recreation and management strategy**.

Eighty-one percent of respondents indicated that the proposed actions were excellent or good. Nineteen percent of respondents indicated that the proposed actions were satisfactory or fair.



**Theme 3:**

Respondents were asked to indicate their overall view of the proposed actions being recommended under the theme **environmental protection**.

Eighty-six percent of respondents indicated that the proposed actions were excellent or good. Sixteen percent of respondents indicated that the proposed actions were satisfactory or fair. Two percent indicated that the proposed actions were poor.





#### Theme 4:

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance **wayfinding and amenities**.

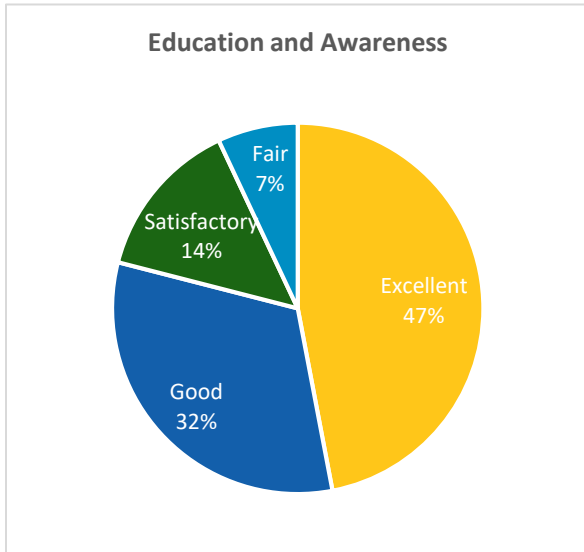
Eighty-one percent of respondents indicated that the proposed actions were excellent or good. Eighteen percent of respondents indicated that the proposed actions were satisfactory or fair.



#### Theme 5:

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance **trail maintenance**.

Seventy-nine percent of respondents indicated that the proposed actions were excellent or good. Twenty-two percent of respondents indicated that the proposed actions were satisfactory.



**Theme 6:**

Respondents were asked to indicate their overall view of the proposed actions being recommended to enhance trail **education and awareness**.

Seventy-nine percent of respondents indicated that the proposed actions were excellent or good. Twenty-one percent of respondents indicated that the proposed actions were satisfactory.

Respondents were asked to rank the six themes based on their top priorities, with 1 being the top priority and 6 being the lowest priority.

Theme	Average Ranking
Trails Network	2.19
Trail Recreation Management Strategy	2.98
Environmental Protection	3.11
Maintenance	3.75
Wayfinding and Amenities	4.13
Education and Awareness	4.55

The trails network was ranked as the highest priority with an average ranking of 2.19, followed by trail recreation management strategy with an average of 2.98.

As an optional question, respondents were asked if they had any additional comments regarding the proposed themes and actions recommended for the trails master plan. These verbatim comments are included below.

- Adding new trails to connect areas that are not currently connected would be awesome. Signage at Trailheads and on the trails is critical to having newcomers to the area and guests utilize our trails and enjoy the experience.
- Address user conflicts by not trying to make all trails for all users, have bike trails, walking trails, and horse trails for those uses unless can be made wide enough to accommodate all.

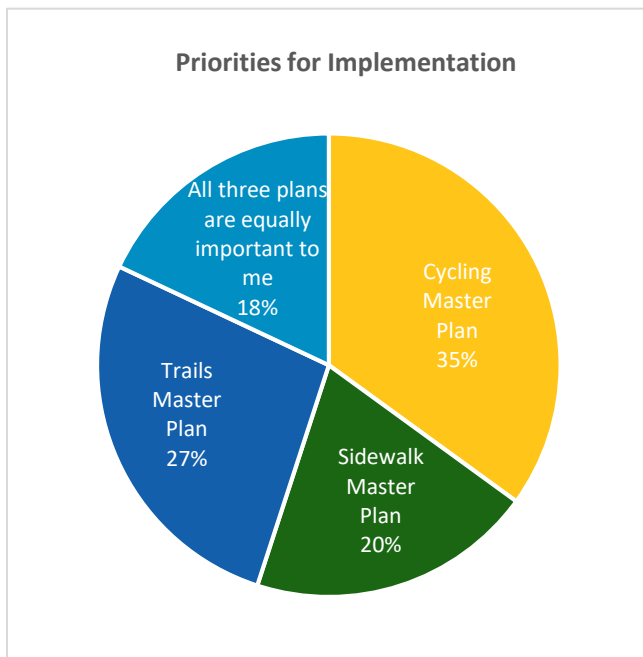
- All trails should be well marked in google maps. Need more dog waste stations with bags and cans for collection
- assuming 'changing technologies' refers to e-bikes there is much ado about nothing as these do not impact trail conditions especially if they are pedal assist enabling seniors to continue to get out and keep fit. The ones that do the damage are the dirt bikes which have been around forever
- Conkle mountain trail network. Need a masterplan so that trails can be used by many user groups: hikers, dog owners, horseback riders, cycling
- Connectivity to Peachland and Penticton must be provided.
- Don't understand #12? A safer walk on parts of Solly where it is currently a bit sketchy makes more sense. It would be steep, I think, and would need maintenance. If you wanted to shorten the walk up the McDonald road allowance makes more sense. I live adjacent to McDonald so not just sending traffic away from my own house. Again, would be steep. The roads do provide easier paths up the hill.
- Ensure washroom facilities (portables) as there currently are none on Conkle or Cartwright
- Great trails exist on cartwright and Conkel. Don't try to fix what is not broken.
- Have volunteer groups overseen by the District to help with trail maintenance
- I think it is really important to find areas for the ATV/Dirt bike users to use which don't conflict with bikers/cyclists/horses
- I want to make sure the Dog Users for trails and sidewalks are being heard. Make sure there is signage that Dogs/humans are allowed to use these trails as well. And make sure there is sufficient waste bags and garbage bins to rid of waste matter. More education so that cyclists can respect those using the trails to walk their dogs or taking a hike with the family. Cyclists need to know that all users groups have use as well these trails are not just fore their use.
- Integrate First Nations in the planning and use of the trail.
- Let's move it forward
- Lights for the dale meadows trails. People still need to safely walk their dogs and kids at night, this trail system is safe from cars but too dark in the winter and fall.
- Love the trails and sidewalks. The cyclists are a painful group.
- Lumping the Trails Master Plan in with sidewalks and road cycling was a mistake -- does not reflect the high priority many Summerlanders put on trails. I'd like to see the Trails Master Plan get further attention, with the development and inclusion of trail plans for Conkle and Cartwright before it goes further.
- Make it public - not just posted on the District Website
- Managing the trails effectively, for road, mountain bike and hiking could be a huge tourist attraction for the community. Go for it!

- Opportunities for all citizens. Currently, little opportunity for handicapped. The Trans Canada Trail from the gazebo to the Rodeo Grounds should be paved to allow wheelchairs.....it is relatively flat
- Pedal assist mountain bikes are great for the older populations, as they allow people to get out on the trails without causing harm to the trails. My wife and I enjoy mountain biking and e-bike mountain biking with pedal assist and would enjoy more outhouses and possibly lighting on the TCT along the base of Conkle Mountain. We know the area very well and signage is not important to us. Conkle Mountain is well developed with great access on the east and west side. Cartwright mountain is mostly dirt bike and quads. We would like more single track west of Hermiston Drive
- Please ensure Class 1 e-bikes are requiring pedal assist are permitted on single track, do not allow Class 2 (throttle bikes) on single track. Consider adding outhouses/highlighting outhouse location of existing ones – i.e. on Trans Canada. E-bikes - pedal assist bikes are fine in all areas, promotes trail maintenance to get supplies in, promotes cycling as you age, excellent mode of transportation to get people out of cards. I participate in trail maintenance regularly - today cleared a large tree fallen on Conkle with manual saw. The male "full frontal" hiker on Conkle needs to be dealt with if Conkle is promoted for families. I saw him three times too many this year.
- Priority should be given to extend and repair damaged trails along the waterfront. Summerland has ignored the waterfront!
- Regular maintenance / adopt a trail without a lot of bureaucracy (i.e. RDOS requires insurance etc.)
- Signage for dogs, garbage bins for waste
- Theme 3 is my top priority. Can't figure out how to rank them
- Themes 2, 3 and 4 are the most important
- Too much emphasis on "citifying" our small town trails. We don't need signs, amenities, rules and marketing. We are not the north shore or Lynn Canyon with multiple interface and rescue requirements. Keep it simple - preserve the environment, control "rogue" trail building and interest groups who claim the trails as their own. Focus on the basics - infill the gaps in the network and ensure the safety of those travelling popular routes along roadways. It would seem specific comments have been taken and generalized to apply to everywhere for purposes of the plan. It is not strategic enough. Will we end up with another Rotary Beach and the docks fiasco?
- We have some amazing trails here in Summerland but they just end. No signage, no continuation from one point to another.

- Work with the Penticton and Area Cycling Association. They have a strong and positive relationship with land managers such as the Ministry of FLNROD, BC Parks and City of Penticton. The non-profit club has experience with sanctioning existing trails, building new trails and the maintenance and management. Trails are well-loved by many groups and the demand will only increase. It is best to get ahead of the curve. Summerland has a great start with some of the existing trails, vistas, volunteers and terrain.

## Wrap Up

Of the three plans, respondents were asked which plan(s) they think should be the District's top priority for implementation and comment on why they chose the plan(s).



Eighteen percent of respondents indicated that all three plans are equally important to them. The largest percentage of respondents (35 percent) indicated that the cycling master plan should be the District's top priority.

Comments from respondents are included below.

- All equally important. BUT.....I think we should focus on our waterfront to make our community more attractive
- Although I consider trails the highest priority, I think it also requires the most work do do well -- the other two plans could likely be implemented first so that trails master planning could be done properly.
- Because the cycling master plan has the potential to enhance lifestyle, recreation, safety and the environment by encouraging people of all ages to ride/ commute/ explore our community. To get to trails, we need safe road routes.
- Best the majority of tax payers in Summerland will benefit.

- Biggest impact on CFC reduction, largest available user base. Summerland is spread-out and cycling is the best way to get around and reach the various attractions, shopping facilities and sports venues.
- Cycling is a preferred mode of transport for many people. Quick cheap and easy to learn
- Cycling on roadways is dangerous and in my opinion safety needs to be a top priority for the District. I also walk and hike regularly but riding my bike on busy streets is my biggest worry.
- For people who are willing to cycle to work, recreation or run errands this is the greatest way to get people out of the vehicles. They must feel safe in separated facilities away from automobiles and it must be easy and direct.
- Growing demographic of cycling community and tourist opportunities
- Having safe routes to move about the community for all citizens and visitors is of prime importance. This is unto itself a major undertaking given resource levels (personnel and financial) The other two are nice to have but not necessary.
- I do cycle, walk and hike. Having my cycling safe is my top priority
- I feel the sidewalk plan is most important because it promotes inclusiveness, healthy habits, connection to community and shopping local for the most Summerlanders on a daily basis.
- I have 5 kids and try to instill a healthy active lifestyle in them. Most are still too young to ride a bike so we walk a lot (scooter and stroller too). I'm vey limited where I can walk safely with my brood :)
- I like biking in Summerland but find many of the roads to be in rough shape in places
- I personally use the sidewalks most often for walking my dog
- I think Summerland could market itself as a tourist destination for outdoor activities for all abilities if these measures were in place
- I use trails for recreation and transport daily and they bring in out of towners as Test of Humanity and Conkle are so great. The cycling master plan really shouldn't be developed until road maintenance can be addressed
- I'm a cyclist
- It's a safety concern and environmental concern
- Lived her for nearly thirteen years with my family and safety is a top priority for children adults of all ages.
- Many cyclists come through town and most roads are not bike friendly
- More users on sidewalks
- Most financially feasible to accomplish.

- Mountain Biking is a huge tourism draw. Tourism is money.
- People most likely to be killed on our roads
- Promote more people to cycle in the area.
- Safer for Seniors
- safety
- Safety for kids, seniors and dog walkers. Provide a good walking route to get to schools and shops.
- Safety for people on the streets, especially children and the elderly. How can they be safe when sidewalks are non existent or have gaps? S Victoria is a good example of a very scary place to walk. It would be an excellent walking route to town but with all of the big trucks, farm equipment and winery traffic it is dangerous.
- Safety to pedestrians on busy streets, for young families and the elderly. For people to easily connect to downtown and or trail systems and not have to wrangle through traffic to cross streets or be safe.
- The benefits including safety and enjoyment of off road cycling go far beyond that of road riding
- The trails present an opportunity for tourism revenue but are currently not signed well enough for a good experience for tourists.
- There is no real connected cycling network in Summerland
- Trails are the least managed and most abused at the moment. There should be more attention focused on trails. I applaud the city for the incredible initiatives and accomplishments so far on increasing park space and trail upgrades.
- Trails can accommodate different user groups.
- We are mountain bike first and road riding second. A lot of our friends are road riders and Prairie Valley is the worse
- We can have less cars on the road while encouraging active lifestyles. Cycling is a faster way to commute or get around and is accessible to many.
- Would select both the cycling and trails master plans - we need to get people out cycling safely. We need to get trails designated before it is too late and they become inaccessible (new trails)

Respondents were also asked if they have any final comments. Comments received are included below.

- All the plans have merit. In terms of numbers, the cycling and trails will affect more people but we should not forget access. Thank you!
- Focus on making all these plans dementia friendly and accessible to all.
- Good work, keep it up.

- I am a very active over 65 female. I take my 2 dogs up Giants Head park daily. The only time we have to stop walking is for the never able to dismount cyclists. And the cars but they are better than the cyclists
- I am disappointed to see hardly any mention of connecting Summerland with Penticton and Peachland. We are missing a huge opportunity to integrate our community with the evolving regional cycling network.
- I would like to see a bike lane on the Summerland Princeton road and fish lake road (Faulder to camp Boyle)
- I'm curious if cross country skiing on trails has been brought up at all. I know our weather doesn't always permit, but it's something I'd love to see more of in our community!
- It's very important to me to be able to bring my dog with me wherever I can. I believe it's also very important to have an accessible fully fenced off leash dog park in the main town area
- Just do it!! !
- Please implement these strategies. Summerland will greatly benefit and it will bring more tourists and residents to Summerland ensuring future growth.
- Road maintenance should be prioritized in already signed road. Mud routes
- Sidewalk and road repairs on many roads in Summerland need to be addressed
- some issues of biking, sidewalks and trails were not explored in this survey. To me, the survey is incomplete
- Summerland could be a real cycling hub if money is allocated and they are well kept. Good signage and maintenance.
- Thank you for allowing users an opportunity to express our concerns!
- Thank you for having this Master Plan and for ensuring that public consultation is taken. I have just had knee surgery and am unable to attend the open forums. I am so grateful to get some input and hope that it will be seriously taken. Thank you for the work that you are doing!
- Thank you for your thoughtful consideration of our ideas.
- Thanks for the multiple opportunities to provide feedback. I care deeply about the single track trails on Mount Conkle and want to see them managed well to ensure permanent access for hiking and biking.
- This is great work providing resources and a vision for using the outdoor networks.
- Trails , trails ,trails !!
- Under control (leash or otherwise) dogs should be permitted anywhere walking is.
- Wonder why we can't have a safe walking route all the way around giants head mountain. Taking my life in my hands when walking to town through industrial area



to town to work. Summerland rental center doesn't have parking for their employees so they park on the road where we should have safe passage.

## 4 Public Event #1 Summary

### Summerland Public Event Responses – October 25, 2018

#### Cycling

##### *Trails and Connectivity:*

- Giant's Head needs to be safer to connect to tressel/KVR (needs a bike route)
- Paths need to go somewhere
- Prairie Valley make a separated bike route
- No way to access the lakeshore from DT
- E-Bikes - Hills less of a barrier
- Bike to Penticton – adjacent to living west side
- Present bike lane to Trout Cr. (a huge bonus) and continue route to Penticton
- Cycle trail along KVR railbed from Summerland to Penticton
- Giants Head Rd badly needs a designated bike lane. There is room to build one
- Negotiate & PIB for dev. of KVR connection from Summerland to West Bench
- A bike lane on Victoria Rd. S. from the Prairie Valley roundabout to Simpson would greatly reduce safety issues for all cyclists
- Continue trail system south on Giant's Head R.D.
- Route to Penticton KVR and a long highway
- Separate bike lane from Trout Creek on to Penticton
- Waterfront has been ignored! N/S connection on the water
- Separated bike from trout Creek to Penticton
- Pathway the full length of Giants Head Rd to the Trestle
- Talk to Kelowna about bike trails

##### *Safety and Maintenance:*

- Safety is why people don't bike
- Unauthorized trail building in parks and modifying existing trails
- If you truly wish Summerland to be cycle friendly the roads must be repaired – too many potholes and random curbs to make cycling
- Improve the conditions of the roads
- Sign routes through neighbourhoods
- Upgrade/pave KVR Trail from Trestle to Penticton
- We have some great 'back roads' but the condition of the roads causes my tires to puncture – please fix 'em
- Secure bike parking inside
- Improve for Brigade trail for cyclist to continue from Garnet Valley to Peachland
- Upgrade/pave KVR Trestle to Penticton

- Improve intersection at Post Office for cyclists, pedestrians and vehicles
- Street names on maps

*Multi-use:*

- Separate bikes and pedestrians when possible
- Wider sidewalks half for cycling, half for walking: line down the middle with cycling logo on cycling side

*Education:*

- Secure bike parking inside
- Educate our youth in schools about cycling and walking (it is healthy and fun!)
- Education in schools about safe cycling, safe walking, driver education for bicycle users
- Driver/rider education program

*Other:*

- Wineries tourist/bike tour destination marketing

## Sidewalks

*Connectivity:*

- Sidewalks along Solly Road to connect lower/upper town
- Connect neighbourhoods to schools. i.e. James Lake subdivision
- School routes lacking sidewalks. Needed on Quinpool and Jubilee. Also N. Victoria at least to neighbourhood park
- Sidewalks are not continuous on Victoria Rd. S.
- Fill in gaps around schools

*Safety:*

- Every road should have a sidewalk on at least one side of the street
- Trout Creek school access is too dangerous. Please add sidewalks
- N. Victoria, Jubilee East, Builders Mart, Quin Pool – all safety hazards
- Victoria Rd. S is dangerous! Gaps in sidewalk narrow road! Industrial! Vehicles! Random curbs!
- Powell Bead should connect a sidewalk to Trout Creek school because kids want to be safe
- Fix curb in front of 10209 Victoria Rd. S. Sidewalks needed.

*Accessibility:*

- Prefer roll-over curbs
- Sidewalks around Memorial Park for accessibility (strollers, mobility aids)
- Sidewalk on Fosbery – lots of walkers!

*Multi-use:*

- It would be nice if sidewalks were wider with a line down the middle: one for cycling, one side for walking as in much of Europe

*Other:*

- Make sure developers or Dec's pay for sidewalks development -> town

## Trails

*Trails and Connectivity:*

- Gaps connecting routes most critical
- Trail Summerland to Penticton. More unpaved trails. Connections Osoyoos to Salmon Arm
- Connect trail w/ PIB bench lands hike and bike joint venture interpretive sites
- Connected and contiguous
- More off road cycling trails
- Focus on existing trails and infill of gaps
- Involve the greater connectivity in maintenance of trails

*Dogs:*

- If areas are off leash it should be posted so all users are aware. Especially if young children are using the area
- Dog control enforcement. Giant's Head path has off leash problem
- Never had issues with off leash dogs
- More off leash areas. Dogs need to socialize
- Please have dog off leash areas
- Off leash dogs not a concern (Agreed!)
- Extensive system of stands with dog poop bags (biodegradable)

*Multi-use:*

- Horseback riders need to included in Master Plan (Conkle Mtn, Trans Canada Trails, Garnett Valley)
- Keep ATVs off Trans Canada Trail from Bathville Rd. to Faulder!
- Keep trails multi-use

- Parking spaces, bike racks

*Amenities:*

- Water fountains on all trails = less waste from plastic bottles

*Maintenance and Signage:*

- Coordinated maintenance and signage to minimize degradation, cutoffs, etc.
- Fix/upgrade Peach Orchard trail
- Somehow encourage people to stay on the trail so the undergrowth grows
- Trail signs on Conkle (Agreed!)
- Don't overdo signage. Trailforks works well
- Put trailhead signs up with clear map routes (Yes!)
- Trailhead signage and routes within trail system, maybe colour coded!
- Building trails is not necessary – natural is best. Fixing existing roads to accommodate recreation users

*Other:*

- Keep trails “natural.” i.e. don't make Giant's Head a theme park

## Vision Goals

*Sidewalks:*

- Need unimpeded sidewalks
- Clarify how seniors/disabled people can use their motorized vehicles on sidewalks
- School age children should be priority! Sidewalks!
- Sidewalks that are continuous are important
- We need more sidewalks!
- Connecting public spots with other public spots with sidewalks especially when only a block away. Make it safe.
- Shouldn't walk into a pole on sidewalk
- Need more sidewalks in TC

*Cycling:*

- Separate cycling from vehicle traffic
- I cycle every day in Summerland. Safe cycling is separate paths from traffic. Routes that connect to other routes.
- Good cycling networks are separated from vehicular traffic
- On street cycling mean that roads are maintained and curbs less random

- Goals are fine. Bike trails separated from traffic.

*Trails:*

- Trails to through and around
- The goals are great. We need safe, well maintained and contiguous routes leading to the downtown core
- Vision and goals are brilliant but 1<sup>st</sup> priority is maintenance of Centennial and Lake Shore trails

*Multi-use and Accessibility:*

- Happy Valley Rd. needs to be widened for vehicles, bikes, cyclists, bus routes
- More hoverboard lanes
- Allow access for all user groups, cycling, hiking, horse riding. Multi-user group trails
- All ages and abilities is important

*Other:*

- Vision/goals great but let's go beyond words/talk. If the plan is finalized, let's get it executed!

## 5 Public Event #2 Summary

### Sidewalk Network

#### Network Map Comments and Feedback

- Proposed residential subdivision west of Garnet Valley Road needs sidewalks
- Sidewalks proposed on both sides on Victoria Road north of Turner Street are not necessary
- Julia Street – there should be sidewalks on both sides of the street
- Peach Orchard Road – invest in sidewalk for pedestrians and the trail and pathway for the people cycling
- Wharton – should have sidewalks on both sides
- Prairie Valley Road – Extend pedestrian facility to Morrow Avenue
- Add sidewalk on one side of Elliott Street / Saunders Cres /Ward Street
- Quinpool Road – add proposed sidewalk between Washington and Cartwright pathway connection
- Add a sidewalk connection on Cedar Avenue and Mountford Avenue to the international school
- Hespeler Road – sidewalk on one side recommended
- Pedestrian connection on Fyffe Road
- Pathway at Peach Orchard Park needs to be upgraded
- Provide a loop around Giants Head Road
- Provide connection to Summerland Ornamental Gardens
- Connect the Ornamental Gardens to the trestle
- Johnston Street from Fir Avenue to the highway
- Waterfront connection in Trout Creek connecting down to Sunoka Beach
- Connection from Sunoka Beach to Powell Beach/Trout Creek
- A bridge from Trout Creek to Sunoka Beach
- Lots of quiet street connections through Trout Creek
- Lots of school children are using this route (Cedar Avenue) it should be a high priority

## Proposed Sidewalk Network Priorities

Roadway / Pathway	Prioritize New Facility (Count)	Prioritize Maintenance (Count)
Quinpool Road	2	-
Julia Street	1	-
Jubilee Road	1	1
Jubilee Road East	1	
Rand Street	1	1
Peach Orchard Road	1	-
Solly Road	3	-
Atkinson Road	1	-
Saunders Crescent	1	-
Cedar Avenue	1	
Canyon View Road	-	3
Giants Head Road	-	1
Connection to Sunoka Beach	-	2

## Cycling Network

### Network Map Comments and Feedback

- Facility on Canyon View Road
- Upgrade Trans Canada Trail to a Secondary Route
- Consider a route on Front Bench Road / Hespeler Road
- Waterfront connection within Trout Creek
- Sunoka Beach
- Add a railing to the pathway adjacent to the highway
- Bike paths on Prairie Valley Road – fast cars
- Peach Orchard should be a multi-use pathway
- Victoria Road South near the industrial does need an improvement and some type of cycling facility
- Dale Meadows Road between Haddrell Avenue and Lister Avenue is a nice alternative to Prairie Valley Road. It is narrow but is nice.
- Victoria Road and Jubilee is a bad intersection
- Provide a connection across the highway at Jones Flat Road
- Recreational routes on Matsu Drive and Fosbery Road
- People are parking in the bike lanes on Peach Orchard Road
- Pathway at Peach Orchard park needs maintenance



## Proposed Cycling Network Priorities

Roadway / Pathway	Prioritize New Facility (Count)	Prioritize Maintenance (Count)
Garnet Valley Road	1	-
Whitfield Road	1	-
Lakeshore Drive	1	-
Peach Orchard Road	7	-
Jubilee Road	2	-
Fyffe/Fenwick Road	1	-
Giants Head Road (North)	(see trails table)	3
Giants Head Road (South of Gartrell Road)	-	3
Gartrell Road	1	2
Front Bench Road	-	1
Walters Road	-	1
Victoria Road South	(see trails table)	
Victoria Road South (west of Lewes Avenue)	3	
Prairie Valley Road	5	2

## Trail Network

### Network Map Comments and Feedback

- Problems with people parking on narrow shoulders along Prairie Valley Road
- Importance of peach orchard trail
- Wheelchair accessible trails
- Basalt columns could be a possible attraction at Little Giants Head
- Idea to re-align the TCT through downtown
- Trout creek trails are important to residents
- Opportunity to include First nations place names and language
- Woodbridge area has important trails that connect to Sunoka beach
- Development in trout creek threatens existing informal pathways
- Is there a way to preserve pathways through private lands through the development process?
- Access to Little Giant's Head

### Proposed Pathway and Trail Connections Priorities

Roadway / Pathway	Prioritize New Facility (Count)	Prioritize Maintenance (Count)
Peach Orchard Trail	-	7
Peach Orchard Park Pathway	-	9
Pathway Connection to Sunoka	5	
Victoria Road South Pathway	8	-
Kettle Valley Rail Trail	3	
Pathway Connection to Penticton (KVR)	7	-
Pathway Connection to Penticton (Highway)	5	-
Giants Head Road Pathway	5	-
Pathway adjacent to Highway	-	1
Pathway adjacent to waterfront – Trout Creek	3	1
Pathway to Powell Beach	-	2
Conkle Mountain – General Area	-	1
Little Giants Head – General Area	-	5
Flume Trail	1	
Centennial Trail Recreational Route		2
Julia to Victoria Road North (Right-of-Way Connection)	1	
Downtown Ave to Pohlman Ave (Right-of-Way Connection)	1	
Century St. to Solly Road (Right-of-Way Connection)	1	

## 6 Stakeholder Meeting #1

### Afternoon Session

Subject:	District of Summerland – Cycling, Trails and Sidewalk Master Plans Stakeholder Meeting Round #1 – Community Groups (Organizations, Schools, Service Clubs, Transit, Youth Groups, Recreation Commission, Businesses)
Date:	October 19, 2018
Meeting Date:	October 18, 2018
Location:	Summerland Arena Banquet Hall
File:	0872.0069.01
Prepared By:	Brian Patterson
Distribution:	All

#### Company / Organization

Rotary Club  
 School District / Summerland Healthy Community Initiative  
 Summerland Middle School  
 Summerland Chamber of Commerce  
 Parks and Recreation Commission  
 Kinsmen Club  
 District of Summerland (Parks & Rec)  
 District of Summerland (Recreation)  
 District of Summerland (Transit)  
 District of Summerland (Planning)  
 Urban Systems

#### Item Discussion

#### Action By

##### 1.0 Introductions

##### 2.0 Project Overview

- Brian Patterson provided an overview of the purpose of today's meeting, the purpose of the project, the study process, and the objectives of each Master Plan

##### 3.0 Engagement and Your Role

- Brian Patterson provided an overview of the engagement process and the role of stakeholders

##### 4.0 Cycling, Sidewalks and Trails in Summerland Land Today

##### 4.1 What do you like MOST

Participants were asked what they like most about cycling, walking and trails in Summerland – and why?

- We live in a very beautiful place. Most of us chose to live here because of that.
- Opportunity to get out and enjoy it.
- There is always green space to look at.
- The ease of getting to very different ecosystems, although there is room for improvement.
- Things are located close together, but they are disconnected.
- Wayfinding is a big piece, particularly for on-street to off-street connections.
- How to make it the 'easy' choice. Needs to be well-mapped and signed.
- Regional connections to Penticton. Penticton has a continuity of trails.
- The vision of the Rotary Club is that one day there will be a trail from Penticton to Summerland. We need to set ourselves up to make that happen. We have a starting point to trails. We could build on this with a central hub for cycling as a starting point for arrivals for people to explore. Merchants will benefit from this and people will enjoy the experience.
- Wineries and beaches.
- Opportunity for a bike parking program throughout the downtown that reflects how cyclists use destinations downtown.
- Memorial Park is an important hub and destination with maps, bathrooms, benches.
- Opportunity for a Summerland interactive map that could provide a self-guided tour of the active transportation system.
- Opportunity for smartphone apps.
- Print out maps are available in the park.
- The downtown core is dense and walkable, but the rural area is very spread out, and beyond that, there is a lot of green space beyond. Opportunity to link these together.
- Tourist potential.
- Bicycle racks at schools.
- There are a lot more trail opportunities.
- Amazing terrain.
- Amazing views.
- The fact that the trails exist is what we love the most. Just need to work to be connected.

- Beautiful creeks.
- Great topography between Upper Town and Lower Town.
- People can access multiple areas on trails.
- Possibility of creating cycling mecca where you can ride all the way to Meadow Valley.

#### **4.2 What do you like LEAST**

Participants were asked what they like least about cycling, walking and trails in Summerland – and why?

- Roundabout usage.
- Not an easy community to navigate due to the layout, including three separate industrial parks.
- Within the downtown core, all three schools are within walking distance to the arena and aquatic centre, but there are gaps in the sidewalk network which present safety concerns.
- We need sidewalks.
- Upgrades to Garnet Valley Road include a bike path and sidewalk. Bicycle traffic is high on Sundays.
- Concerns over safety of students and others walking on the road.
- Lack of signage and maintenance on trails.
- Trails end on the road with no infrastructure.
- Sidewalk obstructions such as fire hydrants.
- Trout Creek – the biggest issue is the hill. E-bikes are a great opportunity and can be a starting point for many cyclists.
- Opportunity to advise users on the difficulty of trails.
- Some of the most interesting roads to ride on are also the narrowest and most dangerous such as Giants Head Road.
- It was noted there is no road classification of Transportation Master Plan and no cross-sections or standards for developers which has led to ad hoc standards with development.
- Need to focus on implementation.

#### **4.3 Relevant Plans and Policies**

- 2016 Cultural Plan identifies the need for a link between public art, garden spaces, etc to connections with active transportation

#### **4.4 Cycling**

- Brian Patterson presented an overview of existing conditions for cycling.
- Key cycling destinations include:
  - Peach Orchard Park
  - Crescent Beach

- Antler Park
- The four schools
- Rodeo Grounds, the trailhead of Fyfe Road
- Deer Ridge
- Cartwright Mountain
- Test of Humanity trails
- The trestle bridge and Summerland Sweets
- Wineries
- Dale Meadows Park with ballfields
- The 10 km loop around Giants Head Mountain
- Lakeshore Drive
- Downtown
- Golf course
- Cycling loops – wayfinding will be important

#### 4.5 Sidewalks

- Sarah Freigang presented an overview of existing conditions for walking.
- Key issues and opportunities include:
  - Memorial Park – major sidewalk gap on Wharton Street. This is only one block from Main Street downtown. Wharton Street was originally developed as a lane.
  - Prairie Valley Road – sidewalk stops, sightline issues, and only a pathway on one side
  - Jubilee Road – sidewalk only on one side. Children walk on shoulders.
  - Peach Orchard Road – steep, sidewalks not provided on both sides.
  - There is no simple way to walk from Lower Town to Upper Town
  - Victoria Road – missing sidewalks
  - Areas lacking infrastructure are often due to topography, erosion of the soft, silty lands. The District needs properly engineered solutions for this very sensitive landscape.
  - Lakeshore Drive multi-use pathway leads pedestrians to Trout Creek where there are no sidewalks which present safety issues. The pathway doesn't go anywhere. Lakeshore Drive should be like the Seawall in Vancouver.
  - Solly Road – one of the scariest roads to walk on. People have taken over easements.

#### 4.6 Trails

- Andrew Cuthbert presented an overview of existing conditions for trails.
- Key issues and opportunities include:
  - Centennial Trail was closed due to flooding and has not been renewed.
  - Schools – children aren't using trails much to get to schools, but they often use Centennial Trail to Peach Orchard Beach.
  - Mount Conkell and Trail of Humanity are the key mountain bike trails.
  - Maintenance and user conflict are two interrelated and connected issues.
  - Equestrians use Cartwright Mountain.
  - There is untapped potential on the backside of Cartwright Mountain. Lots of opportunities for more multi-use pathways.
  - Look to others for best practice an example being the Shuswap Trail Marker Plan.
  - People care deeply about environmental issues.
  - One of the biggest conflicts is motorized vs non-motorized use. For example, families may not use a given pathway if they know if it motorized.
  - The Trans Canada Trail group has disbanded.
  - Every user group should have space, with signage. No single trail user group is more important than any other.
  - Create a route to Penticton past the trestle through PIB.
  - Opportunities to connect to Penticton via waterfront route or inland route. The railway is the preference because it is largely already in place and has gentle grades. 14km to Penticton.

#### 5.0 Next Steps and Closing

The preceding is the writer's interpretation of the proceedings and any discrepancies and/or omissions should be reported to the writer.

##### **URBAN SYSTEMS LTD.**

Brian Patterson  
Transportation Planner

/bp

## Evening Session

Subject:	District of Summerland – Cycling, Trails and Sidewalk Master Plans Stakeholder Meeting Round #1 – Community Groups (Trail Users & Cycling Groups, Parks & Environmental Groups)
Date:	October 19, 2018
Meeting Date:	October 18, 2018
Location:	Summerland Arena Banquet Hall
File:	0872.0069.01
Prepared By:	Brian Patterson
Distribution:	All

### Company

South Okanagan Dirt Bike Club  
 Summerland Environmental Science Group  
 Summerland Sportsman Association  
 Summerland Rodeo Grounds Equine Development Committee  
 South Okanagan Similkameen Conservation Program  
 Summerland Trail Users (FB grp)  
 Summerland Middle School  
 Penticton & Area Cycling Association  
 Test of Humanity  
 Rotary / Trail of the Okanagans Society  
 South Okanagan Trail Alliance  
 District of Summerland (Planning)  
 District of Summerland (Parks & Rec)  
 Urban Systems

### Item Discussion

### Action By

#### 1.0 Introductions

#### 2.0 Project Overview

- Brian Patterson provided an overview of the purpose of today's meeting, the purpose of the project, the study process, and the objectives of each Master Plan.

#### 3.0 Engagement and Your Role



- Brian Patterson provided an overview of the engagement process and the role of stakeholders.
- It was noted that the survey did not include questions for equestrian use and that this should have been included. The survey did include opprounities to provide comments on user conflicts.

#### **4.0 Cycling, Sidewalks and Trails in Summerland Land Today**

##### **4.1 *What do you like MOST***

Participants were asked what they like most about cycling, walking and trails in Summerland – and why?

- Easy proximity to things
- Close to town
- Lots of trail options – you can often choose between Option A and Option B
- Vistas
- Low level for snow lines
- A variety of trails for different skill levels
- Quiet
- Ease of access – easy to get places quickly
- Clean and free of garbage
- Lots of bike trails
- High value on viewsapes and nature
- A spectacular variety and rate and unusual species and ecosystems.
- Wineries
- Fruit stands
- People are friendly and happy on the trails
- Not a lot of other people on the trails
- Trail etiquette is important and generally quite good

#### 4.2 ***What do you like LEAST***

Participants were asked what they like least about cycling, walking and trails in Summerland – and why?

- Road cycling is not very comfortable for women
- Parking is an issue
- No established staging areas
- No washrooms
- Although there are a lot of trails, many have been developed illegally, which has led to erosion. This is a concern for horses.
- Lack of signage.
- Erosion results in weeds.
- Jurisdictional issues, particularly where trails cross private lands. There is a need to acknowledge whose jurisdiction you are on.
- Need more enforcement.
- Road conditions are poor.
- Happy Valley Road descent into Trout Creek
- Lack of access on Rattlesnake Mountain.
- Perception that the area available for trails is shrinking and under threat, while at the same time usage is increasing, which is leading to crowding issues and conflicts.
- Limited space is available for trails, which limits the possibilities, and increases the use of existing trails, leading to overuse.
- Include a serious and honest critique on existing urban and inter-urban cycling infrastructure in and near Summerland. It should include examples, risks etc. Where are we now?

#### 4.6 ***Issues and Opportunities for Walking, Cycling and Trails***

Key issues and opportunities include:

- Closures of motorized trails at certain times of the year for wildlife.
- KVR is designated as non-motorized but gets motorized used.
- Giants Head is traditionally used by mountain bikes.
- Little Giants Head is non-motorized but receives motorized use.

- Neighbourhood perspectives are important to consider, such as safety concerns, strangers in the neighbourhood, and parking impacts.
- It is important to consider urban and inter-urban cycling infrastructure. There is a desire to see the Plan expand on how cycling infrastructure is important for communities. Provide examples.
- If the Cycling Plan includes recommendations for developments in cycling infrastructure anywhere, it must include cost-benefit analysis. A cost benefit analysis will allow Summerland and its Council to make better allocation of scarce resources – and in some cases investments that will provide economic returns and growth in our community.
- The resulting Plan's should NOT be locked down into a rigid 10-year plan as is the RDOS Trails Master Plan. A locked down plan time frame can be dysfunctional if used to fend off new ideas and innovation or to meet new standards in adjoining areas.
- Summerland is a bedroom community, with challenging topography and conditions that are not the same as Vancouver Island which makes year-round cycling challenging (comment made about mode share comparison).
- A major portion of Cartwright Mountain is private land. How do we address this, particularly when there are gaps separated by private land? Need to show ownership on maps.
- Need education on what you can and can't do on trails.
- It was noted that Recreation Sites and Trails BC could help facilitate recreation on Crown land (Grounds can work towards a Section 57).
- There was recognition of the potential to work towards the legal authorization or establishment of trails through RSTBC with a Section 57 authorization for some areas on Conkle Mountain
- Test of Humanity is largely located in private land, and future viability may be impacted by development.

- Opportunities on the back side of Cartwright Mountain. Ownership is unclear and is a patchwork.
- If the community loses the trails on Cartwright Mountain to development, we should think about how this will be replaced, so we do not displace existing users. Need to be proactive. This could include Crown land outside of Summerland.
- Trail improvements need to consider overlay of jurisdiction and environmental layers on mapping.
- Neighbourhood planning can be a useful process to outline aspirations for future trails which can help preserve them.
- Bringing various users together is very important to build a shared understanding that all of these users' value and love the trails. We all want to use them, but need to understand how to maintain them, ensure access to all, and reduce conflicts.
- Environmental values need to be considered. In 1985 the first Provincial State of the Environment report was produced which stated there are no impacts from recreation. However, there is a need to understand the environmental implications of trail use. When a trail is built, it damages the environment, which leads to reduce the environmental value, which means there are no environmental values remaining to be preserved from development.
- Need to all understand each other's interests.
- Need to minimize environmental impacts for all trails, not just new trails.
- Consider the effects of trails on tourism. There are huge opportunities to connect the three mountains.
- No signage or wayfinding info is available. People must rely on Trailforks.
- Equestrians must be considered. Equestrians use most areas. Conkle Mountain is frequently used, and this has been used for decades by equestrians.
- Conflicts between users and harassment of wildlife is an issue, particularly with off-leash dogs. This is a chargeable offence under the BC Wildlife Act.

- Giants Head has more walking than cycling.
- Consider signage to clarify right-of-way and priority of different users. An example from Campbell Valley in Langley was cited.
- Road cyclists would locate to have a road connection to Peachland that is not on the Highway.
- If we build bike lanes, need to do them well. Paint doesn't work, especially when trying to attract women. Physical separation is required, like what was done on a portion of Prairie Valley Road.
- Opportunity to connect downtown with the Summerland trestle via Victoria Avenue.
- Complete a circular segregated pathway around Giants Head using Giants Head Road and South Victoria Road. The sidewalk options on South Victoria disappear well before Simpson Road. This absolutely should be addressed for risk, connections to the Great Trail and for a safe recreational loop.
- Segregated cycling routes will not be subject to the degradation of roads and the wear and tear caused by all types of vehicles.
- Protect our cycling route successes.
- Need basic design standards for cycling.
- Garnet Valley Road has curves and sightline issues. Drivers cut corners.
- Significant economic opportunities to link all trails and bring people into the community.
- Several existing roads are in poor condition, including sweeping.
- Many bike lanes are treated as parking lanes. North Victoria and Prairie Valley Road.
- Connection between Prairie Valley and Jubilee on Sinclair. Sinclair is a raceway; there are no sidewalks. Traffic calming is needed. Priority for sidewalks.
- Area in front of arena is a sidewalk priority.
- Summerland should develop a working relationship with Penticton, Peachland and the RDOS to develop and maintain

cycling infrastructure. Maintain and continue conversations such as these after the plan is complete.

## 5.0 Next Steps and Closing

The preceding is the writer's interpretation of the proceedings, and any discrepancies and/or omissions should be reported to the writer.

**URBAN SYSTEMS LTD.**

Brian Patterson

Transportation Planner

/bp

## 7 Stakeholder Meeting #2

Subject:	District of Summerland – Cycling, Trails and Sidewalk Master Plans
Date:	December 6, 2018
Meeting Date:	November 29, 2018
Location:	Summerland Arena Banquet Hall
File:	0872.0069.01
Prepared By:	Sarah Freigang
Distribution	All

### Company

Test of Humanity  
 Interior Health  
 Summerland Trail Users (FB grp)  
 Penticton & Area Cycling Association  
 Summerland Middle School  
 Summerland Environmental Science Group  
 South Okanagan Similkameen Conservation Program  
 Summerland Rodeo Grounds Equine Development Committee  
 Penticton & Area Cycling Association  
 Summerland Dog Owners Association  
 Parks and Recreation Commission  
 Rotary / Trail of the Okanagan Society  
 District of Summerland  
 Urban Systems

### Item Discussion

### Action By

#### 1.0 Introductions

#### 2.0 Project Update

- Brian Patterson provided an update of the project process, the purpose of today's meeting and the public engagement done to date.
- There was a question as to whether the maps will be online. It was confirmed that maps will be posted on the project webpage along with the display boards and the survey.

#### 3.0 Vision and Goals

- Brian Patterson presented the proposed shared vision for the Cycling, Trails and Sidewalk Master Plans and the goals for each of the three plans.

#### 4.0 Draft Plan Overview – Cycling Master Plan

- Sarah Freigang presented the draft themes and actions of the Cycling Master Plan.
- There was a question about whether cycling infrastructure will be considered with new and redesigned roads proactively? It was confirmed that the action “seek opportunities to implement bicycle infrastructure in conjunction with other capital projects, plans or developments” is intended to reflect this.
- There was a comment about cyclists on sidewalks as well as mixing cyclists with dog walkers.
- There was support for the action related to the development of an Active Transportation Advisory Committee. Embedding stakeholder input on the design process and obtaining their input on design concepts would be valuable.
- There was a question as to whether skateboarding would be included. There is a new skate park being build and need to ensure there are connections to the skate park.

#### 5.0 Draft Plan Overview – Sidewalk Master Plan

- Brian Patterson presented the draft themes and actions of the Sidewalk Master Plan.
- There was a question about electric scooters and their role within the plan. It was noted that Summerland is an aging community and that new technologies are considered in the plan.
- There was a comment about the demographics of the engagement to date, and consideration for whether children to school were adequately captured in the public engagement. This was noted in particular because the survey found that only 3% of walking trips were to commute to work or school, and perhaps adults were not thinking about travel patterns made by their children. There were also comments about the social media coverage of the first round of engagement and whether all user groups were aware of the survey.
- There was a question as to why there was no theme on education and awareness for walking.
  - The Sidewalk Master Plan has more of a focus on infrastructure as per the Terms of Reference.
  - There will be discussion about sidewalk cycling, education and safe routes to school work in the Cycling Master Plan.

DoS to ensure the next survey is distributed to various user groups, including sending a survey link to schools



- May want to consider amenities in the public realm for people walking.
- There was a question whether the plan considers the need for sidewalks around schools.
  - The proposed sidewalk network focuses on filling gaps in the sidewalk network around schools and proximity to schools will be a factor that influences implementation prioritization.
  - It was felt that students were not engaged through the plan – representatives from schools were included in the stakeholder group and attended the meetings.
  - A recommendation from the Cycling Master Plan is to consider a safe and active routes to school initiative which would include working directly with schools to identify opportunities and challenges to promoting more walking and cycling.
- There was a question if the plan would provide recommendations for lighting.
  - The plan currently does not consider lighting.

#### 6.0 Draft Plan Overview – Trails Master Plan

- Andrew Cuthbert presented the draft themes and actions of the Trails Master Plan.
- There was a question about how trails for decommissioning will be identified. It was noted that the plan will not identify specific trails, but instead will outline a process that involves discussion and partnerships amongst various interested groups.
- It was noted that the existing trail inventory map presented does not include trails on Little Giant’s Head.
  - Those trails are not show because they are currently not authorized by the District. Unauthorized trails would need to be reviewed through a separate process.
- It was noted that the District currently has a ‘donate a bench’ program.
- There was a question about whether Little Giants Head was zoned park or not and if it was being shown currently on maps.
  - A review of the District data bases revealed that it was being shown correctly on maps and that much of Little Giants Head is zoned as park.

Stakeholders felt this issue requires further discussion

- It was noted that invasive plant management should be a component of the trail's maintenance theme.
- There was some discussion on the appropriateness of electric mountain bikes being used on trails. This included the impact of e-mountain bikes on the trail maintenance and the impact on other users. There was some discussion on limiting the wattage that is permitted on certain trails and questions regarding how this could be enforced. It was suggested that this topic may need more discussion and a separate study.
- There was some discussion on the recommendations for other motorized users. Noting that the goals of the plans focus on active forms of transportation. There was some question to the appropriateness of providing staging areas for ATVs etc. Some stakeholders felt this needs to be explicitly addressed in the plan.

Stakeholders felt this issue requires further discussion

#### 5.0 Review Proposed Networks

- Maps of the proposed cycling, trails and sidewalk network were available for viewing at the end of the meeting. The group was advised that the proposed networks would also be available for viewing and feedback at the public event the following week on December 6.

The preceding is the writer's interpretation of the proceedings and any discrepancies and/or omissions should be reported to the writer.

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# APPENDIX C

## Bicycle Facility Design Guide

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## 1.0 Introduction

The purpose of these design guidelines is to supplement the Cycling Master Plan and provide guidance to the District for selecting and designing future bicycle facilities. The guidelines include a bicycle facility selection tool as well as guidance on the recommended widths, signage, and pavement markings for a range of cycling facilities.

This document has been developed to reflect best practices in bicycle infrastructure design. The Transportation Association of Canada's (TAC) recent update to the Geometric Design Guidelines for Canadian Roads provides extensive guidance on designing cycling facilities. Many of the references made in this tool for Summerland come from the TAC guide. In addition, documents including the Draft Alberta Bicycle Facilities Design Guide, NACTO Bikeways Design Guide, MASSDot Separated Bike Lane Planning & Design Guide and others have been reviewed.

## 2.0 Planning and Considerations

### 2.1 Design Domain

The TAC Geometric Design Guide for Canadian Roads has introduced the concept of Design Domain. The TAC Geometric Design Guide for Canadian Roads includes four levels within the Design Domain: Practical Lower Limit, Recommended Lower Limit, Recommended Higher Limit, and Practical Upper Limit. These levels will be used for these guidelines.

This range has a relationship with the fitness-for-purpose of the design element. Choosing values at the lower end may be less costly to construct, while choosing values at the upper end may be more costly to construct or not feasible based on 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**).

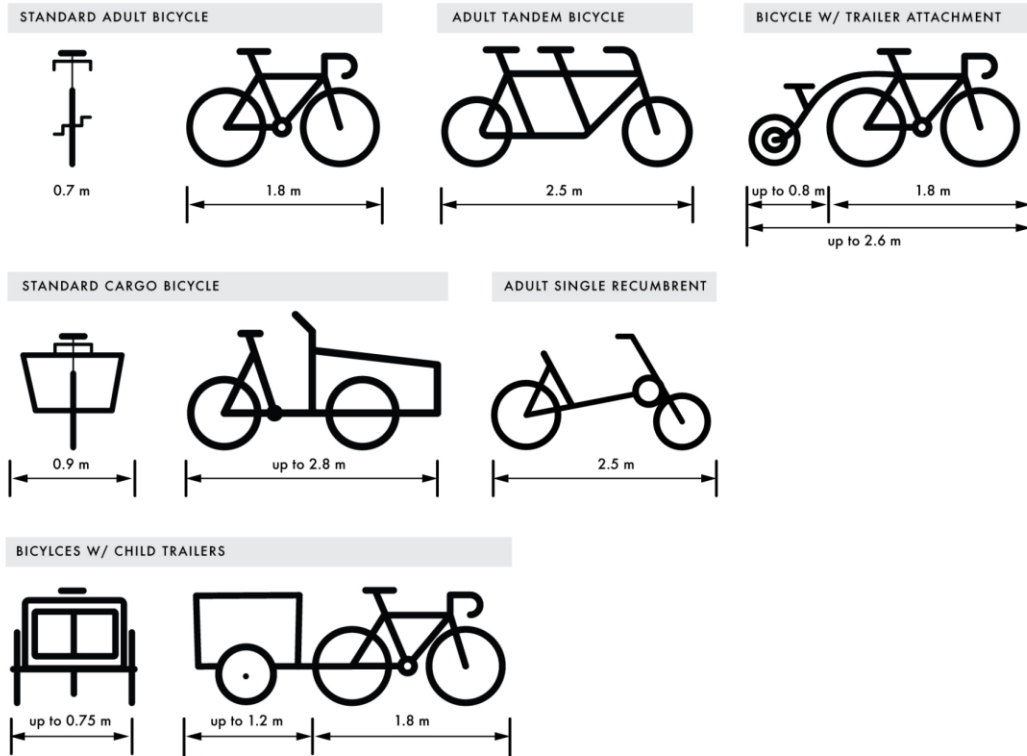


Figure 1: Typical Dimensions of Various Types of Bicycles (Source: Draft Alberta Bicycle Facilities Design Guide)

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 the majority of 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.

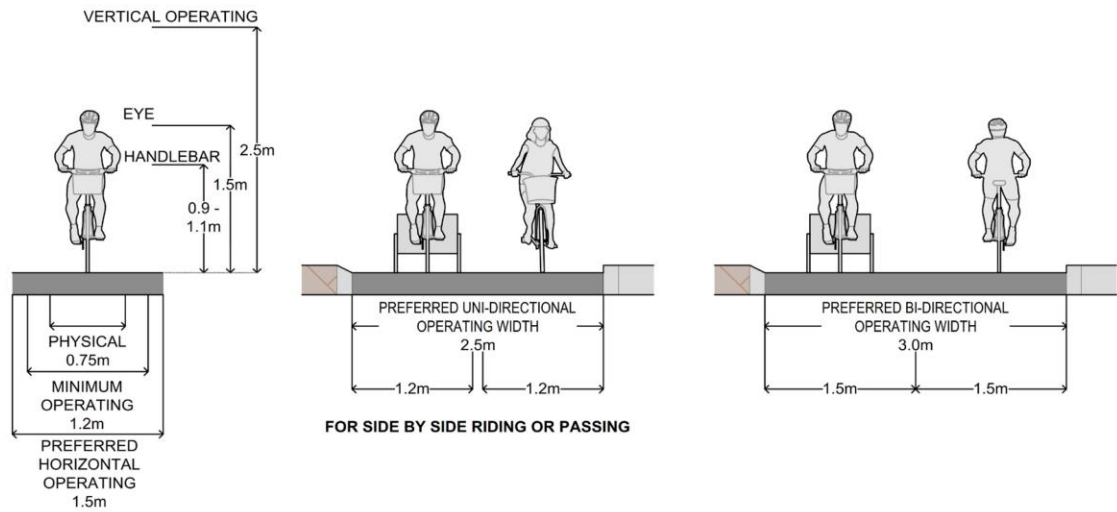


Figure 2. Bicyclist(s) Operating Space (Source: Draft Alberta Bicycle Facilities Design Guide)

## 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

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 the TAC guidelines titled *“Geometric Design Guide for Canadian Roads: Chapter-5 Bicycle Integrated Design”*



A simple facility selection tool can be seen in **Figure 3**. This graphic was created based on the recommendations provided in the 2017 TAC Geometric Design Guide. This tool can be used to select cycling facility type based off both the speed and the volume of the roadway.

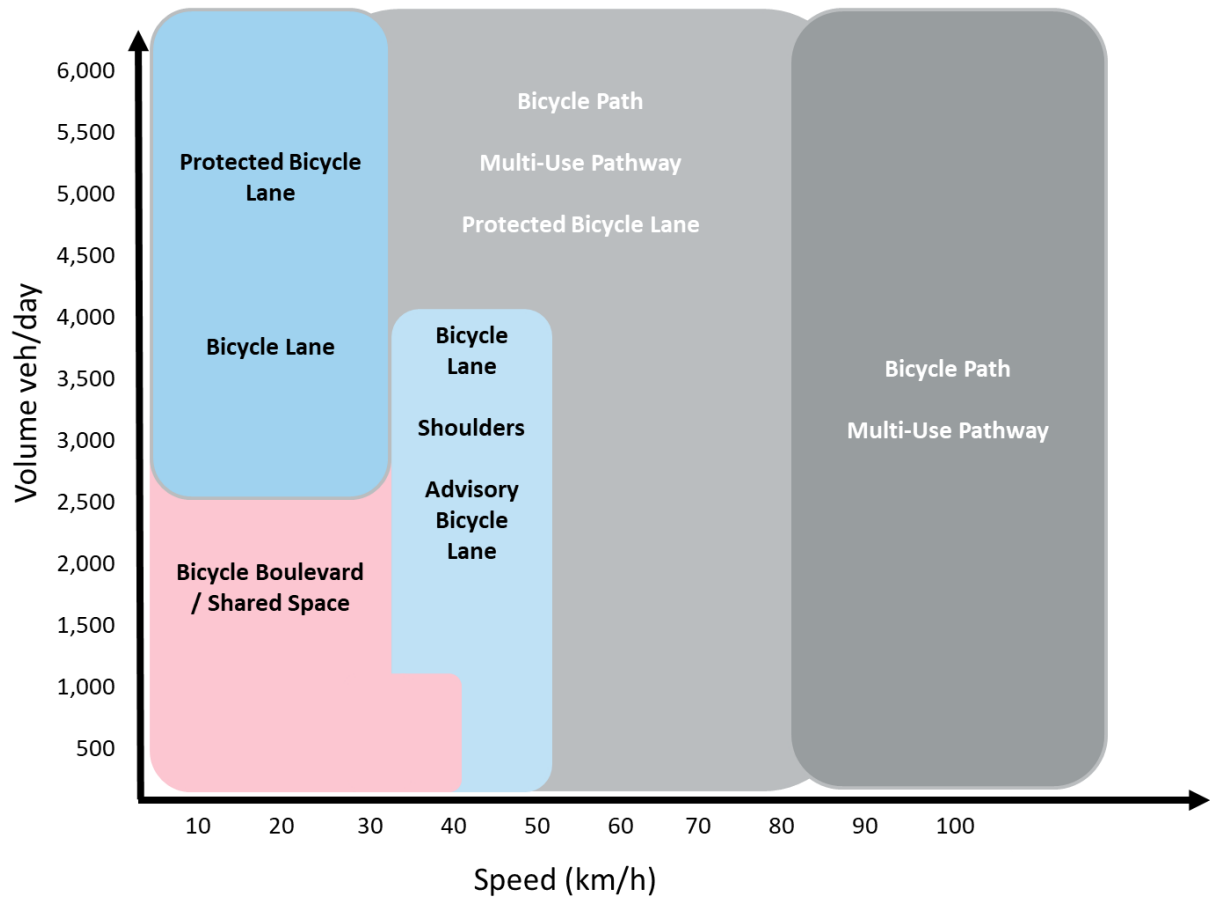


Figure 3. Bikeway Facility Selection (Source Material: TAC, 2017)

## 2.5 Facility Grade

In general, the preferred grade for any bicycle facility is less than 5%. However, providing bicycle facilities on roads and off-street pathways with 5-8% grades may be necessary, especially if the facility is going to provide connections to key destinations and will connect the bicycle network overall. In such cases, additional safety measures such as a wider buffer or bicycle facility may be required.

Where possible, signage indicating alternate routes that may be more circuitous but less steep should be considered. For road user safety, bicycle facilities should not be placed on corridors with greater than 8% for a distance longer than 100 metres. However, if there is no alternate route available and if it is an uphill bicycle facility, the bicycle facility provided should separate bicyclists from motorists (due to the larger speed differential between the two user types). A shared use lane can be used for the downhill travel lane if the roadway

width is constrained and there is only enough space for one dedicated facility. If these criteria cannot be met and grades are greater than 8% then careful consideration of the feasibility and safety of installing any type of bicycle facility on a given street should be considered and analyzed by District staff based on the neighbourhood context, the specific corridor design and should consider the impact on all road users.

### 3.0 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 included in the Cycling Master Plan. The Summerland Cycling Master Plan identifies a proposed cycling network that is made up of Primary On-Street Routes, Off-Street Pathways, and Secondary Routes. The facility types identified for the Primary Routes are more comfortable for all ages and abilities, while the Secondary Routes provide connections more experienced cyclists. The infrastructure type design guidance provided below has been grouped based on these categories.

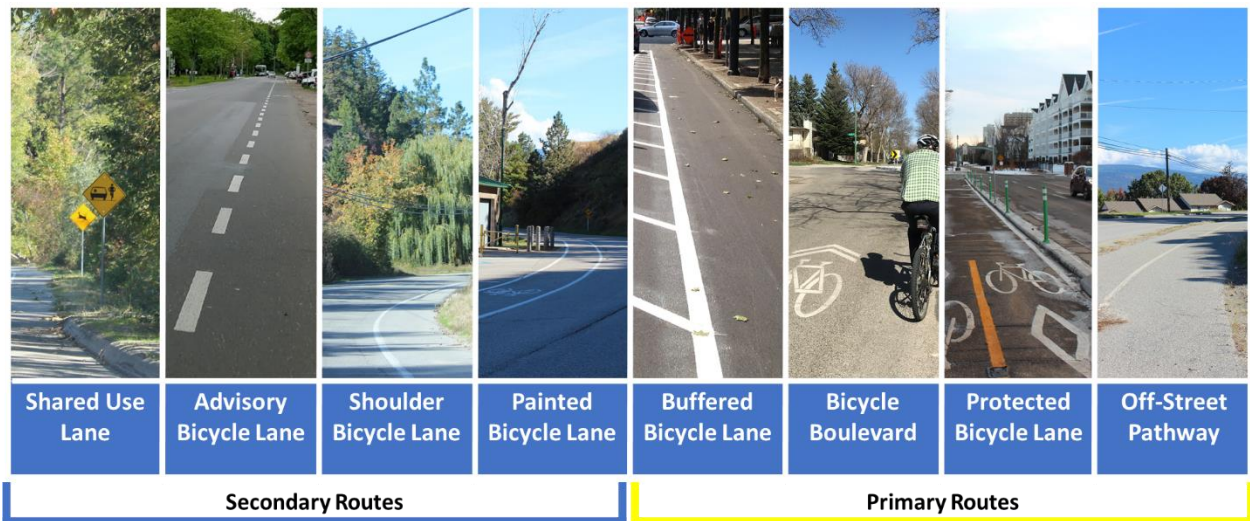


Figure 4. Bicycle Infrastructure Type by Level of Comfort

## Off-Street Pathways

### 3.1 Off-Street Pathways

Off-street pathways (also referred to as 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 an off-street pathway can be seen in **Figure 5**. Off-street 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 TAC

Geometric 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.



Figure 5. Off-Street Pathway

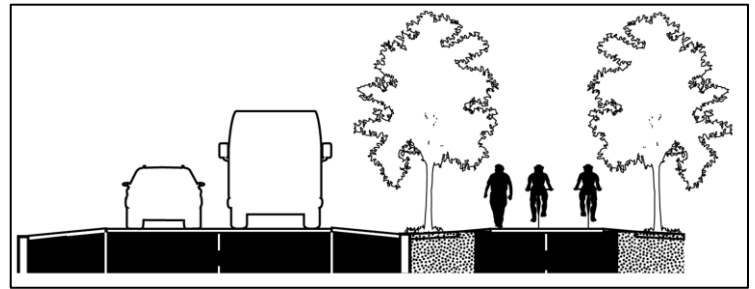


Figure 6. Off-Street Pathway Cross Section (Source: TAC, 2017)

### 3.1.1 Width

Shared off-street pathways are recommended to be built between 3.0 metres and 6.0 metres wide. An off-street 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 1** shows the design domain widths recommended by TAC. Further information on considerations for the design width of off-street pathways can be found in the 2017 TAC Geometric Design Guide.

Table 1. Off-Street Pathways Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
Width (m), shared multi-use path	2.7	3.0	6.0	6.0

Special considerations need to be made when designing a off-street pathway within a highway right-of-way. When a of-street 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 off-street pathway must be located within the highway clear zone, it should be separated by a physical barrier from the roadway. See the TAC Geometric Design Guide for further guidance.

### 3.1.2 Signage

Along shared off-street 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).

A complete signage inventory is found in **Section 4**.

### 3.1.3 Pavement Markings

General off-street pathway stencils should be used at trail entrances and after any intersections and conflict points. Additionally, stencils may be placed every 100 to 200 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 off-street pathways 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 off-street pathway at locations such as trail access points and at intersections. It is also recommended at locations where the off-street pathway experiences high bidirectional volumes.

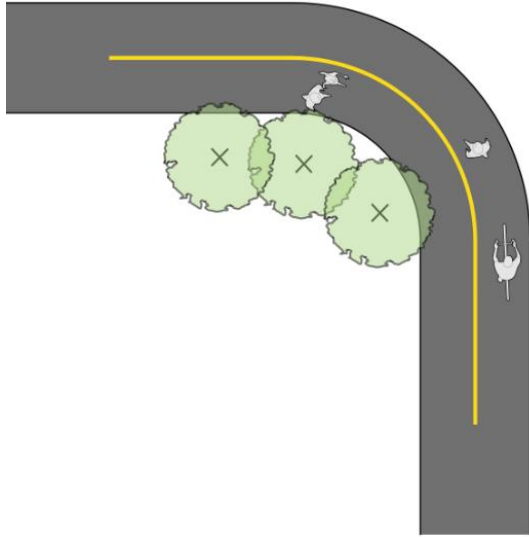


Figure 7. Centreline Striping for Limited Visibility (Source: Urban Systems)

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

### 3.2 Off-Street Bike Paths

Similar to off-street 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. Off-Street Bike Path

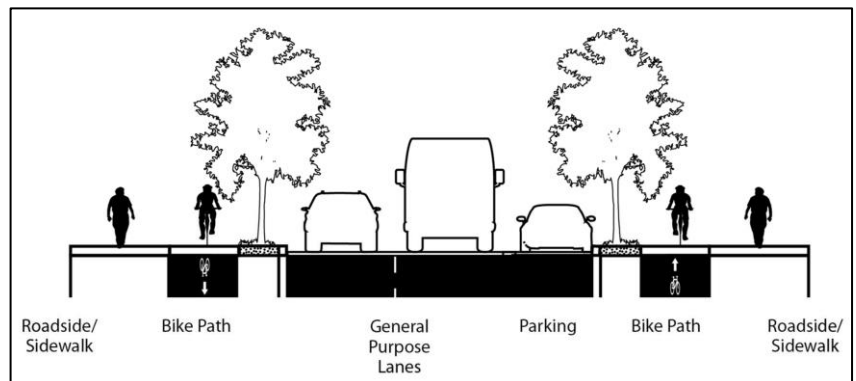


Figure 9. Off-Street Bike Paths Cross Section (Source: TAC, 2017)

### 3.2.1 Width

Unidirectional bike paths are recommended to be built between 1.8 metres and 2.5 metres wide. Bidirectional bike paths are recommended to be built between 3.0 metres and 3.6 metres wide. **Table 2** shows the design domain widths recommended by TAC. Further information on considerations for the design width of bike paths can be found in the 2017 TAC Geometric Design Guide.

Table 2. Bike Path Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
Width (m), bike path, unidirectional	1.5	1.8	2.5	3.0
Width (m), bike path, bidirectional	2.4	3.0	3.6	4.0

### 3.2.2 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 where motorists are required to cross a bike path.

A complete signage inventory is found in **Section 4**.

### 3.2.3 Pavement Markings

An elongated bicycle symbol with an accompanying diamond symbol (**Figure 10**) 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 200 metres for blocks longer than 400 metres.

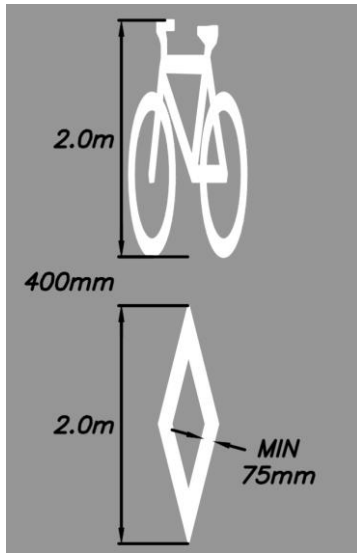


Figure 10. Dedicated Bicycle Lane Symbol (Source: Draft Alberta Bicycle Facility Design Guidelines)

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. It is recommended that the District of Summerland should follow the TAC guidelines for pavement markings and placement identified in Section 7.0 of the 2012 Bikeway Traffic Guidelines for Canada.

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



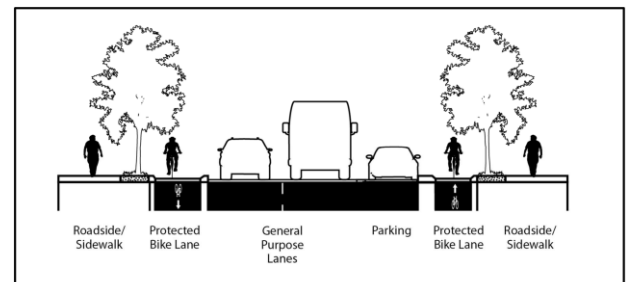
## Primary On-Street Facilities

### 3.3 Protected Bicycle Lanes

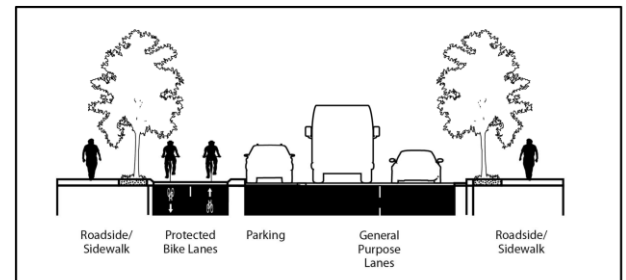
A protected bicycle lane, also known as a 'cycle track' or 'separated bicycle lane', is an exclusive bicycle facility that combines the user experience of a bike path with the on-street infrastructure of a conventional bicycle lane. Protected bicycle lanes come in different forms, but all share the common 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. In addition to the TAC documents, further design guidance specific to protected bicycle lanes can be found in the MassDOT Separated Bike Lane Planning and Design Guide.



Figure 11. Bidirectional Protected Bicycle Lane



(A) Unidirectional Protected Bike Lane



(B) Bidirectional Protected Bike Lane

Figure 12. Protected Bicycle Lanes Cross Section (Source: TAC, 2017)

#### 3.3.1 Width

Similar to bike paths, protected bicycle lanes have recommended design domains for different configurations. **Table 3** 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 2.1 metres and 3.5 metres wide including the delineator component. Bidirectional protected bicycle lanes are recommended to be built between 3.3 metres and 4.6 metres wide including the delineator component. As noted in **Table 3** 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 5.3.1.2 of the 2017 TAC Geometric Design Guide.

Table 3. Protected Bicycle Lane Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
<b>Width (m), protected bike lane, unidirectional, including delineator</b>	1.8	2.1	3.5	5.0
<b>Width (m), bike lane component, unidirectional</b>	1.5	1.8	2.5	3.0
<b>Width (m), delineator component</b>	0.3 <sup>1</sup>	0.3 <sup>1</sup>	1.0	2.0
<b>Width (m), protected bike lane, bidirectional, including delineator</b>	2.7	3.3	4.6	6.0
<b>Width (m), bike lane component, bidirectional</b>	2.4	3.0	3.6	4.0
<b>Width (m), delineator component</b>	0.3 <sup>1</sup>	0.3 <sup>1</sup>	1.0	2.0

NOTE: <sup>1</sup> A minimum delineator width of 0.6 m is required when bike lanes are adjacent to motor vehicle parking

### 3.3.2 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 where motorists are required to cross a bike path. Further signage should follow the guidance in the MUTCD guidelines.

A complete signage inventory is found in **Section 4**.

### 3.3.3 Pavement Markings

An elongated bicycle symbol with an accompanying diamond symbol (**Figure 10**) should be installed in the protected bicycle lane 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 200 metres for blocks longer than 400 metres.

Pavement markings should be used at intersections to identify the intended crossing path of cyclists and to raise the awareness of motorists. A yellow centerline should be installed for bidirectional protected bicycle lanes in the 10 metres approaching all intersections as well as around curves with limited sightlines. It is recommended that the District of Summerland should follow the TAC guidelines for bicycle lane pavement markings and placement identified in Section 7.0 of the 2012 Bikeway Traffic Guidelines for Canada.

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 Bicycle Boulevards

Bicycle boulevards 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 13. Bicycle Boulevard

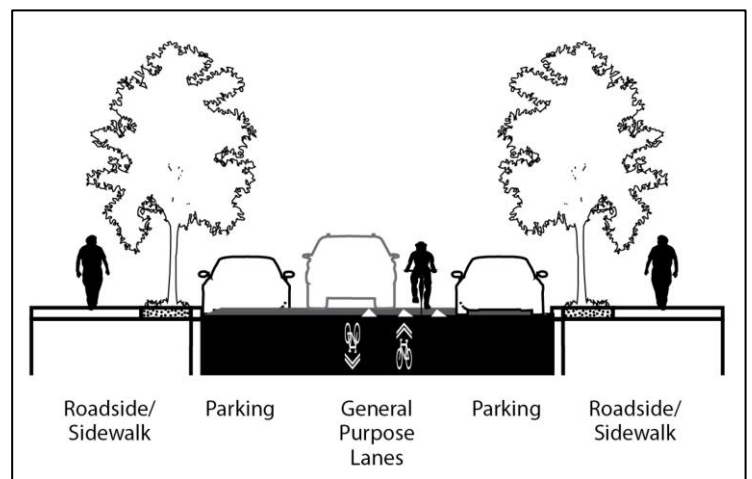


Figure 14. Bicycle Boulevard Cross Section (Source: TAC, 2017)

In cases where existing conditions on the local street have relatively low traffic volumes (<1,500 vehicles/day) and speeds ( $\leq 30$  km/h posted speed), the only improvements required may be signage and pavement markings to help identify the road as a bicycle route. In cases where a bicycle boulevard is desired on a local street, but the existing speed and / or volume exceeds the required 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 below:

- Bicycle boulevard – minimal treatments
  - Posted Speed:  $\leq 30$  km/h
  - Volumes: <1,500
- Bicycle boulevard – traffic calming
  - Posted Speed:  $\leq 50$  km/h
  - Volumes:  $\leq 2,500$

### 3.4.1 Width

The navigable width on bicycle boulevard is particularly important to ensure the comfort of people cycling along the route. A bicycle boulevard roadway clear width (excluding parking lanes) between 4.0 metres – 6.0 metres in width is most comfortable for cyclists using the route. Many of the local roads within the District fit into this range. However, if a neighbourhood bikeway is too narrow (less than 4 metres clear space), then there is insufficient space for bicycle and motor vehicles to comfortably share the road. If a neighbourhood bikeway is too wide (greater than 6 metres), it may encourage higher motor vehicle volumes and speeds. When roadways are wider than the recommended range curb extensions, parking bays, and additional landscaping can be used to make the road look and feel narrower.

### 3.4.2 Signage

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

A complete signage inventory is found in **Section 4**.

### 3.4.3 Pavement Markings

In addition to route signs, bicycle sharrow pavement markings (**Figure 15**) should be placed on the roadway to identify the route as a bicycle boulevard.

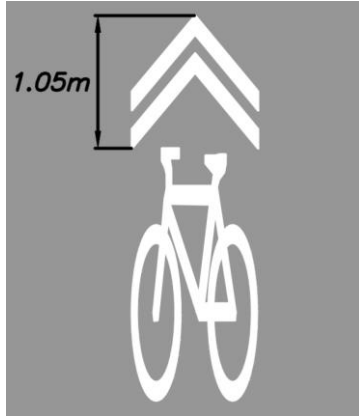


Figure 15. Sharrow Pavement Marking (Source: Draft Alberta Bicycle Facilities Design Guide)

### 3.4.4 Traffic Calming

Traffic calming measures consist of devices that provide either a horizontal or vertical deflection in order to reduce motor vehicle speeds and volumes and improve cycling safety. This category refers to measures that do not restrict motor vehicle access, but are effective in reducing speeds and volumes. Traffic calming measures should be considered on all bicycle boulevards 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 TAC Canadian Guide to Traffic Calming.

## 3.5 Buffered Bicycle Lanes

Buffered bicycle lanes are separate travel lanes designated for the exclusive use of bicycles with a painted buffer creating a safer and more comfortable cycling environment. 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.



Figure 16. Buffered Bicycle lane

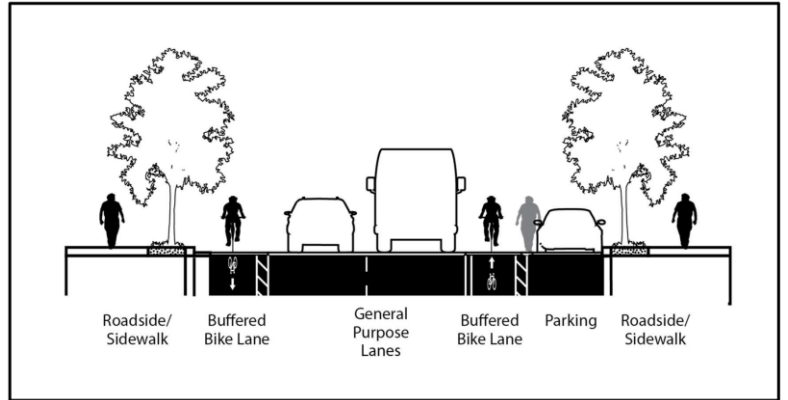


Figure 17. Buffered Bicycle Lane Cross Section (Source: TAC, 2017)

### 3.5.1 Width

Buffered bicycle lanes are recommended to be between 2.1 metres and 3.0 metres wide (including the buffer). This width accommodates a recommended bicycle lane width of 1.8 metres to 2.1 metres as well as a buffer 0.3 metres to 0.9 metres wide. Additionally, when the buffered bicycle lane is adjacent to parked vehicles a minimum buffer width of 0.6 metres is required to ensure space for motor vehicle doors to open while still allowing cyclists to pass unobstructed in the bicycle lane. In locations where a total width greater than 3.0 metres is available a protected bicycle lane is recommended.

Table 4. Buffered Bicycle Lane Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
<b>Width (m), buffered bike lane, including buffer</b>	1.8	2.1	3.0	3.5
<b>Width (m), bike lane component</b>	1.5	1.8	2.1	2.1
<b>Width (m), buffer pavement marking component</b>	0.3 <sup>1</sup>	0.3 <sup>1</sup>	0.9	1.4

Note 1: A minimum buffer width of 0.6 m is required when bike lanes are adjacent to motor vehicle parking.

### 3.5.2 Signage

Along buffered bicycle lanes Reserved Bicycle Lane signs (RB-91, RB-90) should be installed at a minimum of one sign between each intersection.

A signage inventory is found in **Section 4**.

### 3.5.3 Pavement Markings

Two solid white lines should be painted to delineate the edge of a travel lanes dedicated for bicycle use and motor vehicle use respectively. A solid white diagonal hatching 100mm wide should be used between the parallel white lines, as seen in **Figure 18**. When the buffer is less than 300mm wide the diagonal hatching may be omitted. At locations where motor vehicle traffic is allowed to cross into the buffered bicycle lane to access a bus stop, driveway, or at an intersection the buffer should be discontinued, and parallel dashed white lines should be used.

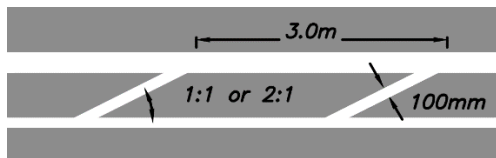


Figure 18. Buffered Hatching Pavement Markings (Source: Draft Alberta Bicycle Facilities Design Guide)

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 10**). Additional bicycle symbols and diamonds should be installed at a spacing of 200 metres for blocks longer than 400 metres

## Secondary Facilities

### 3.6 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.



Figure 19. Painted Bicycle Lane

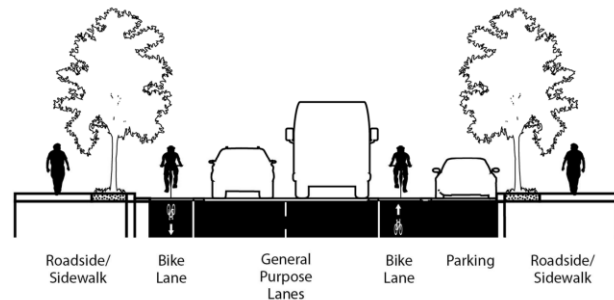


Figure 20. Painted Bicycle Lane Cross-Section

#### 3.6.1 Width

Painted bicycle lanes are recommended to be between 1.8 metres and 2.1 metres wide to accommodate single file bicycle travel and allow passing. Additionally, the painted bicycle lane width is recommended to be 2.1 metres when adjacent to parked vehicles to provide a 0.6 metre space for motor vehicle doors to open while still allowing cyclists to pass in the remaining 1.5 metres of unobstructed painted bike lane. According to the TAC 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 5. Painted Bicycle Lane Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
Width (m), unbuffered bike lane	1.5	1.8	2.1	2.1

### 3.6.2 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.

A signage inventory is found in **Section 4**.

### 3.6.3 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 10**). Additional bicycle symbols and diamonds should be installed at a spacing of 200 metres for blocks longer than 400 metres

## 3.7 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 21**. Typically shoulder bicycle lanes exist in cases where the roadway doesn't 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 21. Bicycle Accessible Shoulder

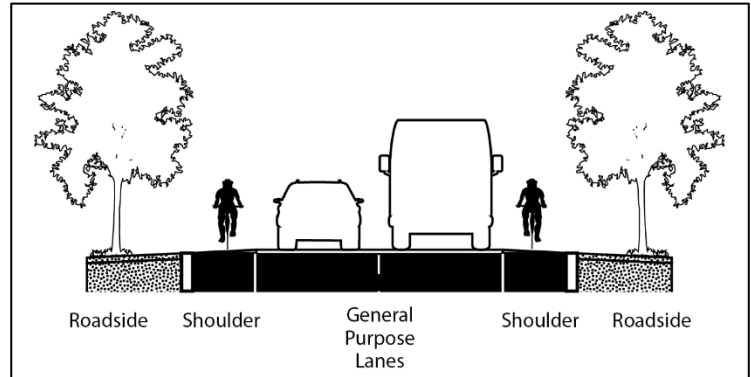


Figure 22. Shoulder Bicycle Lane Cross Section (Source: TAC, 2017)

### 3.7.1 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 TAC Geometric Design Guide for Canadian Roads are shown in **Table 6**.

Table 6. Shoulder Bicycle Lane Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
Width (m), bicycle accessible shoulder	1.5	1.8	3.0	3.0

### 3.7.2 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.

A signage inventory is found in **Section 4**.

### 3.7.3 Pavement Markings

A solid white line 200-400 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.

## 3.8 Shared Use Lanes

Shared use lanes involve the use of sharrow road markings to indicate a shared lane environment between bicycles and automobiles. Shared use lanes can be considered on streets with travel lanes that are wide enough for side-by-side bicycle and vehicle operation, but that are not wide enough to provide a standard bicycle lane. While shared use lanes are often designed for side-by-side operation to allow sufficient width for an automobile to safely overtake a bicycle without crossing over into the adjacent or oncoming motor vehicle traffic lane, this is not always the case. In some locations bicycle users and motor vehicles are required to ride single file. Many cyclists are not comfortable using shared use lanes, so it is beneficial to supplement shared use lanes with other parallel bicycle facilities more suitable to all cyclists.

Shared use lanes have similar sharrow pavement markings to bicycle boulevards but do not provide the same comfortable cycling environment. Bicycle boulevards are located on streets with low motor vehicle volumes and speeds, as opposed to designated shared use lanes, which are located on collector streets with higher traffic volumes and speeds as well as a painted centreline.



Figure 23. Shared Use Lane

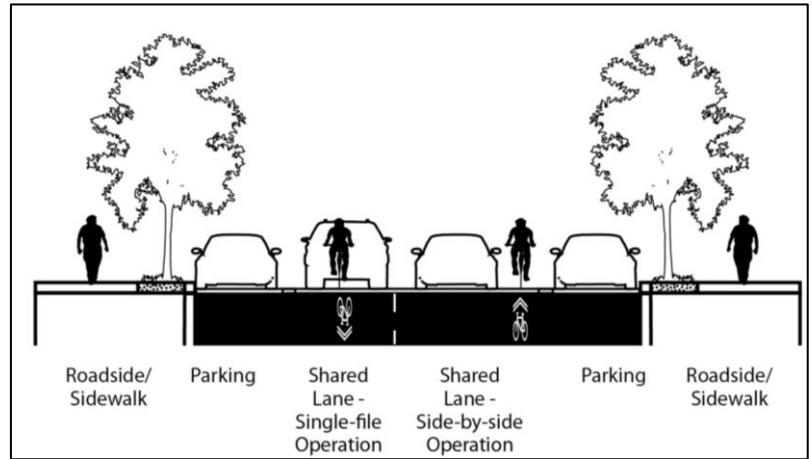


Figure 24. Shared Use Lane Cross Section (Source: TAC, 2017)

### 3.8.1 Width

Shared use lanes can be designed for side-by-side operation or single file operation depending on the width of the lane. Lanes that are between 4.3 metres and 4.9 metres should be designed for side-by-side operation, whereas lanes narrower than 4.3 metres should be designed for single-file operation as seen in **Figure 24**. The design domain widths recommended from the TAC Geometric Design Guide for Canadian Roads are seen in **Table 7**.

Table 7. Shared Use Lane Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
Width (m), shared lane, side-by-side operation (m)	4.3	4.3	4.9	4.9
Width (m), shared lane, single file operation (m)	Lane width	Lane width	4.0	4.3

### 3.8.2 Signage

Shared use lanes with side-by-side operations should have Share the Road Signs (WC-19) installed with a supplementary sign tab (WC-19S). For single file shared use lanes WC-20 signs with supplementary tab sign (WC-20S) should be installed.

A signage inventory is found in **Section 4**.

### 3.8.3 Pavement Markings

Shared use lanes are identified by a bicycle symbol with two chevron markings, also known as a sharrow (**Figure 15**). Sharrows should be installed every 75 metres along all shared use lanes, as well as immediately after an intersection and 10 metres before the end of a block.

### 3.9 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 25**)

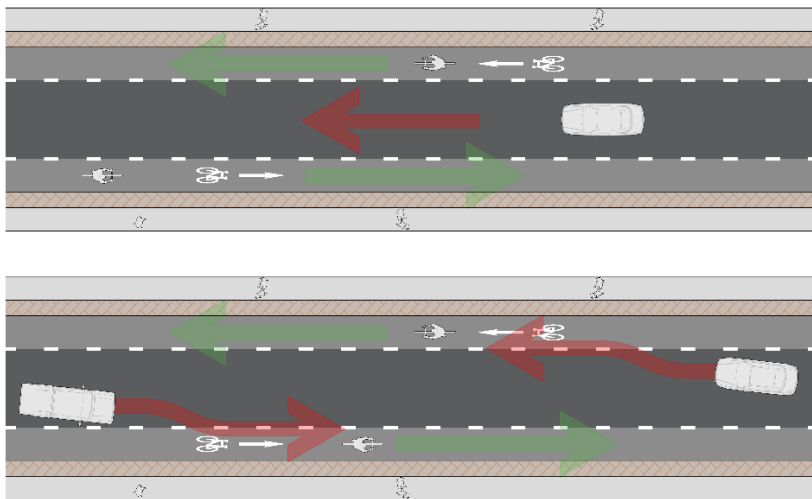


Figure 25. Advisory Bicycle Lane Operation (Source: Draft Alberta Bicycle Facilities Design Guide)

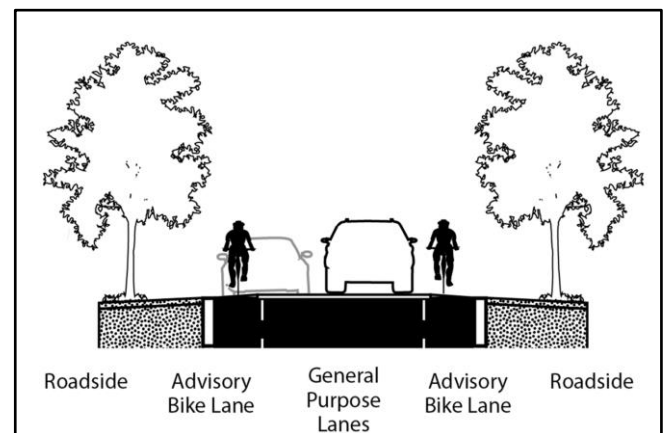


Figure 26. Advisory Bicycle Lanes Cross Section (Source: TAC, 2017)

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.

#### 3.9.1 Width

The recommended width of a roadway with advisory bicycle lanes is between 6.6 metres and 9.9 metres accommodating bicycle lanes between 1.8 metres and 2.1 metres. The design domain recommendations from the TAC Geometric Design Guide for Canadian Roads are found in **Table 8**.

Table 8. Advisory Bicycle Lanes Design Domain (Source: TAC, 2017)

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
Width (m), roadway with advisory bike lanes	6.0	6.6	9.9	11.1
Width (m), advisory bike lane component (one-way)	1.5	1.8	2.1	2.9
Width (m), two-way centre travel lane component, for use with advisory bike lanes on both sides	3.0	3.0	5.7	5.7

### 3.9.2 Signage

Providing signage along advisory bicycle lanes is important, as it is a relatively new and uncommon bicycle facility type in British Columbia. At the time of writing, TAC does not have a specific sign for advisory bicycle lanes. Custom signs have been used by jurisdictions to inform both cyclists and motorists how the advisory bicycle lane is intended to operate and can be found in the signage inventory in **Section 4**.

### 3.9.3 Pavement Markings

Advisory bicycle lanes are delineated by dashed white lines 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.

## 3.10 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.

### 3.10.1 Off-Street Pathways and Off-Street Bike Paths

Where off-street pathways and off-street bike paths meet intersections 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.

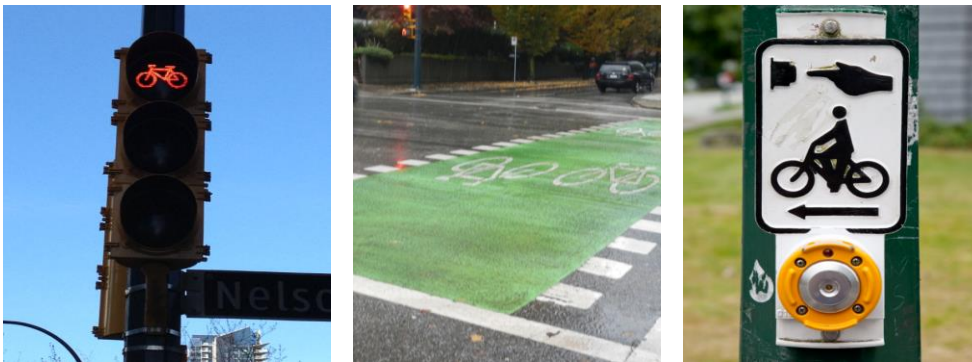


Figure 27: Example of Intersection Treatments for Bicycles

Design considerations should additionally 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 28**. 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 5.6.3 of the *2017 TAC Geometric Design Guide for Canadian Roads*.

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.



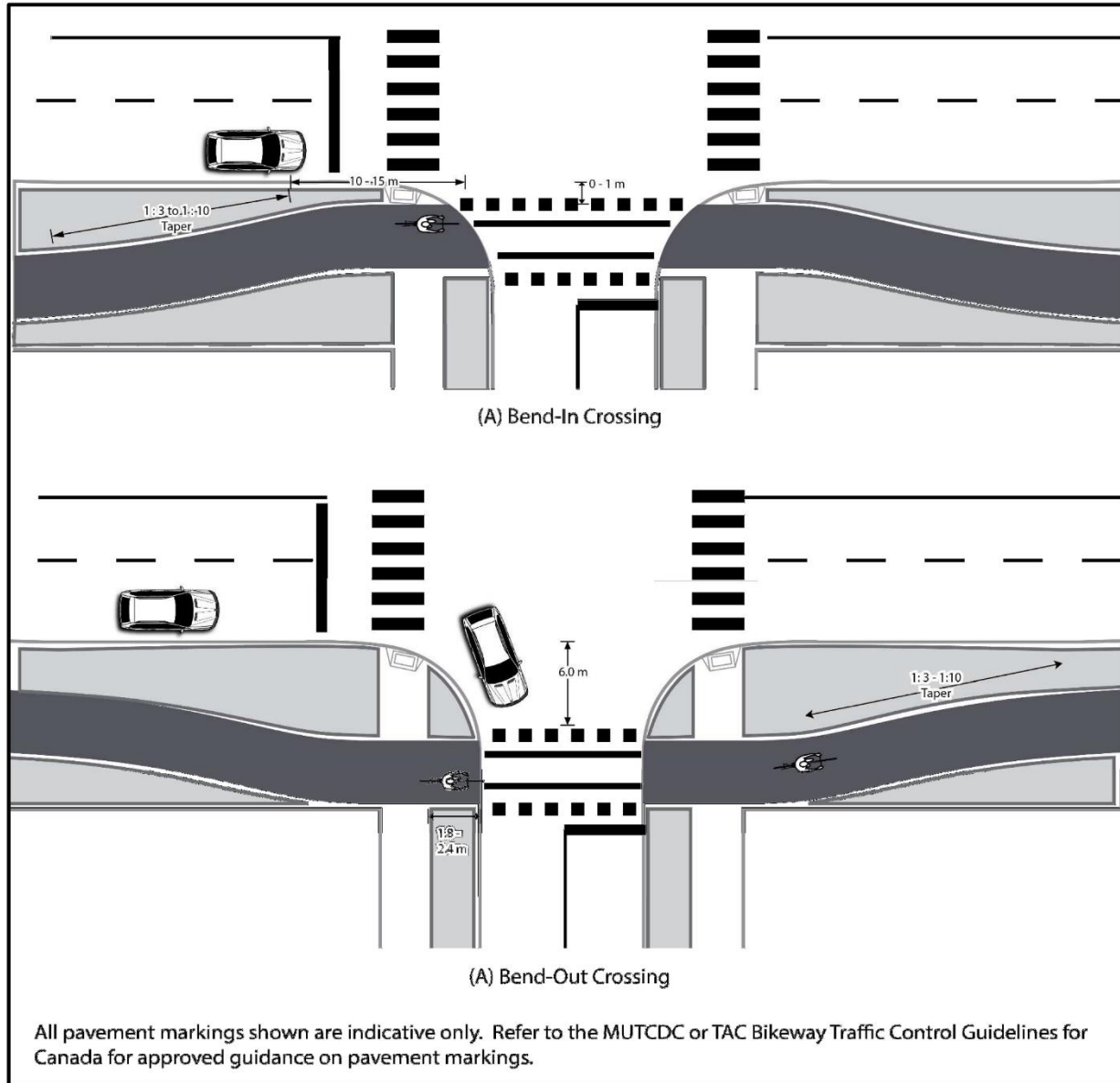


Figure 28. Off-Street Pathway Intersections (Source: TAC 2017)

### 3.10.2 Protected Bicycle Lanes

The design of protected bicycle lanes require 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 MassDOT Separated Bike Lane Planning and Design Guide which is available for free download online.

A number of 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 29**). At the other end of the spectrum, there are opportunities to design a fully protected intersection as seen in **Figure 30**. 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 31**. 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.

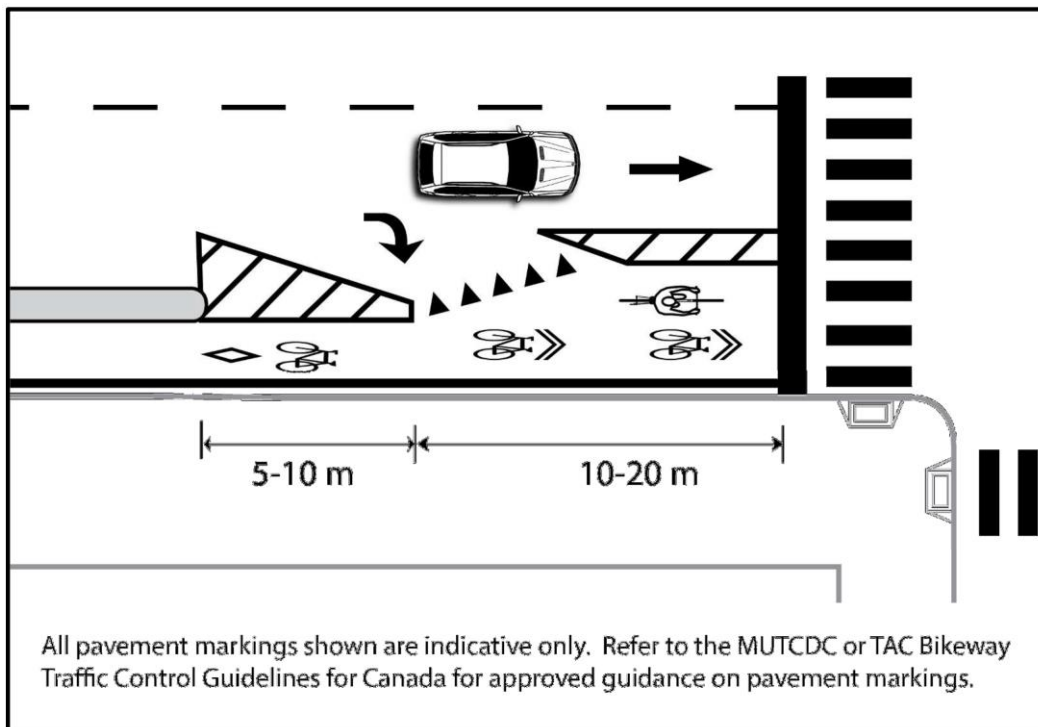


Figure 29. Mixing Zone Intersection (Source: TAC, 2017)

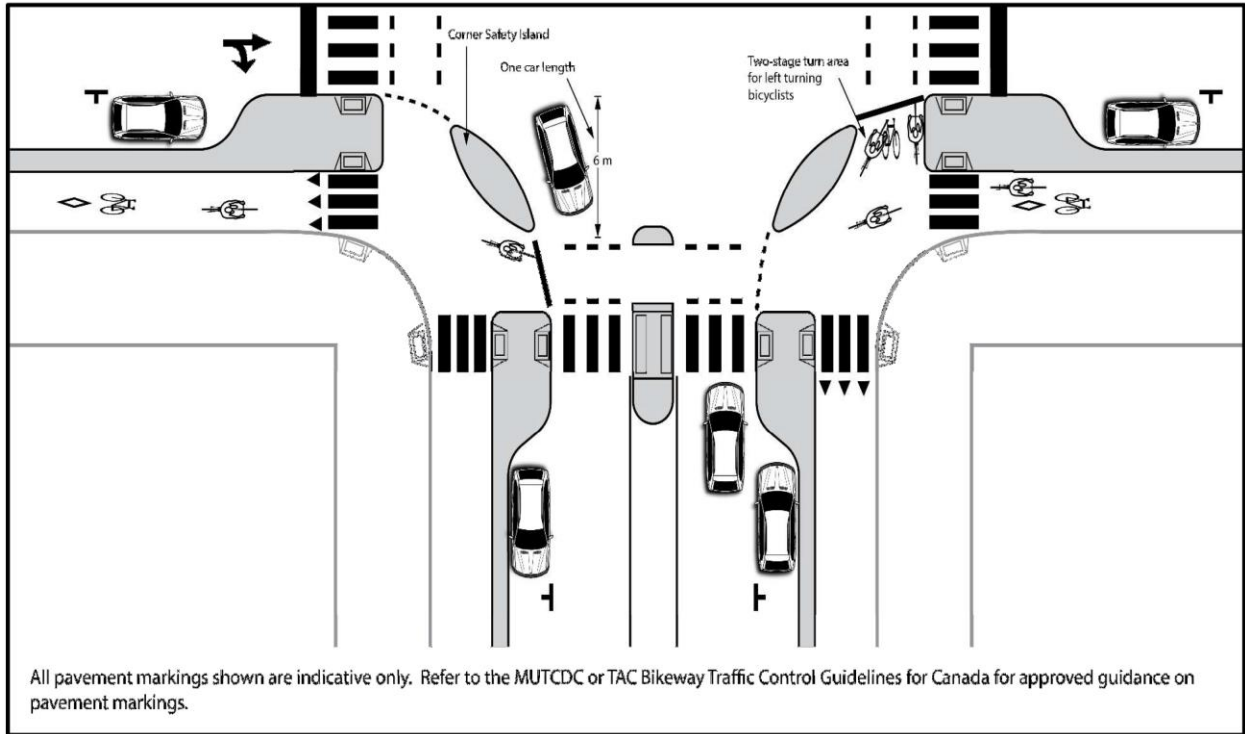


Figure 30. Protected Intersection (Source: TAC, 2017)

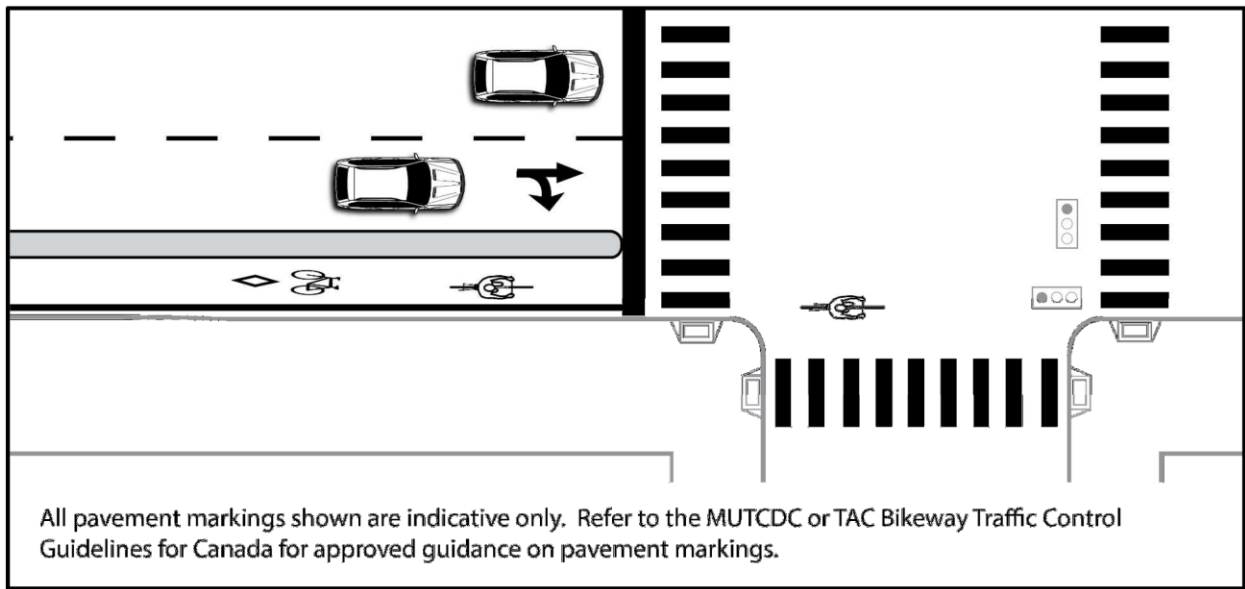


Figure 31. Protected Signal Phasing Intersection (Source: TAC, 2017)

Further information on protected bicycle lane intersection design can be found in Section 5.6.3 of the 2017 TAC Geometric Design Guide for Canadian Roads.

### 3.10.3 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 (**Figure 32**). 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 as seen in **Figure 33** to create awareness for motorists turning across the cycling lane. 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, the can be done through the use of bike boxes.

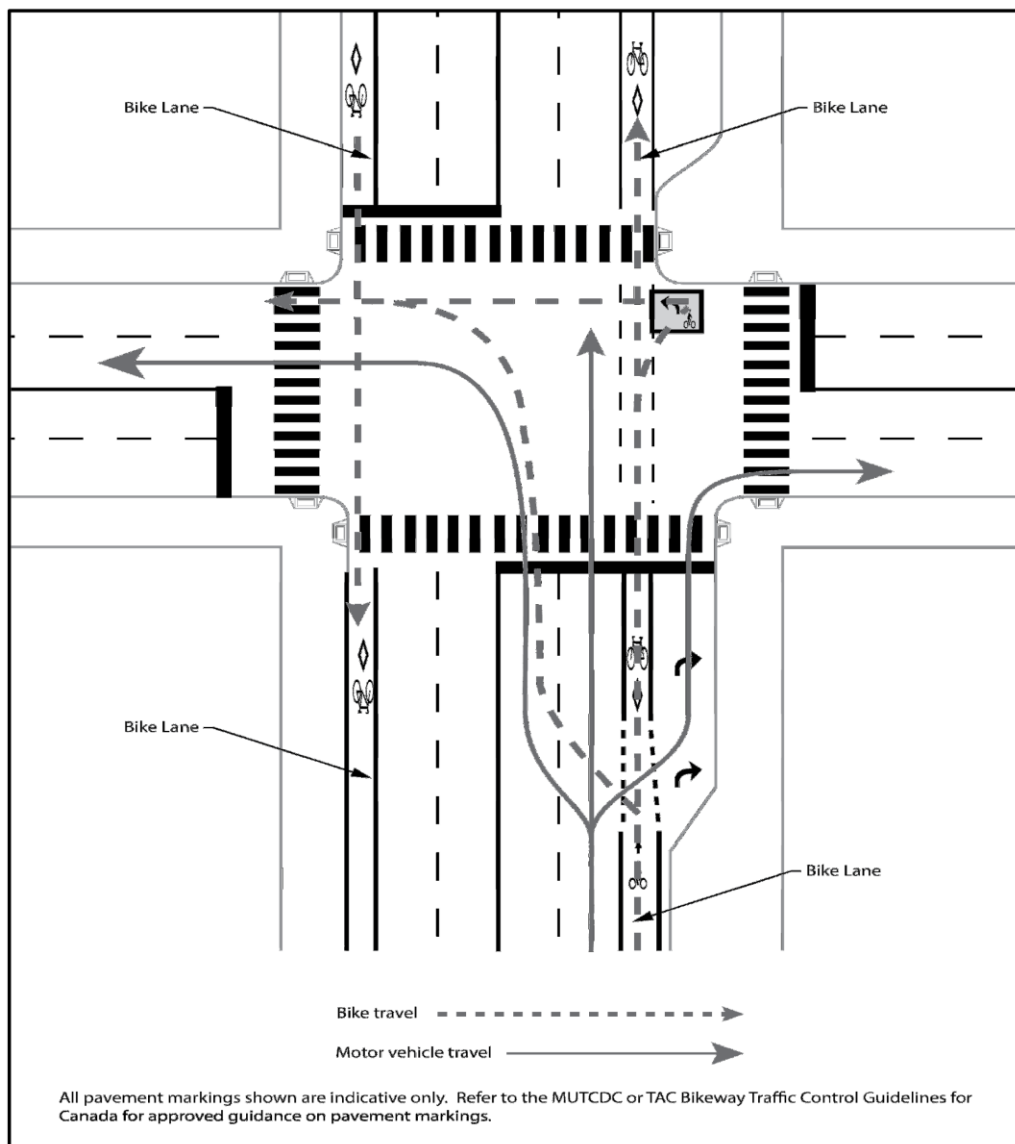


Figure 32. Intersection Conflict Points (Source: TAC, 2017)

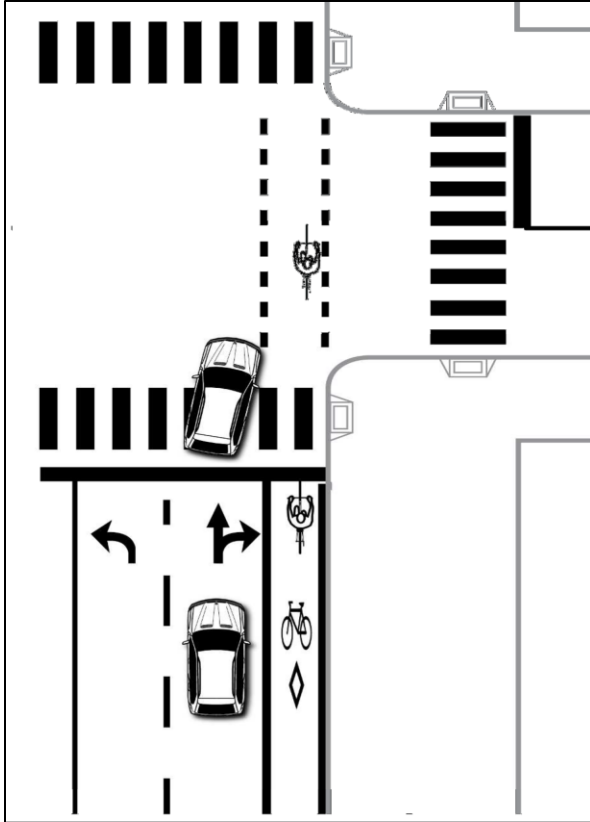


Figure 33. Intersection Pavement Markings (Source: TAC, 2017)

Further information on painted bicycle lane intersection design can be found in Section 5.6.1 of the 2017 TAC *Geometric Design Guide for Canadian Roads*.

### 3.10.4 Roundabouts

On lower speed single lane roundabouts, bicyclists can merge into the travel lane (see **Figure 34**). The design of the roundabout itself is such that the approaching traffic is slowed through deflection at the splitter island, and the circulating speed reduces to 30km/h or less. This can be enhanced with advanced warning signs with supplementary 20km/h to 30km/h speed signs. The shared use lane design is not considered to be appropriate for all ages and abilities and should only be used on low volume roadways. The lower circulating speed can make it comfortable for bicyclists to merge with the motor vehicle traffic through the roundabout and may be considered for more constrained conditions.

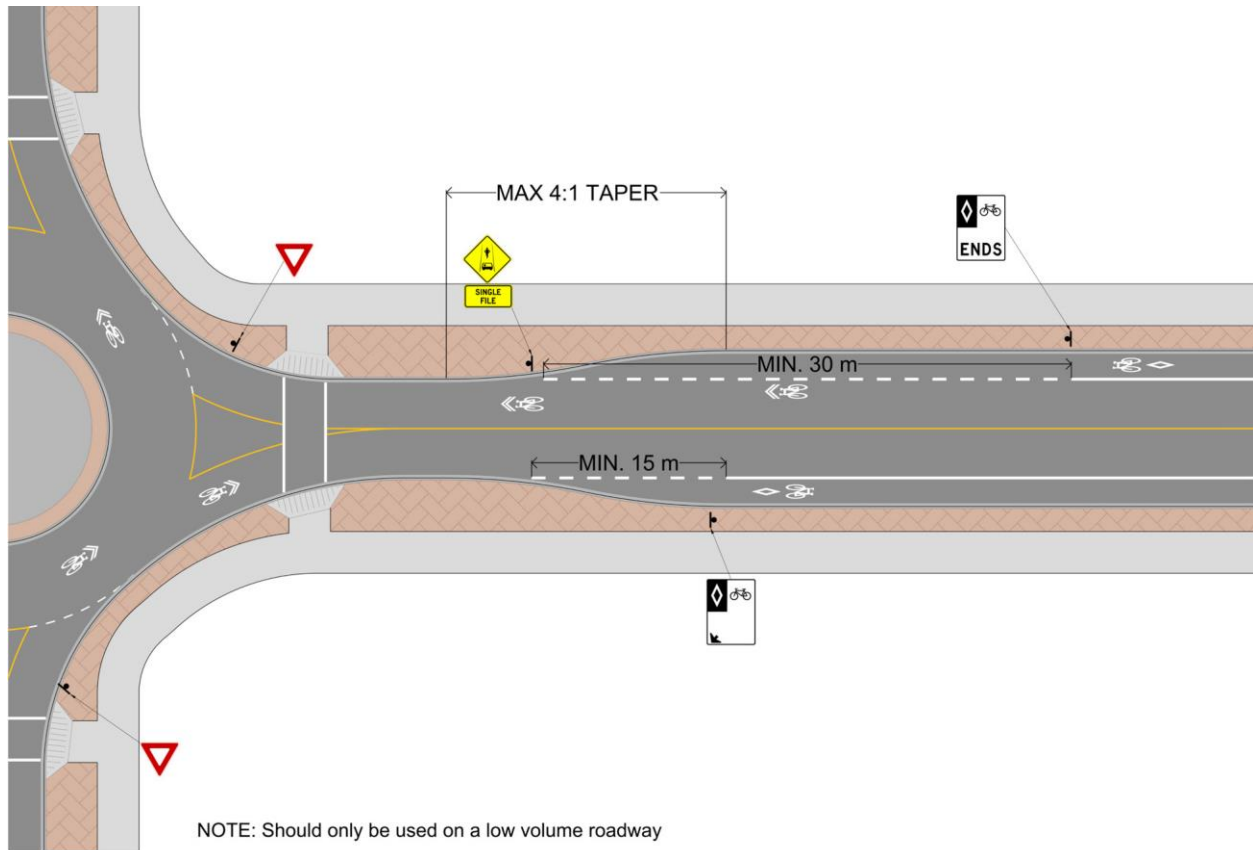


Figure 34. Shared Lane Through Roundabout (Source: Draft Alberta Bicycle Facilities Design Guide)

To provide a more protected facility for all ages and abilities, on-street bicycle facilities should transition to an off-street bicycle facility in advance of the roundabout (see **Figure 35**). Off street bicycle facilities that go around the roundabout are applicable for all speeds and traffic volumes. For off-street facilities, consider whether conflicts between people walking and people cycling will warrant separated facilities.

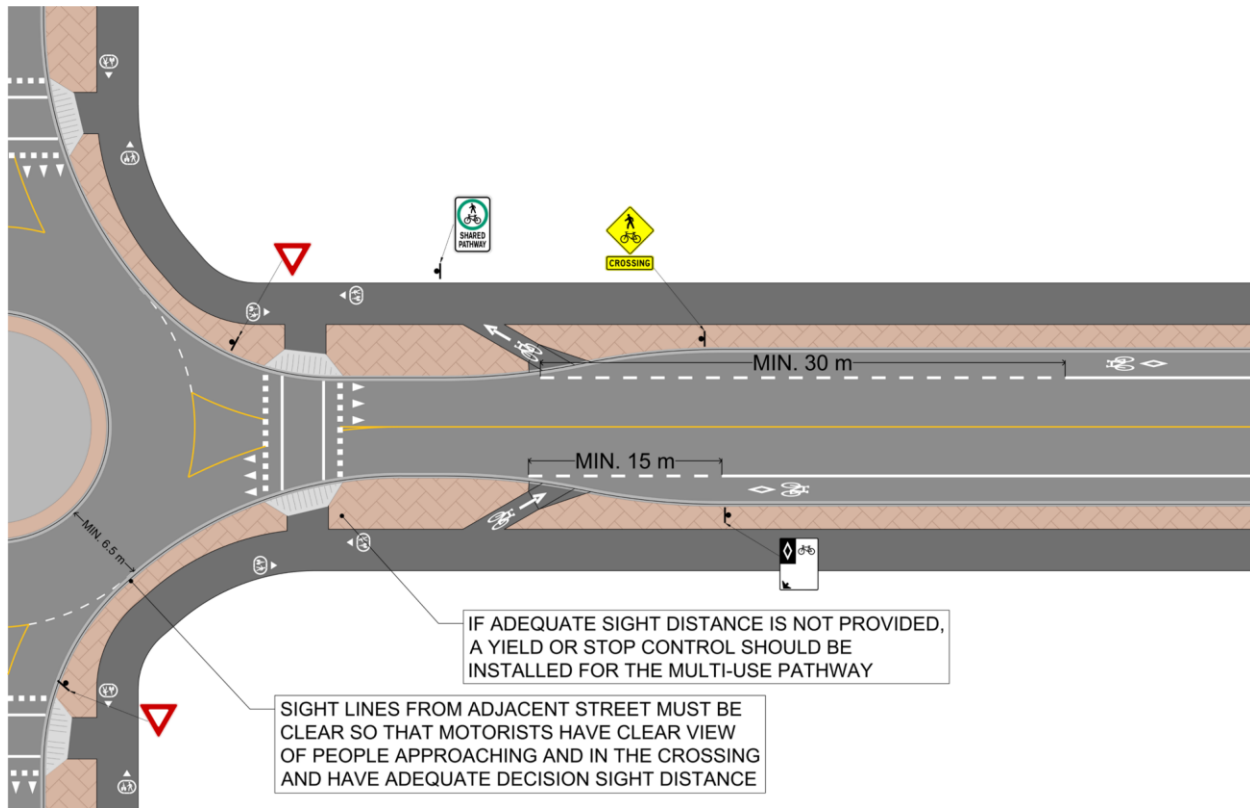


Figure 35. Bicycle Lane at Roundabout with Bicycle Bypass (Source: Draft Alberta Bicycle Facilities Design Guide)

### 3.10.5 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.

## 4.0 Signage

REGULATORY SIGNS		
SIGN IMAGE	SIGN CODE	DESCRIPTION
	RB-37	<p><b>Turning Vehicles Yield to Bicycles Sign</b></p> <p>The Turning Vehicles Yield to Bicycles sign may be used at conflict zones where motorists are required to cross a cyclist facility and are required to yield to the cyclist. The sign should incorporate the type of cycling facility present in the conflict zone (e.g. dashed bicycle lane lines, green paint, direction of travel etc.)</p>
	RB-39	<p><b>Yield to Pedestrians Sign</b></p> <p>The Yield to Pedestrians sign may be used where cyclists are required to cross or share a facility used by pedestrians and are required to yield to pedestrians.</p>
	RB-90, RB-91	<p><b>Reserved Bicycle Lane Sign</b></p> <p>The Reserved Bicycle Lane sign indicates that a lane is reserved for the exclusive use of bicycles. Reserved Bicycle Lane signs should be mounted either directly above (RB-90) or adjacent to (RB-91) the reserved lane.</p> <p>Reserved Bicycle Lane Signs should be installed at a minimum of one sign between each intersection, with the first sign installed a maximum of 15 metres past the end of the curb radius. Signs should be installed at 200 metre intervals after the first signs.</p>
	RB-93	<p><b>Shared Pathway Sign</b></p> <p>The Shared Pathway sign indicates that both cyclists and pedestrians are permitted to use the path.</p>



	<p>RB-94L, RB-94R</p>	<p><b>Pathway Organization Sign</b></p> <p>The Pathway Organization sign indicates to cyclists and pedestrians how to share a path on which there is a designated area provided for each.</p>
	<p>CUSTOM</p>	<p><b>Advisory Bicycle Lane Sign</b></p> <p>The Advisory Bicycle Lane sign is used where motorists are required to share the center travel lane and pass one another by temporarily pulling into the advisory bicycle lane. Motorists must yield to people cycling and walking in advisory bicycle lanes.</p>
	<p>CUSTOM</p>	<p><b>Advisory Bicycle Lane Sign</b></p> <p>The custom Advisory Bicycle Lane sign is used where motorists are required to share the center travel lane and pass one another by temporarily pulling into the advisory bicycle lane. Motorists must yield to people cycling in advisory bicycle lanes when a sidewalk is present for people walking.</p>
<p><b>WARNING SIGNS</b></p>		
	<p>WC-20</p> <p>WC-20S</p>	<p><b>Shared Use Lane Single File Sign</b></p> <p>Used to warn motorists and cyclists that cyclists are allowed full use of the lane ahead and to warn motorists that the lane is too narrow for side-by-side operation. Shared use lane markings should be used to mark the location where cyclists should position themselves within the lane.</p> <p><b>Single File Supplementary Tab Sign</b></p> <p>The Single File Supplementary tab sign (WC-20S) must be used to convey the meaning of this sign.</p>

	<p>WC-44</p>	<p><b>Bicycle Trail Crossing Side Street Sign</b></p> <p>The Bicycle Trail Crossing Side Street sign indicates to drivers that a bicycle path, which runs parallel and in close proximity to the through road, intersects a crossroad such that insufficient distance is available on the crossroad between the bicycle trail crossing and the through road for proper siting of the WC-7 sign.</p>
	<p>WC-43</p>	<p><b>Contraflow Bicycle Lane Crossing Sign</b></p> <p>The Contraflow Bicycle Lane Crossing sign indicates to drivers that they are approaching a road with one-way vehicular traffic and two-way bicycle traffic.</p>
	<p>WC-46R</p>	<p><b>Pedestrian and Bicycle Crossing Ahead Sign</b></p> <p>The Pedestrian and Bicycle Crossing Ahead sign indicates to drivers that they are approaching a location where a multi-use path crosses the road.</p> <p>The WC-7S Crossing Supplementary tab sign must be used to convey the meaning of the Bicycle Crossing Ahead sign.</p>
	<p>WC-7R</p>	<p><b>Bicycle Crossing Ahead Sign</b></p> <p>The Bicycle Crossing Ahead sign indicates to drivers that they are approaching a location where a bicycle path crosses the road.</p>
	<p>WC-7S</p>	<p><b>Crossing Supplementary Tab</b></p> <p>The Crossing Supplementary tab sign must be used to convey the meaning of the Bicycle Crossing Ahead sign.</p>



## 5.0 Other Design Considerations

### 5.1 Surface Materials

A smooth and firm riding surface clear of obstacles and debris is required for a comfortable and safe bikeway suitable for people cycling of all ages and abilities. Materials that are suitable include:

- Asphalt,
- Concrete,
- Coloured pavement, and
- Paving stones.

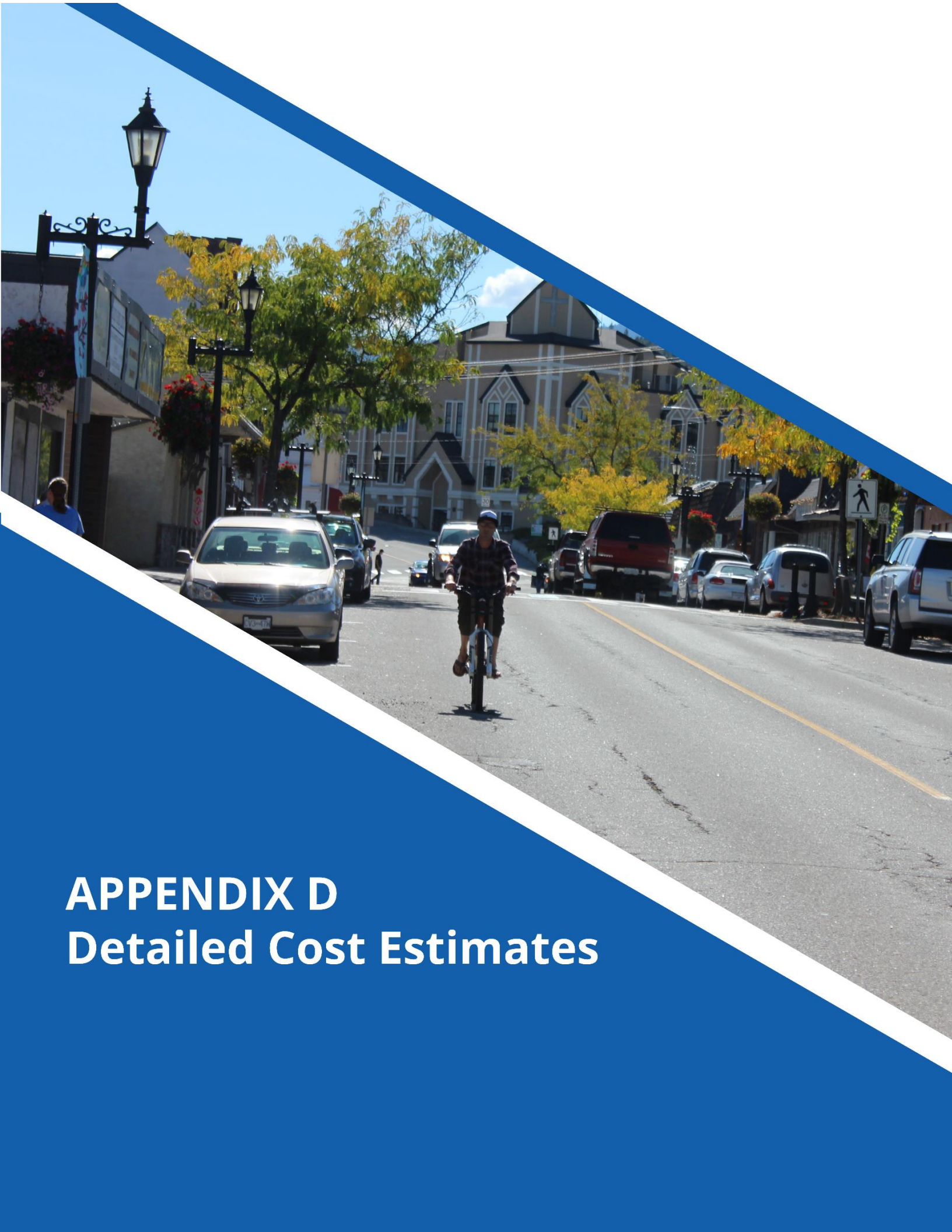
Other surface materials such as gravel, wood chip, or cobblestones may be suitable for some cyclists but are less comfortable for all and may prevent people on some types of bike from safely being able to use the bicycle facilities. The design dimensions outlined in these guidelines assume surface conditions that is free from cracks, potholes, and debris. When the surface condition does not meet this assumption the facility width should be increased to allow people to avoid surface defects.

### 5.2 Lighting

Lighting is essential in creating infrastructure that is safe and comfortable. Intersection lighting is the most critical to allow people cycling enough time to see the intersection and respond to the condition of the intersection, and to help others see people cycling that are approaching the intersection. Lighting is also important at bridges, under and overpasses, crossings, paths or trails, and tunnels. Chapter 16 of the TAC Guide for the Design of Roadway Lighting provides lighting design guidance for bicycle facilities that are more than 5 metres from the adjacent roadway.

### 5.3 Accommodating Bicyclists During Construction

It is important to accommodate cyclists during construction and maintenance activities when roadways or paths might be closed or unavailable. Cyclists should be given sufficient warnings of route closures (i.e. 'Bike Route Closed,' 'Trail Closed') and provided adequate detour information to bypass the construction zone. Signage should also display alternate routes and dates of closure. Alternate routes should provide reasonable directness, equivalent traffic characteristics, and be signed. In addition, contractors should be required to establish temporary paths where necessary.



# APPENDIX D

## Detailed Cost Estimates

Street	To	From	Facility Type	Length	Cost	Priority
97	Lakeshore Drive	District Boundary	Secondary Route	8,463.63	\$847,000.00	Longer-Term
Bathville Road	Princeton Summerland Road	Doherty Avenue	Secondary Route	186.68	\$19,000.00	Longer-Term
Canyon View Road	McGee Street	Hillborn Street	Secondary Route	2,968.65	\$297,000.00	Longer-Term
Cartwright Avenue	Herron Road	Prairie Valley Road	Secondary Route	1,375.34	\$138,000.00	Longer-Term
College Road	Victoria Road S	Milne Road	Secondary Route	55.29	\$6,000.00	Longer-Term
Dale Meadows Road	Haddrell Avenue	Victoria Road S	Secondary Route	1,391.17	\$140,000.00	Longer-Term
Doherty Avenue	Bathview Road	Prairie Valley Road	Secondary Route	227.66	\$23,000.00	Longer-Term
Fenwick Road	Fyffe Road	Trail head	Secondary Route	357.21	\$36,000.00	Longer-Term
Fosbery Road	Jones Flat Road	Huddleston Road	Recreational Route	356.66	\$36,000.00	Longer-Term
Fyffe Road	Fenwick Road	Victoria Road S	Secondary Route	538.07	\$54,000.00	Longer-Term
Garnet Avenue	Quinpool Road	Tingley Street	Secondary Route	581.87	\$59,000.00	Longer-Term
Garnet Valley Road	Tingley Street	Jones Flat Road	Secondary Route	350.77	\$36,000.00	Longer-Term
Gartrell Road	Happy Valley Road	Giants Head Road	Secondary Route	416.91	\$42,000.00	Longer-Term
Giants Head Road	Prairie Valley Road	Milne Road	Primary AAA (On-Street)	529.87	\$464,000.00	High
Giants Head Road	Gartell Road	Hillborn Street	Secondary Route	1,511.45	\$152,000.00	Longer-Term
Gibbard Street	Milne Road	Giant's Head Park	Recreational Route	2,629.28	\$263,000.00	Longer-Term
Haddrell Avenue	Prairie Valley Road	Dale Meadows Road	Secondary Route	297.92	\$30,000.00	Longer-Term
Higgin Avenue	Lakeshore Drive	Lakeshore Drive	Secondary Route	266.13	\$27,000.00	Longer-Term

Street	To	From	Facility Type	Length	Cost	Priority
Jones Flat Road	Logie Road	Victoria Road N	Recreational Route	741.86	\$75,000.00	Longer-Term
Jones Flat Road	Victoria Road N	Garnet Valley Road	Secondary Route	1,133.40	\$114,000.00	Longer-Term
Jubilee Road	Rosedale Avenue	Cartwright Avenue	Primary AAA (On-Street)	1,408.22	\$1,233,000.00	Longer-Term
Kelly Avenue	Jubilee Road	Wharton Street	Primary AAA (On-Street)	258.40	\$227,000.00	Longer-Term
Logie Road	Jones Flat Road	Fosbery Road	Recreational Route	665.04	\$67,000.00	Longer-Term
McGee Street	Mountain Avenue	Paradise Road	Secondary Route	200.44	\$21,000.00	Longer-Term
Milne Road	Gibbard Street	Trayler Place	Secondary Route	431.25	\$44,000.00	Longer-Term
Morrow Avenue	Summergate Drive	Prairie Valley Road	Secondary Route	628.07	\$63,000.00	Longer-Term
Mountain Avenue	McGee Street	Golf Course	Secondary Route	715.42	\$72,000.00	Longer-Term
North Lakeshore Drive	Peach Orchard Drive	Higgin Avenue	Secondary Route	2,507.74	\$251,000.00	High
Paradise Road	Canyon View Road	McGee Street	Secondary Route	164.40	\$17,000.00	Longer-Term
Peach Orchard Road	Rosedale Avenue	Highway 97	Primary AAA (On-Street)	315.22	\$276,000.00	Longer-Term
Prairie Valley Road	Rosedale Avenue	Giants Head Road	Primary AAA (On-Street)	169.59	\$149,000.00	Longer-Term
Prairie Valley Road	Morrow Avenue	Doherty Avenue	Secondary Route	1,975.63	\$198,000.00	Longer-Term
Quinpool Road	Pathway ROW connection	Rosedale Avenue	Primary AAA (On-Street)	1,383.16	\$1,211,000.00	Longer-Term
Rosedale Avenue	Quinpool Road	Brown Street	Secondary Route	519.09	\$52,000.00	Longer-Term
Simpson Road	Fyffe Road	Canyon View Road	Secondary Route	2,446.53	\$245,000.00	Longer-Term
South Lakeshore Drive	Solly Road	Butler Street	Primary AAA (On-Street)	668.27	\$585,000.00	Longer-Term

Street	To	From	Facility Type	Length	Cost	Priority
Tingley Street	Garnet Avenue	Garnet Valley Road	Secondary Route	247.59	\$25,000.00	Longer-Term
Victoria Road North	Quinpool Road	Prairie Valley Road	Primary AAA (On-Street)	527.39	\$462,000.00	Longer-Term
Victoria Road North	Quinpool Road	Jones Flat Road	Secondary Route	953.63	\$96,000.00	Longer-Term
Victoria Road South	Prairie Valley Road	Beavis Place	Primary AAA (On-Street)	609.80	\$534,000.00	Longer-Term
Wharton Street	Victoria Road	Rosedale Avenue	Primary AAA (On-Street)	418.32	\$367,000.00	Longer-Term



