



# Regional Bicycling and Trails Master Plan

Sustainable Transportation Partnership of the Central Okanagan (STPCO)

November 2020





# Executive Summary

The Regional Bicycling and Trails Master Plan (RBTMP) is an update to the 2012 Regional Active Transportation Master Plan. In the years since the 2012 Plan was created, many connections have been completed, additional active transportation plans have been developed, and provincial and federal active transportation design guidance has been updated. This plan reflects those changes, and along with the Central Okanagan's first Regional Transportation Plan (RTP), will help focus investments in the regional bicycling and trails network.

This plan has been developed through the Sustainable Transportation Partnership of the Central Okanagan (STPCO). The STPCO partners include the Regional District of Central Okanagan (RDCO), the City of West Kelowna, Westbank First Nation, the District of Lake Country, the District of Peachland and the City of Kelowna. Development of the plan was supported by a grant from the Strategic Priorities Fund under the Administrative Agreement on the Federal Gas Tax Fund (GTF) in British Columbia. By developing this Regional Bicycling and Trails Master Plan, the STPCO members have demonstrated a commitment to active transportation and to working together to better connect the Central Okanagan region.

## Proposed Regional Bicycling and Trails Network

The proposed network spans 193 km, including 82 km that exist today, 81 km that are not yet constructed, and 30 km that need an upgrade. The proposed network is made up of a primary regional 'spine' system that provides a continuous corridor that connects urban and town centres and regional destinations in the Central Okanagan. Tying into the primary regional spine system is a series of supporting connector routes that link areas within the Central Okanagan to the primary regional system and offer additional connections. Detailed maps and a complete list of projects can be found in Section 5 as well as Appendix 1, 2, 3 and 4.

## Costs

High-level cost estimates have been developed based on typical construction costs for each facility type identified in the plan. The total network cost for all facilities not yet in place are estimated to be in the order of \$88 million, which includes \$55 million for the primary regional 'spine' network and \$33 million for the supporting connector network. To put this in perspective, a single highway interchange project can cost \$50 million or more. Building the proposed regional bicycling and trails network will enable more people to bike for all types of trips, benefiting the climate, economy, and public health, and can be seen as providing excellent value for the investment cost. Stable long-term funding will be required from all levels of government to fully realize the long-term vision.

## Implementation Considerations

A phasing plan was developed in collaboration with local governments to prioritize the projects within short (0 to 5 year), medium (6 to 10 year) and long (11 to 20 year) term time horizons. Priority was

placed on key connections that are required to make biking and walking a practical option for trips to and through urban and town centres and other regionally significant destinations.

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# 1 Introduction

The Central Okanagan has one of the most extensive networks of bike lanes and pathways per capita in Canada. There is reason to be proud of this accomplishment but there are also significant gaps in the regional bicycling and trails network. Additionally, many communities do not have adequate bicycling or trails infrastructure. Additional investment is required to create a safe and convenient network that will link key regional destinations and enable walking, bicycling and transit to become an attractive travel option for more people.

Central Okanagan governments have identified or are in the process of identifying enhanced bicycling infrastructure as a priority in their community plans. Public support for new active transportation infrastructure is growing, and many communities are expanding their pedestrian and bicycling networks to enhance urban livability, mitigate the environmental impacts associated with our current reliance on motorized vehicle transportation, and support tourism opportunities. Additionally, an interconnected regional bicycling and trails network will boost the Central Okanagan's attractiveness as a sustainable tourism destination, building upon a strong reputation as a bicycling destination.



## 1.1 Plan Purpose, Vision and Goals

The Regional Bicycling and Trails Master Plan (RBTMP) updates the 2012 *Central Okanagan Regional Active Transportation Plan* to reflect recent changes to the existing and planned regional bicycling and trails network.

The primary purpose of the Plan is to establish a regional bicycling and trails network that will provide seamless, comfortable and safe connections with a network of primary regional and supporting bicycle and trail corridors. The network is designed to provide connections to and through regional destinations throughout the Central Okanagan, including urban and town centres, and key major regional destinations such as Kelowna General Hospital, the Kelowna International Airport, and colleges and universities.

### 1.1.1 Relationship with the Central Okanagan Regional Transportation Plan

The RBTMP has been developed in tandem with, and as a component of, the Regional Transportation Plan (RTP) to ensure full coordination across both planning documents.

While the RTP considers all modes, the RBTMP focuses exclusively, and in more detail, on bicycling and trail facilities across the Central Okanagan. As such, analysis and public engagement has been shared across both the RTP and RBTMP project teams to inform both plans.

The RBTMP supports the RTP vision which is “a transportation system that connects people to regional destinations within the Central Okanagan and beyond, supporting and enhancing the region’s economy, social networks, and natural ecosystem.”

### 1.1.2 Alignment with Provincial Plans

Both the RTP and RBTMP have been developed to align with the strategic direction of Provincial plans, including CleanBC and BC’s active transportation strategy, “Move. Commute. Connect.” While the Central Okanagan region lacks a formal regional governance structure for setting and enforcing region-specific targets, both the RTP and RBTMP have been designed to support achievement of key provincial objectives related to climate and active transportation through regional collaboration.

The Clean BC active transportation strategy *Move. Commute. Connect* aims to double the trips taken by active transportation in the province by 2030.

CleanBC outlines a series of actions to help reach the 2030 provincial target of a 25.4 Mt reduction in greenhouse gas (GHG) emissions. The CleanBC plan estimates that 6 Mt of GHGs will be reduced primarily through facilitating the transition to zero emission vehicles (ZEV) and speeding up the switch to cleaner fuels. The plan also identifies improving community planning, active transportation and transit as important parts of achieving the 2030 GHG target. To that aim, the province developed the Clean BC active transportation strategy “Move. Commute. Connect.” Which aims to double the trips taken by active transportation in the province by 2030.

The recommendations in the RTP and RBTMP will help the region trend in the desired direction of provincial GHG and active transportation targets. Both plans recognize the urgency of the global climate crisis and include recommendations that will help create a region where more people can choose low-carbon, sustainable transportation options, such as walking and biking. In particular, the RBTMP includes



recommendations to help make bicycling and walking safe and convenient year-round options for more people. Section 6.4 discusses key performance metrics that will be critical for tracking progress in the region, such as biking and walking mode share, counts, collision data, and the percentage of the network that has been completed.

### 1.1.3 RBTMP Goals and Benefits

The RBTMP goals are to:

- Increase bicycling mode share across the region;
- Reduce GHG emissions and other environmental impacts produced by the transportation sector;
- Reduce collision and injury rates involving vulnerable road users; and
- Increase the sustainable and affordable transportation options available to all who live, work, and play in the Central Okanagan.

Measurement of progress toward each of these goals is reflected in the performance indicators in Section 6.4.

Additionally, the RBTMP should realize a number of community benefits. Transportation sustainability is about creating communities that are less reliant on the automobile and more on active modes of travel and transit. Investments in sustainable infrastructure will increase mobility choices and improve the social, economic, and environmental health of communities by:

- Enabling residents, especially those without access to a private auto, to participate in the social and economic life of the community.
- Providing lower-cost mobility options for transportation users and society by reducing the need for more expensive new road and parking infrastructure.
- Improving air quality and reducing energy demands and greenhouse gas emissions that are contributing to global climate change.
- Helping to shape and create more compact, mixed-use development within bicycling distance of public transit stops and stations, which in turn, will generate increased transit use, and protect our valuable agricultural and environmental resources.
- Improving transportation safety and by providing safe and comfortable infrastructure for pedestrians and bicyclists, separate from road traffic.
- Providing a network of transportation facilities that can meet the growing demands of emerging micromobility modes (i.e. light, low-speed vehicles often powered by electric assist) that are increasing in popularity throughout North America. According to a report from the National Association of City Transportation Officials (NACTO), trips by shared micromobility (shared bikes, e-bikes and e-scooters) grew from an estimated 35 million trips in the US in 2017 to 84 million trips in 2018. It is anticipated that micromobility demand will continue to grow.

- Fostering a more active, healthy lifestyle for people and helping to reduce public health care costs.
- Boosting local economies by promoting tourism and new economic development.

## 1.2 Active Transportation Planning in the Central Okanagan

The section provides an overview of existing plans, policies, and partnerships related to active transportation in the Central Okanagan region.

### 1.2.1 Regional Active Transportation Planning

The first comprehensive assessment of regional bicycling needs was completed in 1996 with the development of The Regional Bicycle Strategy by the Regional District of Central Okanagan (RDCO). The strategy outlined the need for a region-wide approach to bicycle planning and programming aimed at reducing the negative impacts of continued increases in automobile usage and population growth.

The 2012 Plan proposed a regional AT network that included a hierarchy of two systems: a Primary 'spine' system, and a Secondary 'connector' system. The update to this plan follows the same hierarchy. The proposed network in the 2012 plan spans 155 km and included 88 km of traffic protected facilities. At the time of the plan development, 26 km of the regional network was in place, with 129 km remaining to be developed in the future.



### 1.2.2 Local Active Transportation Planning

Communities in the Central Okanagan Region have developed, or are in the process of developing, local bike and pedestrian network plans as either standalone documents or components of Recreation Master Plans, Transportation Master Plans, and/or Official Community Plans. These plans seek to provide, over time, a consistent bicycle and pedestrian network that is capable of increasing the proportion of regional trips that are accommodated by sustainable modes of travel – specifically, walking, bicycling and transit. As noted below, many of these plans acknowledge the need to provide active transportation infrastructure and to establish local networks that integrate seamlessly with those of neighbouring jurisdictions.

- **The Regional District of Central Okanagan (RDCO)**'s Regional Growth Strategy (2013) seeks to: Promote physical activity (see policy 3.2.4.1); Support active transportation initiatives (see policy 3.2.4.3); Work towards meeting the provincial target for reducing GHG emissions (see policy 3.2.7.1); Encourage collaboration to improve inter-regional transportation opportunities (see policy 3.2.9.1); Provide active transportation options and connect residents to facilities, recreation, and services throughout the Central Okanagan and its neighbouring communities and

region (see policy 3.2.9.3.a); Support a regional integrated trail system (see policy 3.2.9.4); Place an increased emphasis on sustainable modes (see policy 3.2.9.5); Prioritize funding for transit and non-motorized improvements including projects such as sidewalks, traffic calming, bike lanes...etc. (see policy 3.2.9.7), and Collaborate with School District No. 23 to provide safe routes to school, including walking, cycling and transit options (see policy 3.2.9.11).

- **The City of West Kelowna's Recreational Trails Master Plan (2013)** acknowledges the benefits of working with other governments and local organizations on mutually beneficial projects to achieve connected trail networks and trail linkages.
- **The District of Lake Country's Parks and Recreation Master Plan (2018)** recognizes a growing demand for recreation facilities extending beyond municipal borders. The trail system identified in the plan aligns with the regional routes identified in the *Central Okanagan Regional Active Transportation Master Plan (2012)*. The District's *Official Community Plan (2018)* calls for collaboration with neighbouring communities to plan interconnecting active transportation routes (Policy 8.6.2.c.).
- **The District of Peachland's Parks and Recreation Master Plan (2018)** provides direction for inter-municipal collaboration with RDCO and West Kelowna to establish a trail connection to Goat's Peak Regional Park (Policy 5.2.34) and for working with the Province to develop connections to Peachland and West Kelowna along Highway 97 (Policy 5.2.36).
- **City of Kelowna's Pedestrian and Bicycle Master Plan (2016)** supports inter-municipal connectivity to West Kelowna and Lake Country through routes along a AAA future primary regional active transportation network (page 31).
- **Westbank First Nation's (WFN) Community Plan (2015)** supports the principles of providing safe alternatives to the car such as bicycling (page 58) and infrastructure that supports a healthy lifestyle and improves the quality of life for members and community residents (page 74). WFN also recently completed an Active Transportation Plan (2020). This plan includes off-road connections that make cycling and walking more direct.

### 1.2.3 Transit Future Plan

The Central Okanagan region's transit master plan, the *Transit Future Plan (2012)*, also acknowledges the importance of integrating the transit network with regional and local bicycling and pedestrian networks; encouraging high quality bicycling links to transit stops and stations; and providing bicycle storage at key stations, stops and on transit vehicles (Goal 3). Due to the longer distances involved with regional trips, integration of pedestrian and bicycling facilities with transit service creates a potential to accommodate longer multi-modal trips, enlarges transit catchment areas, enables people on bikes to bypass topographical barriers and increases transit ridership.



Local jurisdictions have endorsed BC Transit's Transit Future Plan for the Central Okanagan Region, which calls for an increase in transit mode share across the region from 2 percent to 7 percent by 2035<sup>1</sup>. The integration of regional and local bicycling and trails networks can support increases in ridership, allowing for improved travel for those linking walking or bicycling trips with transit.



#### 1.2.4 Climate Change Accountability Act

The Provincial Government's *Climate Change Accountability Act* requires the public sector to be carbon neutral and sets a target of reducing 2007 level GHG emissions by 40% by 2030. Additionally, the BC Local Government Act (Part 14, Division 4, 473(3) requires local governments to include a target for GHG emissions reduction and policies and actions to achieve the target (it does not require what the target has to be).

In the Central Okanagan, it is estimated that over 66% of emissions are due to transportation, a significant opportunity for reduction<sup>2</sup>. Achieving GHG reduction goals will require all levels of government and communities to work together to reduce reliance on automobiles and achieve emission reduction targets.

##### 1.2.4.1 SCRAP-IT PROGRAM

The Provincially funded SCRAP-IT program is working to reduce greenhouse gas emissions and improve air quality by getting older vehicles off the road. The SCRAP-IT incentive provides rebates toward the purchase of an electric car, e-bike, e-mobility scooter, transit pass, or credit with a carshare organization.

##### 1.2.4.2 CLIMATE CHANGE ADAPTATION

Reducing carbon emissions is likely not enough to halt the impacts of climate change. Many countries and sub-regions are realizing it is time to start adapting to life in a changing climate. Climate change in

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<sup>1</sup> <https://www.bctransit.com/documents/1507213427854>

<sup>2</sup> [https://www.regionaldistrict.com/media/20493/Climate\\_Change\\_Issue\\_Paper.pdf](https://www.regionaldistrict.com/media/20493/Climate_Change_Issue_Paper.pdf)

the Okanagan may mean much hotter summers<sup>3 4</sup>. It is anticipated that there will be a need to plan for more intense and hotter fires, increasing water shortages, more smokey days, and a greater likelihood of spring flooding.

More precipitation may fall during extreme events, increasing flows and runoff that overburden drainage infrastructure and threaten roads, pathways, and bridges. This may result in periodic disruptions and temporary loss or closures of trail or bicycle corridors. Increased precipitation or heat may mean fewer people participate in active transportation during the peak summer months. Shade and water stations will become increasingly important along active transportation corridors.

### 1.2.5 Okanagan Rail Trail Partnership

Partnerships play an important part in the development of regional active transportation facilities in the Central Okanagan. One example includes the Okanagan Rail Trail initiative. The City of Kelowna, District of Lake Country, the Regional District of North Okanagan and the Province invested \$22 million to purchase the discontinued CN railway corridor from Coldstream to Kelowna. The volunteer-based Okanagan Rail Trail Initiative served as community champions in supporting campaign partners, business partners, and individual donors to raise \$7.8M over two years.



Several volunteers from the Okanagan Rail Trail initiative continued to form the Friends of Okanagan Rail Trail. The City of Kelowna, District of Lake Country, Okanagan Indian Band, and Regional District of North Okanagan work together with the District of Coldstream and the City of Vernon as the Okanagan Rail Trail Committee, in partnership with the volunteer Friends of Okanagan Rail Trail.

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<sup>3</sup> [http://www.rdno.ca/docs/200104\\_OK\\_ClimateReport\\_Final.pdf](http://www.rdno.ca/docs/200104_OK_ClimateReport_Final.pdf)

<sup>4</sup> [https://www.kelowna.ca/sites/files/1/docs/related/community\\_climate\\_action\\_plan\\_june\\_2018\\_final.pdf](https://www.kelowna.ca/sites/files/1/docs/related/community_climate_action_plan_june_2018_final.pdf)

It is ultimately intended that the Okanagan Rail Trail will serve as a key component of the Trail of the Okanagans, which is envisioned to connect from Vernon, across the bridge, and all the way south to the Canada / US border. To date, a significant portion of the Okanagan Rail Trail has been completed. A section is awaiting completion which lies between Old Vernon Road, just north of the airport, to McCarthy Road in Lake Country.

#### **1.2.6 Westside Trail Collaboration Brief**

The *Westside Trail Collaboration Technical Brief* was released in 2016 as an effort to identify, plan and implement regional trail corridor improvements that would complement the Okanagan Rail Trail, extending the route west to Peachland. The Brief is a collaboration between the communities of Peachland, West Kelowna, and Westbank First Nation along with the Regional District of Central Okanagan facilitated by STPCO. The collaboration resulted in the identification of trail additions and improvements required parallel to Highway 97 and along the waterfront. The Brief has been incorporated into this update.



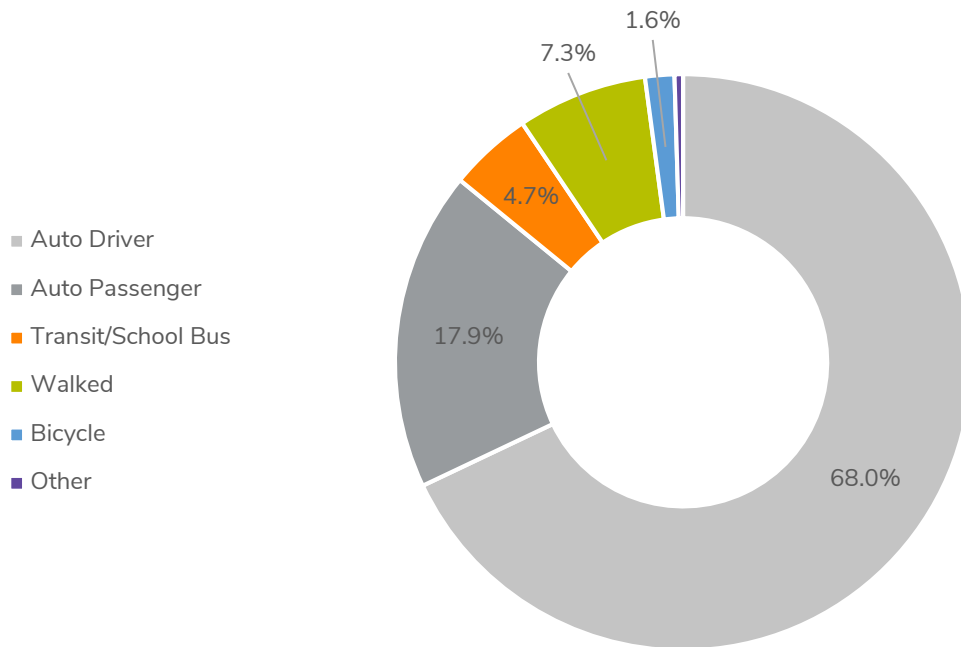
## 2 Current Status of Active Transportation

The current state of the transportation system, in terms of demand and performance, provides an initial baseline and situational assessment on which desired changes can be based. Key metrics such as regional travel mode share and travel distances can provide a sense of the “health” of the system, and support the identification of improvements required to meet local transportation goals.

### 2.1 2018 Okanagan Travel Survey

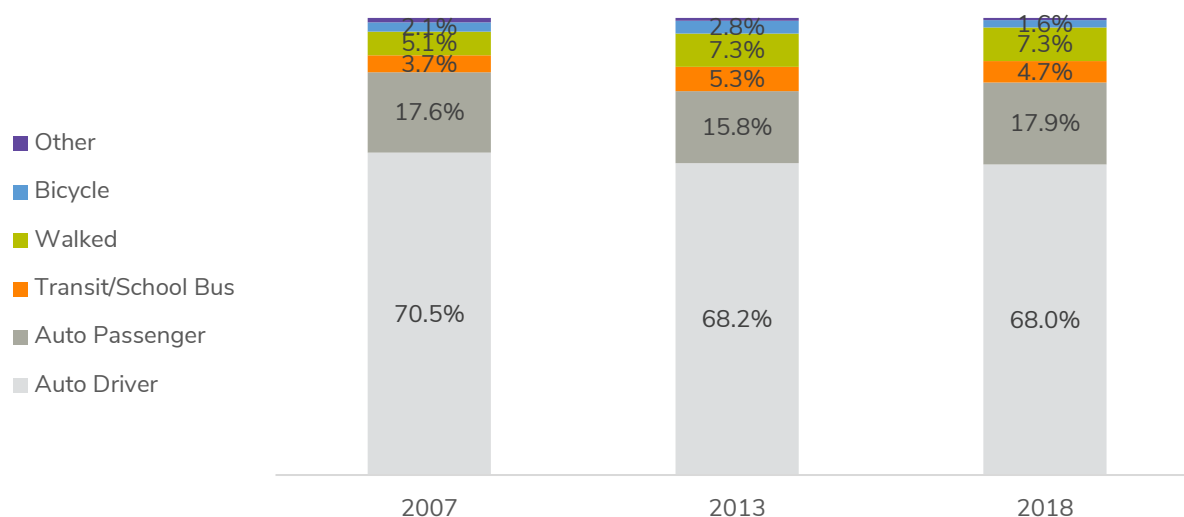
The Okanagan Travel Survey (2018) found that 86% of trips are made as an automobile driver or passenger. Bicycling accounted for 2% of trips, as illustrated in **Error! Reference source not found..**

**Figure 1. Mode Share. Source: 2018 Okanagan Travel Survey**



Key findings of the 2018 Okanagan Travel Survey are:

- Since 2007, the number of trips made in the region grew more slowly (10%) than population growth (21%);
- The majority of trips continue to be via auto, either as a driver (68%) or passenger (18%); and
- Since 2007, there has been a 2% region-wide shift towards sustainable modes, with increases in walking and transit. As shown in Figure 2, between 2013 and 2018 mode share remained relatively stable (within the margin for error), which means that efforts to encourage mode shift are roughly keeping up with population growth.

**Figure 2. Trip Mode Trend. Source: 2018 Okanagan Travel Survey**

The current reliance on private auto for regional travel has happened primarily out of necessity. Since the 1950s, land uses have been increasingly segregated, with homes located further away from jobs and amenities. Most population growth has been accommodated in low-density developments, while employment continues to cluster adjacent to Highway 33 and Highway 97. With average trip distances and the number of trips per household increasing over time, the private automobile has remained the preferred travel choice for most trips.

Weather can also influence peoples' decision to bike or walk. It is important to consider variability in climate when comparing results between travel surveys, as shown in the table below. While there has been no statistically significant change<sup>5</sup> in bike mode share, more people are biking in colder weather. For example, there were roughly the same number of people biking in the warmer spring of 2007 as there were on the colder days of November 2018.

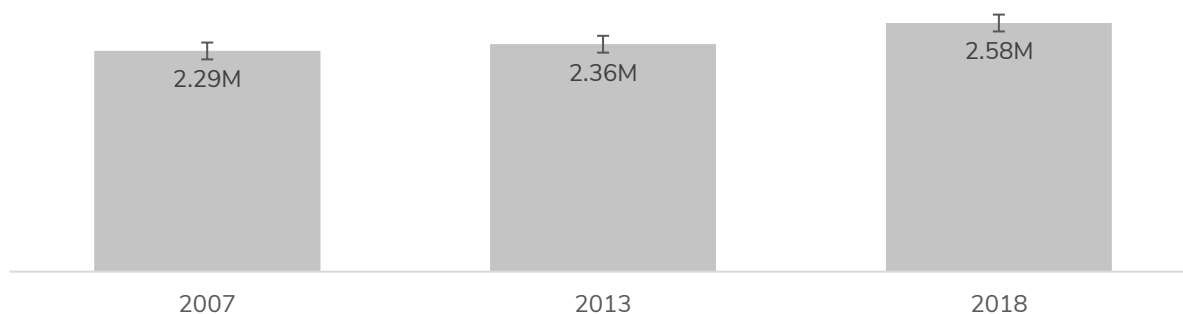
Weather During Travel Surveys <sup>6</sup>	2007 (May)	2013 (October)	2018 (November)
Avg. Daily High	21°C	12°C	7°C
Avg. Daily Mean	12°C	6°C	3°C
Precipitation	16 mm	6 mm	30 mm
Estimated Bike Mode Share	2.1%	2.8%	1.6%
Estimated Walk Mode Share	5.3%	7.3%	7.3%

It is also important to consider that mode share, as a percentage of total travel, is a metric that changes very slowly over time. Another measure that impacts the uptake of sustainable modes is vehicle kilometres traveled (VKT). Unlike mode share, VKT more directly equates to the emission of greenhouse gases.

<sup>5</sup> Margin of error for region-wide statistics in the 2018 survey is estimated to be  $\pm 1.1\%$

<sup>6</sup> Historical weather measured at Kelowna International Airport. Source: [Government of Canada](#)

Estimated Daily Vehicle Km Travelled



While the mode share and VKT trends for the region show room for improvement toward meeting climate and active transportation objectives, one encouraging statistic from the 2018 Okanagan Travel Survey is that roughly half (47%) of trips are less than 5 km long<sup>7</sup>. Given that most bicycling and walking trips are shorter distance trips, this indicates a substantial opportunity to shift these shorter trips to biking or walking. By investing in active transportation infrastructure that helps to make biking and walking safe, easy and convenient travel options for more people, and by investing in corresponding programs and services (e.g. education, maintenance and winter snow clearing, etc), Central Okanagan governments can work together to help increase the number of people walking and biking for their daily travel needs in our region.

## 2.2 Current Regional Active Transportation Network

Currently, there are approximately 82 km of regional bicycling and trail facilities that exist today, up from 26km in the 2012 plan. The majority of these facilities are located on the east side of the Okanagan Lake. The regional bicycling and trails network is just over 45% complete, with another 111 km of bicycling and trail facilities to be added or improved as part of this Plan.

Significant improvements to the regional bicycling and trails network have been made in the Central Okanagan region in recent years. These improvements will help serve the active transportation needs of residents and visitors for many years to come. Some initiatives that stand out include constructing:

- the majority of the Okanagan Rail Trail, mentioned in Section 1.2.5, combined with the Westside Trail, has the potential to combine with other proposed trails to form a future continuous all ages and abilities active transportation route that would link every local jurisdiction in the Central Okanagan region and also connect to the north and south Okanagan regions;

<sup>7</sup> [2018 Okanagan Travel Survey. All trips made by Central Okanagan residents. Network distances estimated using the Google Maps API.](#)

- sections of the Westside Wine Trail through West Kelowna and Westbank First Nation, which have been redesigned as a multi-modal corridor to better accommodate bicycles. Some sections include Boucherie Road between Hudson Road and the Boucherie/Highway 97 interchange;
- the multi-use path beside the Pelmewash Parkway, which forms the basis for a 17km protected loop that will circle Wood Lake and provide an active transportation amenity that will attract users from throughout the region and beyond; and
- protected bike lanes on a number of roadways including Abbott and Ethel in Kelowna that are built to a high standard and set the bar for future bikeways in the Central Okanagan region.

Further, Kelowna's local active transportation network is one of the most extensive for a community its size in North America, with over 400 km of sidewalks and walkways, 300 km of on-road bike lanes and over 40 km of shared-use pathways.

Together, the local and regional active transportation networks in the region make walking and cycling realistic options for a growing number of people in the region.



### 3 Development of the Regional Bicycling and Trails Master Plan

The process of developing the RBTMP follows three key phases:



#### i. Assemble, Review and Confirm

The first phase of developing the RBTMP was to review new studies and planning documents related to biking and walking facilities in the Central Okanagan that were developed after the *Regional Active Transportation Plan (2012)* was published. Many of these plans are mentioned in Section 1.2. In addition, input received during public and stakeholder outreach as part of the Regional Transportation Plan was reviewed for feedback related to regional biking and walking facilities.

#### ii. Develop a Regional Active Transportation Network

Based on the technical assessment and background information review, a draft regional bicycling and trails network was identified for consideration by municipal, regional and provincial representatives. This plan recommends over 193 kilometres of new or upgraded facilities, the majority (over 70%) of which will be comfortable for people of all ages and abilities (AAA). AAA facilities tend to be physically protected from motor vehicle traffic or involve shared facilities on local roadways with a speed limit of 30 km/h and less than 1,000 motor vehicles per day. Elsewhere, facilities for those that are confident and enthused<sup>8</sup> are recommended. Examples include painted bike lanes and bicycle accessible shoulders. While these facilities do not offer physical protection to bicyclists, they are recommended on links that are redundant to the AAA network or which serve local destinations.

The project team conducted a series of interviews with representatives of the Provincial Ministry of Transportation and Infrastructure (BC MoTI), and members of the Sustainable Transportation Partnership of the Central Okanagan (STPCO). In the meetings, discussions focused on the guiding principles, proposed route hierarchy and a draft regional bicycling and trails network. Each organization was asked to provide formal feedback on the proposed network and facility types and to identify priority corridors that would provide the most significant benefit.

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<sup>8</sup> Portland Bureau of Transportation have developed a classification system that describes four general categories of transportation cyclists including those who are Strong and Fearless (~1% of the population). Confident and Enthused (~7%), Interested but Concerned (~60%), and No Way No How (32%) those who are reluctant to ride at all.

<https://www.portlandoregon.gov/transportation/article/158497>

**iii. Refine Network and Prioritize Projects**

The comments received from the initial meetings and public engagement activities were incorporated to produce a revised network plan. Local representatives were invited to review the draft network plan and to provide further input concerning the network, recommended facility types and phasing strategy. The network included in the RBTMP reflects consideration of the information and feedback received from the public and stakeholders throughout the region.

## **3.1 Planning Framework**

The following planning framework is recommended to help connect walking and bicycling facilities to regional destinations across the Central Okanagan.

**i. Plan, Design and Build**

A connected network of regional trails and bicycle routes will allow people to ride their bicycles to regional destinations safely. Proposed investments focus on connecting urban and town centres, where the most significant gains in sustainable transportation use can be achieved. Planning for a regional bicycling and trails network must also be integrated with local active transportation networks and 'complete streets' that incorporate sidewalks and dedicated bicycling facilities on arterial and major collector roads, as well as landscaping and street furniture.

**ii. Operate and Maintain**

As part of building a regional bicycling and trails network, it is recommended that budget resources for enhanced operation and maintenance be provided to ensure walking and bicycling are safe, comfortable and practical options year-round. Budget resources should focus on maintaining areas with the highest pedestrian and bicycling demands such as near major urban and town centres, employment areas and connections to transit exchanges.

**iii. Educate and Promote**

Education and promotion activities complement investment in the regional bicycling and trails network in many ways. Benefits include helping to spread awareness of the facilities, encouraging bicycling and walking, helping to inform people on how to use new types of facilities or treatments, and teaching safe bicycling skills and proper etiquette for shared facilities. It is recommended that the regional Transportation Demand Management (TDM) program currently delivered through the STPCO continue to provide education and promotional activities. Additional funding for regional TDM programs is recommended in conjunction with the expansion of the regional bicycling and trails network over the 20-year planning horizon.

**iv. Monitor and Evaluate**

Regular monitoring and evaluation are necessary to determine the success of regional bicycling and trails investments. Regular data collection can help to evaluate changes in travel behaviour, bicycle and

pedestrian volumes, greenhouse gas emissions, active transportation safety, and user satisfaction, among other trends. Funding ongoing monitoring and evaluation programs, such as the Okanagan Travel Survey, is recommended to provide essential information to evaluate progress and identify areas for improvement. Additionally, installing automated bicycle and pedestrian counters when new facilities are constructed is recommended to allow for tracking bicycling and walking usage patterns over time.

## 3.2 Guiding Principles

As described in Section 1.1.3, the goals of the Regional Bicycling and Trails Master Plan are to connect the Central Okanagan with safe bicycling and walking facilities to increase walking and bicycling rates, reduce GHG emissions produced by the transportation sector, improve transportation safety, and increase the sustainable transportation options available to residents and visitors.

To achieve these goals, the proposed regional bicycling and trails network plan has been developed with the following guiding principles in mind:

1. Provide direct connections between and within major urban and town centres, employment nodes and regionally significant destinations such as hospitals, transit exchanges, and post-secondary educational facilities.
2. Plan, design, and build regional bicycling and trail facilities to serve:
  - Trips destined to urban and town centres and regional destinations in a direct, safe and comfortable manner;
  - Utilitarian and commuter bicycling trips with a secondary focus on recreational trips;
  - People of all ages and abilities, with a secondary emphasis on those who are enthused and confident<sup>9</sup>; and
  - Longer regional biking and walking trips of 20 km or more;
3. Design active transportation facilities that are consistent with the British Columbia Active Transportation Design Guide and the Transportation Association of Canada's (TAC) Geometric Design Guide. In particular, these guides should be consulted for questions regarding appropriate facility type, desired bicycle design speeds, and when a facility should be designed for shared use or when separation between people biking and walking is desired. Wherever possible, the recommendations included in this plan have been made to align with these design guides.
4. Improve safety and comfort by providing alternate routes for pedestrians and bicyclists parallel to the Highway 97 corridor, which serves as the major regional transportation spine.
5. Integrate the regional bicycling and trails network with regional rapid transit stations and exchanges.

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<sup>9</sup> <https://www.portlandoregon.gov/transportation/article/158497>

### 3.3 Route Hierarchy

The proposed regional bicycling and trails network includes a primary regional 'spine' system with supporting 'connector' routes. The primary regional 'spine' system aims to provide a continuous all ages and abilities (AAA) corridor that connects to and through urban and town centres and to regional destinations in the Central Okanagan. The primary spine includes safe and convenient alternatives to Highway 97.

The supporting connector routes link the primary regional spine system with other important destinations such as major transit exchanges, health facilities, and post-secondary schools. In some cases, supporting connector routes provide links to serve commuter cyclists parallel to primary regional links, particularly where design speeds of 30km/h cannot be maintained on a regional link.

The proposed regional bicycling and trails network is linked to, and in some cases, overlaps with local pedestrian and bicycling networks, which helps to provide further connectivity between local and regional destinations. The alignments shown on the maps in Section 5 and in the Appendices are recommendations based on high-level planning analysis. These alignments and associated facility types may change as projects go through more detailed planning and design.



## 4 Facility Types

This section provides an overview of the different types of bicycle and trail facilities described in this Plan. For guidance related to the design of these facilities, this Plan refers primarily to the BC Active Transportation Design Guide<sup>10</sup> with supporting guidance from the Transportation Association of Canada (TAC) Geometric Design Guide<sup>11</sup>.

When determining the appropriate bicycle facility type and location, many factors have been considered, including but not limited to, traffic volumes and speeds, available right-of-way, expected pedestrian and bicycling volumes, network connectivity, and the urban context and adjacent land use.

Additionally, recent research has helped to clarify safety outcomes and usage rates associated with particular facilities and for the design of active transportation networks<sup>12,13,14</sup>. The findings suggest that facilities that are designated specifically for bicycle use and physically protected from motor vehicle and pedestrian traffic tend to be more comfortable and preferred by both experienced and inexperienced bicyclists. Facilities shared with motor vehicles are generally less preferred by bicyclists, except in instances where the volume of motor vehicle traffic is lower (i.e. less than 2,000 and ideally less than 1,000 vehicles per day) and where motor vehicle speeds are 30 km/h or less. High quality facilities are essential to building the regional bicycling and trails network, particularly on routes designated as appropriate for people of all ages and abilities (AAA).

Bicycling networks that are more likely to positively influence bicycling rates include an interconnected grid of comfortable routes every 200-400 metres in urban settings, to 400-800 metres in more suburban settings and 800-1,600 metres in rural settings<sup>15</sup>. Further, bicycle network designs are trending toward an approach more traditionally associated with automotive networks, including designing bicycle facilities so that they can accommodate:

- higher volumes of people riding along arterial routes that link urban and town centres;
- medium volumes of people riding along supporting or collector routes between neighbourhoods; and
- lower volumes of people riding on routes that serve local destinations.

The regional bicycling and trails network is just over 45% complete, with another 106 km of bicycling and trail facilities to be added or improved as part of this Plan.

<sup>10</sup> [https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructure-funding/active-transportation-guide/2019-06-14\\_bcatdg\\_compiled\\_digital.pdf](https://www2.gov.bc.ca/assets/gov/driving-and-transportation/funding-engagement-permits/grants-funding/cycling-infrastructure-funding/active-transportation-guide/2019-06-14_bcatdg_compiled_digital.pdf)

<sup>11</sup> <https://www.tac-atc.ca/en/publications-and-resources/geometric-design-guide-canadian-roads>

<sup>12</sup> <https://injuryprevention.bmj.com/content/17/2/131>

<sup>13</sup> <http://cyclingincities-spgh.sites.olt.ubc.ca/files/2019/07/Teschke-2019-Velo-Canada-Bikes.pdf>

<sup>14</sup> <https://bikehub.ca/research/the-state-of-cycling-in-metro-vancouver>

<sup>15</sup> <https://crowplatform.com/product/design-manual-for-bicycle-traffic/>

This Plan takes advantage of provincial and federal design guidance and facility and network design best practices to recommend a network that will serve regional transportation needs and complement and enhance local bicycle and trail networks.

## 4.1 Multi-Use Pathway

Multi-use pathways are off-street paths that are physically separated from motor vehicle traffic and shared between people walking, bicycling, and using other forms of active transportation such as skateboards, scooters, and in-line skates. Typically, multi-use pathways accommodate bi-directional travel and can be located in a variety of contexts, such as along waterfronts, utility or rail corridors, through parks, or adjacent to a road or highway, among other locations. Ideally, bi-directional multi-use pathways should not operate parallel to two-way roads, particularly where the facility crosses roadways and/or numerous driveways<sup>16</sup>. Multi-use pathways are typically considered appropriate for people of all ages and abilities (unless conflicts at intersections and crossings are not mitigated) and may serve as primary arterials, supporting connectors or local connections.

Multi-use pathways may be paved or unpaved. Unpaved sections are considered to meet AAA standards so long as they have a firm and smooth riding surface. If the surface treatment is difficult to ride on, the facility will tend to exclude people using mobility aids (such as wheelchairs) as well as those with thinner tires or smaller wheels.

Multi-use pathways often attract a variety of users, some of which may operate at slower speeds. As a result, providing sufficient space to pass others is an important consideration when designing multi-use pathways.

**Figure 3. Beachfront Multi-Use Path in Peachland**



<sup>16</sup> See the BC Active Transportation Design Guide, Chapter G. Intersections + Crossings, for options to mitigate potential conflicts at intersections.

**Multi-Use Pathway Width Guidance**

<b>Roadway Corridor (Arterial and Collector Roads)</b>	<b>Desirable</b>	<b>Constrained</b>
Pathway Width	4.0m+ <sup>***</sup>	3.0m
Street Buffer Zone Width <sup>*</sup>	≥ 2.0m	0.6m
<b>Roadway Corridor (Local Roads)</b>		
Pathway Width	3.0 – 4.0m <sup>***</sup>	3.0m
Street Buffer Zone Width <sup>*</sup>	≥ 1.5m	0.6m
<b>All Other Contexts</b>		
Pathway Width	3.0m – 4.0m <sup>***</sup>	2.7m
Lateral Clearance	0.6m <sup>****</sup>	0.6m

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

<sup>\*\*\*</sup>For high volume facilities with a variety of different user types, consider using widths at the higher end of the design domain. TAC includes an upper practical limit of 6.0m for this purpose.

<sup>\*\*\*\*</sup>Desirable lateral clearance increases depending on side slope. Source: BC Active Transportation Design Guide, Table E-20

Additionally, pathway design speeds are an important consideration. While there is no single design speed that works for all contexts, for most flat, off-street pathways, a design speed of 30 km/h is generally sufficient. However, a design speed of 20 km/h is more appropriate where multiple conflicts occur, such as driveways, intersections, and where there are higher volumes and a mix of users.

When multi-use pathways become popular, high volumes of people walking and biking and different travel speeds can create conflicts between users. When conflicts occur, they can be mitigated by separating users. Both the TAC Design Guide and the BC Active Transportation Design Guide recommend separating people biking and walking under the following conditions:

- Where there is a high percentage of pedestrians (more than 20% of users) and total user volumes greater than 33 persons per hour per metre of path width; or
- Where there is a low percentage of pedestrians (less than 20% of users) and total user volumes greater than 50 persons per hour per metre of path width.

For facilities that tend to serve higher speed commuter bicyclists, local agencies may wish to pursue separation before the above thresholds are met or a parallel route that is more appropriate for higher speeds. More information on the benefits and limitations of multi-use pathways, typical applications, and design guidance can be found in the BC Active Transportation Design Guide.

## 4.2 Separated Bicycle and Pedestrian Pathways

Separated bicycle and pedestrian pathways are off-street facilities that are similar to multi-use paths, except that they offer physical separation between people walking and rolling. Separated bicycle and pedestrian pathways create a more comfortable environment and minimize the potential safety conflicts between people walking and faster-moving users, such as people bicycling, in-line skaters, and other wheeled modes. These benefits are especially important along pathways with higher volumes of pedestrians and bicyclists.

A separated bicycle pathway should always be located parallel to a pedestrian pathway or a sidewalk. If a parallel facility for pedestrians is not provided, it is likely that a bicycle pathway will be used by pedestrians and function more as a multi-use pathway. The type of separation between pedestrians and bicyclists can range from a painted line, different surface treatments or features, such as posts, curbs, or landscaping. Bicycle and pedestrian paths are physically separated and typically grade separated from motor vehicle traffic. If appropriate design guidance is followed, separated bicycle and pedestrian pathways are typically considered appropriate for all ages and abilities and may serve as a primary arterial or supporting connector in the active transportation network.

**Figure 4. Separated Bicycle and Pedestrian Pathways**



Separated bicycle pathways can be designed to accommodate either uni-directional or bi-directional bicycle travel. Separated pedestrian pathways should be designed to be bi-directional and allow people to travel side-by-side and to accommodate users travelling in the opposite directions. General guidance on widths is provided in the table below.

#### Separated Bicycle and Pedestrian Pathway Width Guidance

Facility	Desired	Constrained
Bicycle Pathway (Uni-directional)	2.0m <sup>**</sup>	1.8m
Bicycle Pathway (Bi-Directional)	4.0m	3.0m
Pedestrian Pathway (Adjacent to a Separated Bicycle Pathway)	2.4 – 3.0 <sup>***</sup>	1.8m

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

<sup>\*\*\*</sup>For high volume facilities with a variety of different user types, use the higher end of the design range

Source: BC Active Transportation Design Guide, Tables E-23 and E-24

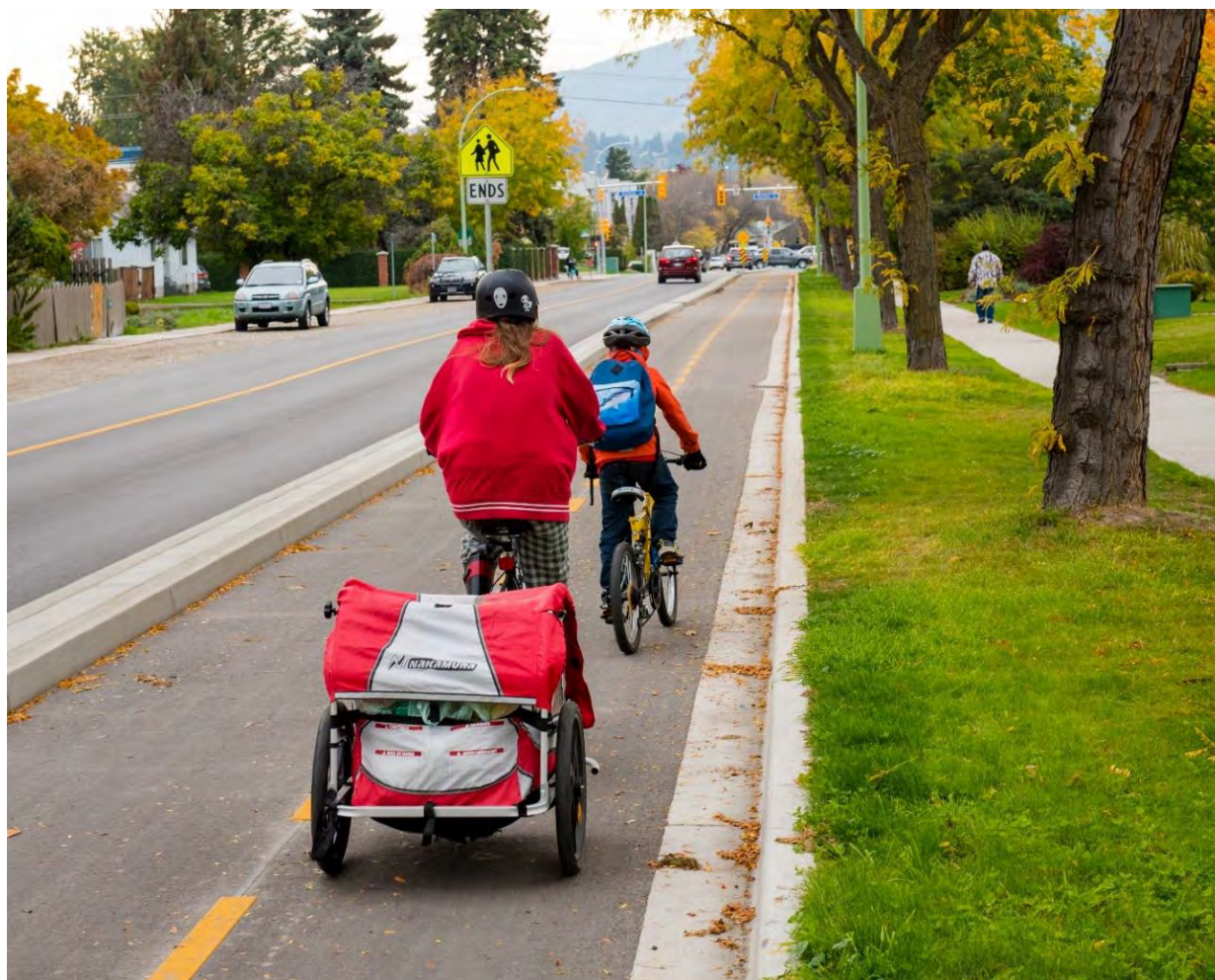
More information on the benefits and limitations of separated bicycle and pedestrian pathways, typical applications, and design guidance can be found in the BC Active Transportation Design Guide.



## 4.3 Protected Bicycle Lanes

Protected bike lanes (PBL) are dedicated facilities designed for exclusive use by people biking and potentially by people using other compatible forms of micromobility (e.g. scooters, skateboards, etc.), where permitted. These facilities are physically separated from motor vehicle traffic by either vertical or horizontal elements.

Figure 5. Protected Bicycle Lane, Sutherland Ave, Kelowna, BC



### Protected Bicycle and Pedestrian Pathway Width Guidance

Protected Bicycle and Pedestrian Pathway Width Elements	Desirable	Constrained	Upper Practical Limit
Bicycle through Zone (uni directional)	2.5m	1.8m	3.0m
Bicycle through zone (bi-directional)	4.0m	3.0m	4.0m
Street Buffer Zone	0.9m**	0.6m	2.0m
Furnishing Zone	Minimum 2.0m	0.25m	-

This facility is considered appropriate for all ages and abilities and can act as a primary arterial route or a supporting route depending on circumstances. The BC Active Transportation Design Guide recommends this facility type where motor vehicle speeds are posted at 50 km/h (and motor vehicle volumes are greater than 4,000 vpd), or locations with high curbside activity (regardless of posted motor vehicle speeds or motor vehicle volumes). In instances where motor vehicle speeds are posted at higher speeds of up to 80 km/h and volumes are high, this facility type is also recommended, assuming the street buffer is toward the upper practical limit.

Examples of separation elements include raised or landscaped medians, concrete barriers, planter boxes, flexible delineator posts, or even on-street parking, among others. This Plan makes a distinction between an Urban Standard and a Rural or Interim Standard Protected Bike Lane. Urban Standard Protected Bike Lanes are built to a higher standard with separation elements that include raised or landscaped medians and concrete barriers as shown in Figure 5. These facilities are appropriate in more highly developed areas with mixed use and higher density residential development. By contrast, Rural or Interim Standard Protected Bike Lanes include separation elements that are quicker and easier to install, including, for instance, standalone planter boxes and flexible delineator posts as shown in Figure 6. These facilities, while providing less physical protection, are appropriate where traffic volumes and curbside activity are relatively low, or as an interim facility. More information on design considerations for protected bicycle lanes is available in the BC Active Transportation Design Guide.

**Figure 6. Protected bike lane using flexible delineator posts and on-street parking along Sutherland Ave in Kelowna**





## 4.4 Painted + Buffered Bicycle Lanes

Painted and buffered bicycle lanes are separate travel lanes designated for the exclusive use of people bicycling. Bicycle lanes can be unbuffered or buffered. Bicycle lanes are typically identified by a solid painted line, with signs and pavement markings placed at regular intervals. Bicycle lanes may also be buffered, in which case an additional painted buffer is added to provide more space between people biking and either the vehicle travel lane or parking lane (or sometimes both). Bicycle lanes can help encourage motorists to stay out of the bicyclists' path and discourage bicyclists from riding on the sidewalk.

Bicycle lanes are different from protected bicycle lanes as they do not provide physical separation between bicycle users and motor vehicles. Bicycle lanes are also different from bicycle accessible shoulders because they are for the exclusive use of people biking.

**Figure 7. Bike Lanes through school zone along Main Street in Lake Country**



Different design considerations are important depending upon the placement of the bicycle lanes which may be curbside, parking adjacent, on the left side, or contraflow. It is important to note that due to recent research and safety considerations, parking adjacent bicycle lanes are no longer recommended in the BC Active Transportation Design Guide.

Bicycle lanes are preferred on roads with speed limits of 50 km/h or less and motor vehicle volumes of 4000 vehicles per day or less. Bicycle lanes typically serve as supporting connectors in a bicycle network.

### Curbside Bicycle Lane Width Guidance

Facility Element	Desired	Constrained
Curbside bicycle	1.8m <sup>**</sup>	1.5m <sup>***</sup>
Buffer <sup>****</sup> (between bicycle lane & motor vehicle lane)	0.6m	0.3m

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

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

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

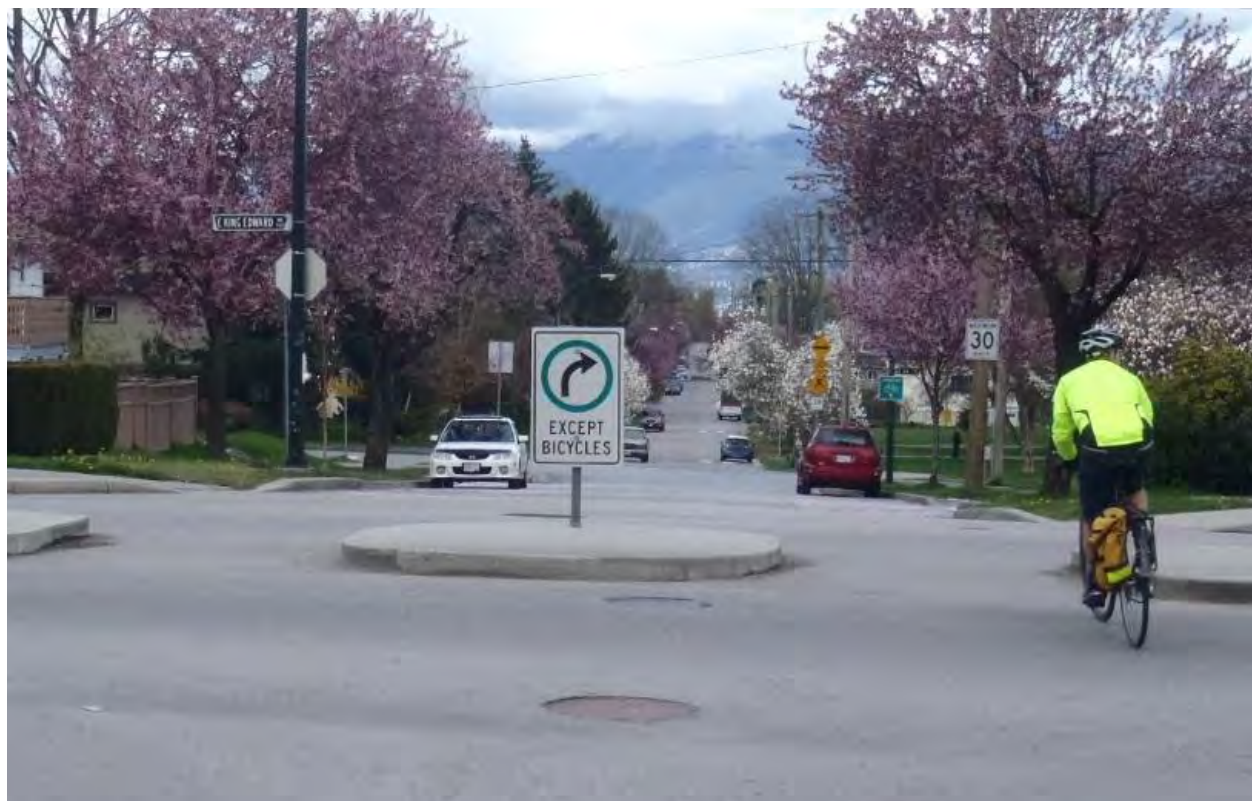
Source: BC Active Transportation Design Guide, Table D-16

More information on different types of bicycle lanes and design guidance can be found in the BC Active Transportation Design Guide.

## 4.5 Neighbourhood Bikeways

Neighbourhood bikeways are streets with low motor vehicle volumes and speeds that have been enhanced to prioritize biking in a shared road environment. Examples of treatments on neighbourhood bikeways include, signage and pavement markings, crossing treatments, traffic calming, and/or traffic diversion to prioritize bicycles and enhance comfort and safety for people biking and other vulnerable road users. Neighbourhood Bikeways can serve a high volume of people riding bikes, particularly on roadways with lower volumes of motor vehicle traffic.

Figure 8. Neighbourhood Bikeway, Windsor Street at King Edward, Vancouver, BC





In accordance with the BC Active Transportation Design Guide, neighbourhood bikeways can be designed to serve people of all ages and abilities as they can create a safe and comfortable environment for people bicycling and people driving motor vehicles to share the road. In order to be classified as AAA, posted speed limits and operating motor vehicle speeds should be 30 km/h or less and motor vehicle volumes should be 500 per day or less (with a maximum average daily traffic of no more than 1,000 vehicles per day). More information on the benefits and limitations of neighbourhood bikeways, types of treatments and typical applications can be found in the BC Active Transportation Design Guide.

In a bicycle network, this type of facility can act like a local, supporting or a primary arterial route.

One thing to note for this type of facility is that the BC Active Transportation Design Guide recommends a desirable clear width<sup>17</sup> of 5.5m, with a minimum of 4.0m in constrained conditions. However, the Transportation Association of Canada (TAC) Geometric Design Guide recommendations result in clear widths of between 4.0 to 4.5m<sup>18</sup>. Given the difference in guidance, this Plan recommends aligning with the BC Active Transportation Design Guide desired clear width wherever possible.

## 4.6 Bicycle Accessible Shoulders

Bicycle accessible shoulders are designed to accommodate people biking by offering a dedicated space for cycling that is free of parked cars. They are typically found along rural roads and are delineated by a solid white line and can be supplemented by signage and pavement markings. Unlike painted bicycle lanes, however, other road users may also use the shoulder including pedestrians and motor vehicles when needed for safety, operations, and maintenance purposes. Bicycle accessible shoulders are not considered an all ages and abilities bicycle facility particularly on roadways with higher motor vehicle volumes and speeds.

Bicycle accessible shoulders are not a desired facility if posted speeds are greater than 50 km/h unless additional buffer width or separation is provided. If bicycle accessible shoulders are provided on roadways with speeds above 50 km/h, the desired shoulder and buffer width increases, as indicated in the table below.

**Bicycle Accessible Shoulder Width Guidance**

Vehicle Speeds	Desirable	Constrained Limit
≤ 50km/h or less	1.8m	1.5m
< 70km/h or less	2.5m	1.5m
> 70km/h or more	3.0m or wider	2.0m
Buffer*	1.2m	0.9m

<sup>17</sup> Clear width refers to the roads operating space, either the space between curbs (if there is no on-street parking) or the space between parked cars (if there is on-street parking).

<sup>18</sup> The TAC guide considers total roadway width, with parking on one or both sides. Using a 3.0m parking width (including space for the door swing), this results in total roadway width practical upper limits of 7.5m and 10.0m respectively (resulting in clear widths of 4.0 to 4.5m).

\* An engineering exception report would be required to justify a relaxation from the desirable guidelines listed in the Table.

\*Between shoulder and moving vehicle lane when speeds or volumes are high

Source: BC Active Transportation Design Guide, Table D-19

This facility type is suitable to serve as a supporting route, or as a local connection where vehicle volumes (i.e.  $\leq 2000$  vehicles per day) and speeds are lower. More information on typical applications, design considerations, signage and pavement markings for bicycle accessible shoulders is available in the BC Active Transportation Design Guide.

**Figure 9. Bike Accessible Shoulder with Markings along Marine Drive, Vancouver, BC**



## 4.7 Intersections & Crossings

The design of intersections and crossings is integral to the comfort and safety of any bikeway or trail facility and must take many factors into consideration. Intersections involve complex interactions between all modes of transportation and are generally the locations where most collisions occur. Special design considerations are needed at locations where bicycle and trail facilities intersect with other roads and where people biking and walking are directly exposed to motor vehicles. In accordance with the BC Active Transportation Design Guide, the following design principles are recommended to provide safe, comfortable, and accessible intersection crossing treatments for all users:

- Design for all ages and abilities
- Minimize conflicts between users
- Ensure clarity of right-of-way
- Reduce speed at conflict points
- Ensure clear sightlines
- Make intersections as compact as possible

For more detailed guidance related to intersection designs and crossing treatments please refer to Chapter G. Intersection + Crossings of the *BC Active Transportation Design Guide*, as well as the TAC *Geometric Design Guide*. Also refer to Section 6.1.3 in this document for additional Ministry of Transportation and Infrastructure requirements.

## 5 Proposed Network

Figure 10 illustrates the proposed 193 km network, including 82 km that exist today, 81 km that are not yet constructed, and 30 km that need an upgrade. Detailed mapping is included in Appendix 1, 2, and 3 that shows the proposed regional bicycling and trail network by primary regional and supporting corridors, facility types, and phasing recommendations. Appendix 4 provides a summary of costs by facility and jurisdiction. The alignments shown on the maps are suggestions based on high-level planning analysis. Alignment recommendations may change as projects go through more detailed planning and design.

**Figure 10. Regional Bicycling and Trails Network broken down by Primary Regional and Supporting Links**



The following figures show the network through specific sub-areas in the region. Table 1 provides a summary of the length of recommended new and upgraded facilities by jurisdiction.

**Figure 11. Recommended network through Peachland**



As shown in Figure 11, the network through Peachland focuses on providing a safe and comfortable route parallel to Highway 97. The proposed primary regional spine route (shown in green on the map) continues the Westside Trail to connect through Peachland's town centre along Drought Road, Buchanan Road and Beach Avenue. The topography and limited right of way make connections through Peachland challenging. Recognizing this constraint, an alternative route in lieu of connecting along Drought Road is along the Highway right-of-way. This alternative requires further investigation and conversations with the Ministry of Transportation and Infrastructure.



Figure 12. Recommended Network through West Kelowna and WFN (IR 9) around the Westbank Town Centre

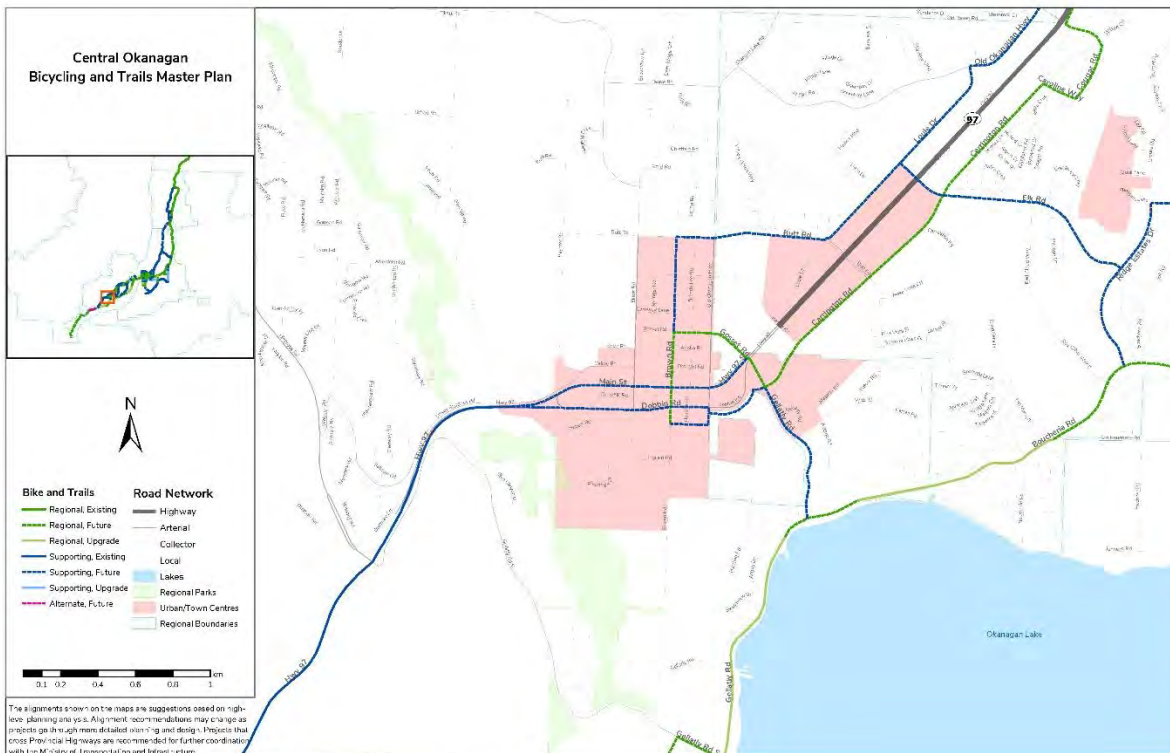
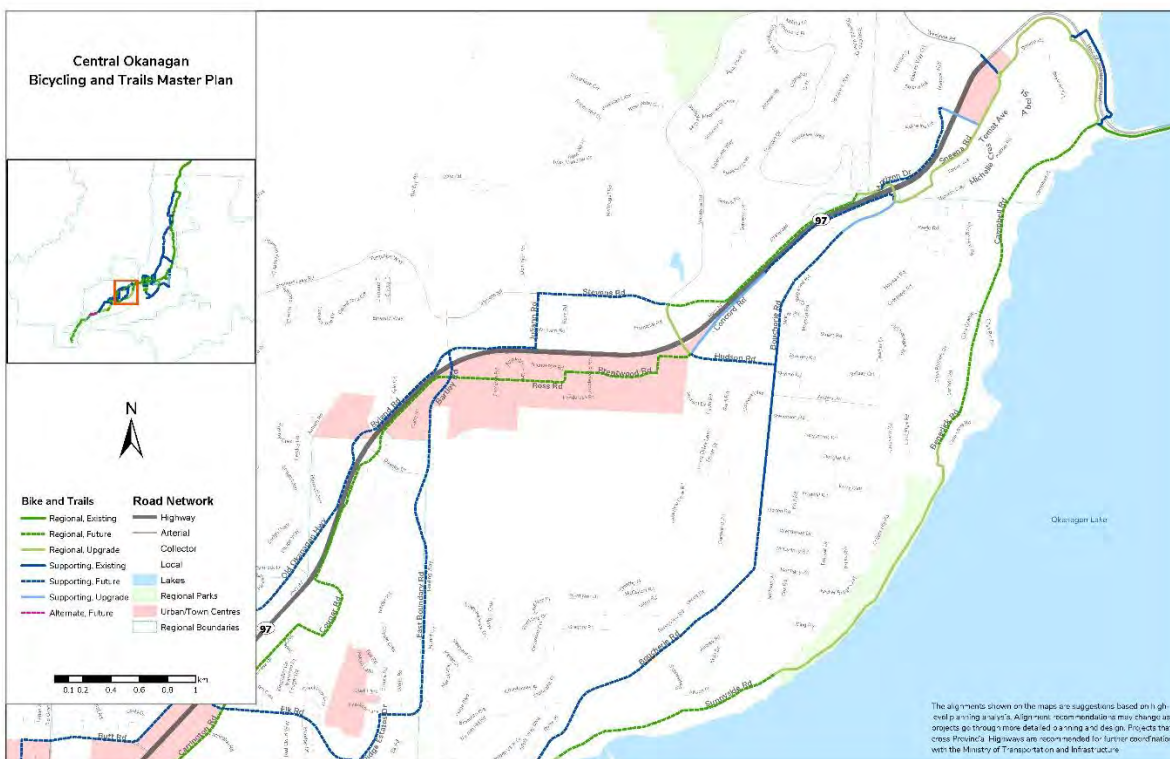
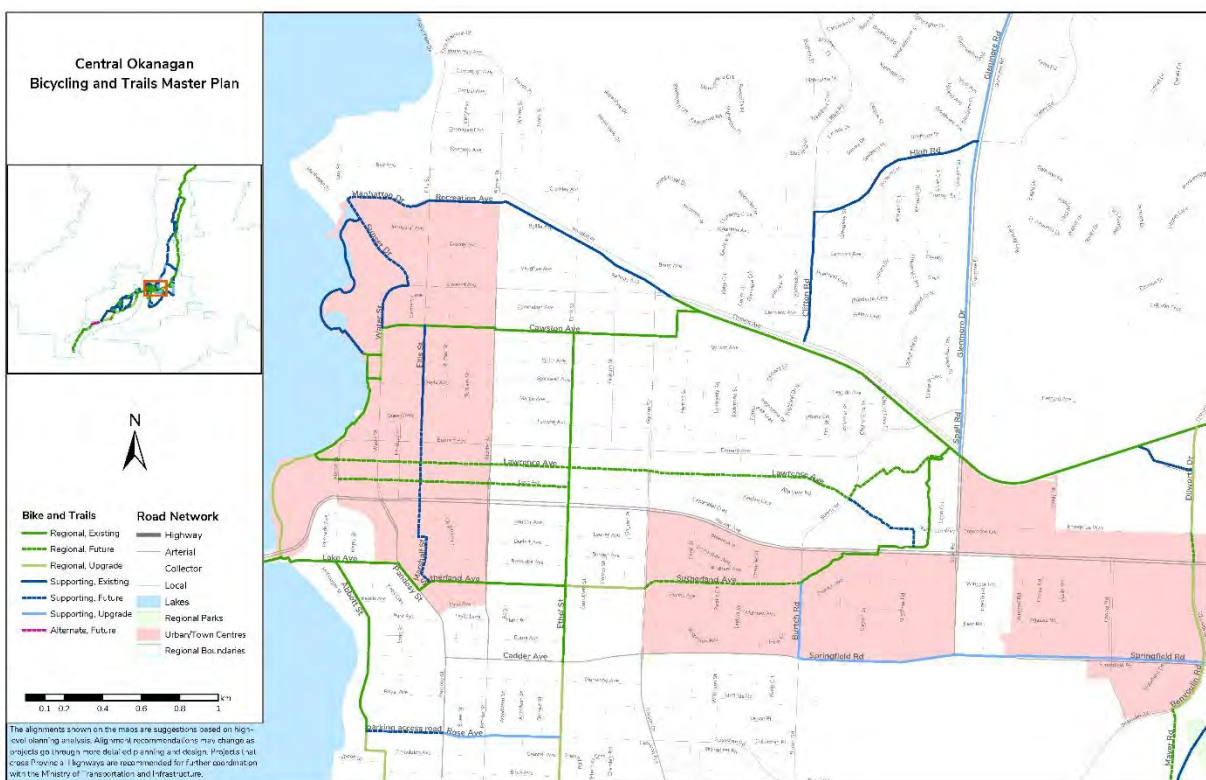


Figure 13. Recommended network in West Kelowna and WFN (IR 10)



As shown in Figure 12 and 13, the network through West Kelowna and Westbank First Nation (WFN) focuses on two primary regional spines: the Westside Trail and a route parallel to the Highway 97 corridor. Supporting connections provide links between the two primary regional spine corridors and offer additional connectivity to town centre areas along the north side of the highway. The proposed network is the beginning of a grid of regional routes that will overlap with a finer grid of local bicycle networks in West Kelowna and WFN. The network offers an opportunity for direct travel for commuters as well as a loop system for recreational users.

**Figure 14. Recommended network through central Kelowna**



The recommended network for central Kelowna is shown in Figure 14. The network branches at the W.R. Bennett Bridge to provide primary regional spine connections to the Okanagan Rail Trail and downtown north of Highway 97. South of Highway 97 the primary regional spine connects to the Kelowna General Hospital (KGH), Pandosy Urban Centre and Okanagan College, and also east to the Capri/Landmark Urban Centre and Midtown Urban Centre.

Figure 15. Recommended network south of Highway 97 in Kelowna

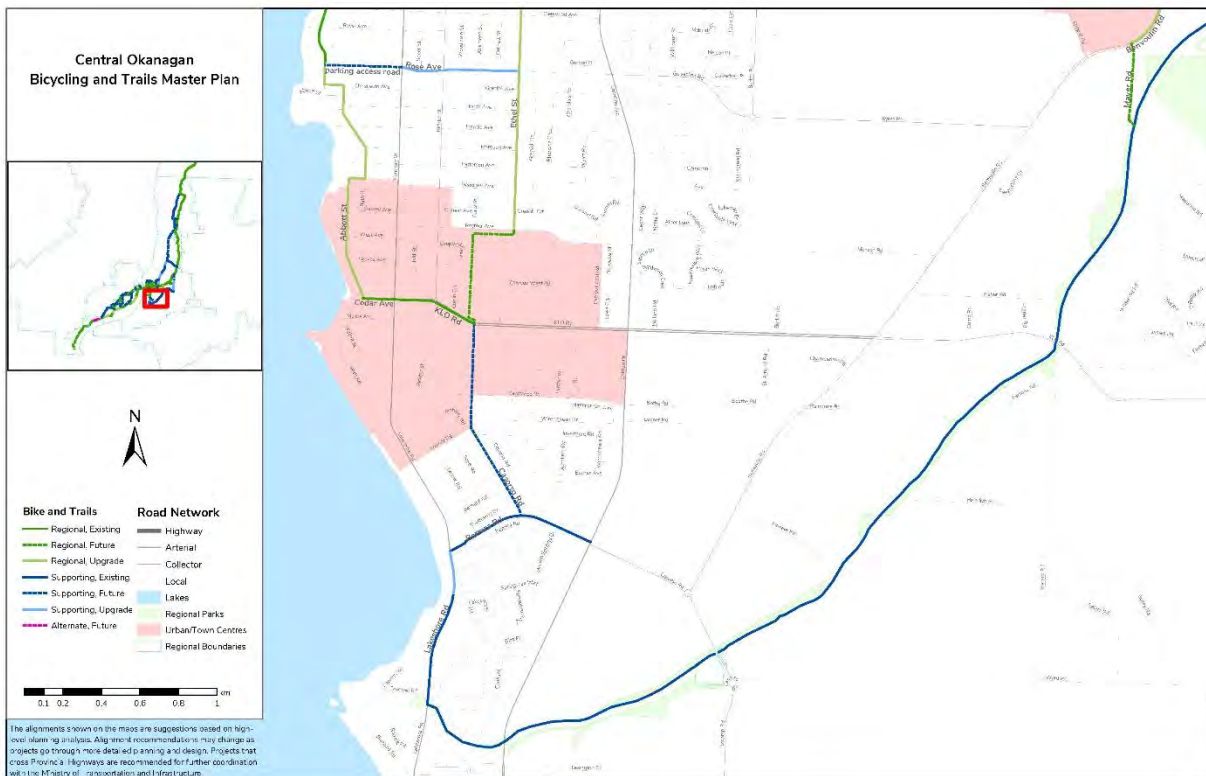


Figure 15 shows the recommended network south of Highway 97, providing connections through the Pandosy Urban Centre. Secondary connections link the primary regional spine to the Mission Creek Greenway.

Figure 16, on the following page, shows the recommended network through Okanagan Indian Band (OKIB) Duck Lake IR 7 and Lake Country. The Okanagan Rail Trail forms the primary regional spine through the area. Supporting connections include Glenmore Road, Bottom Wood Lake Road, and the Pelmeash Parkway. Similar to the regional network shown in West Kelowna and WFN, the network through OKIB Duck Lake IR 7 and Lake Country offers direct connections for commuters and also loop opportunities for recreational users.



Figure 16. Recommended network in Lake Country

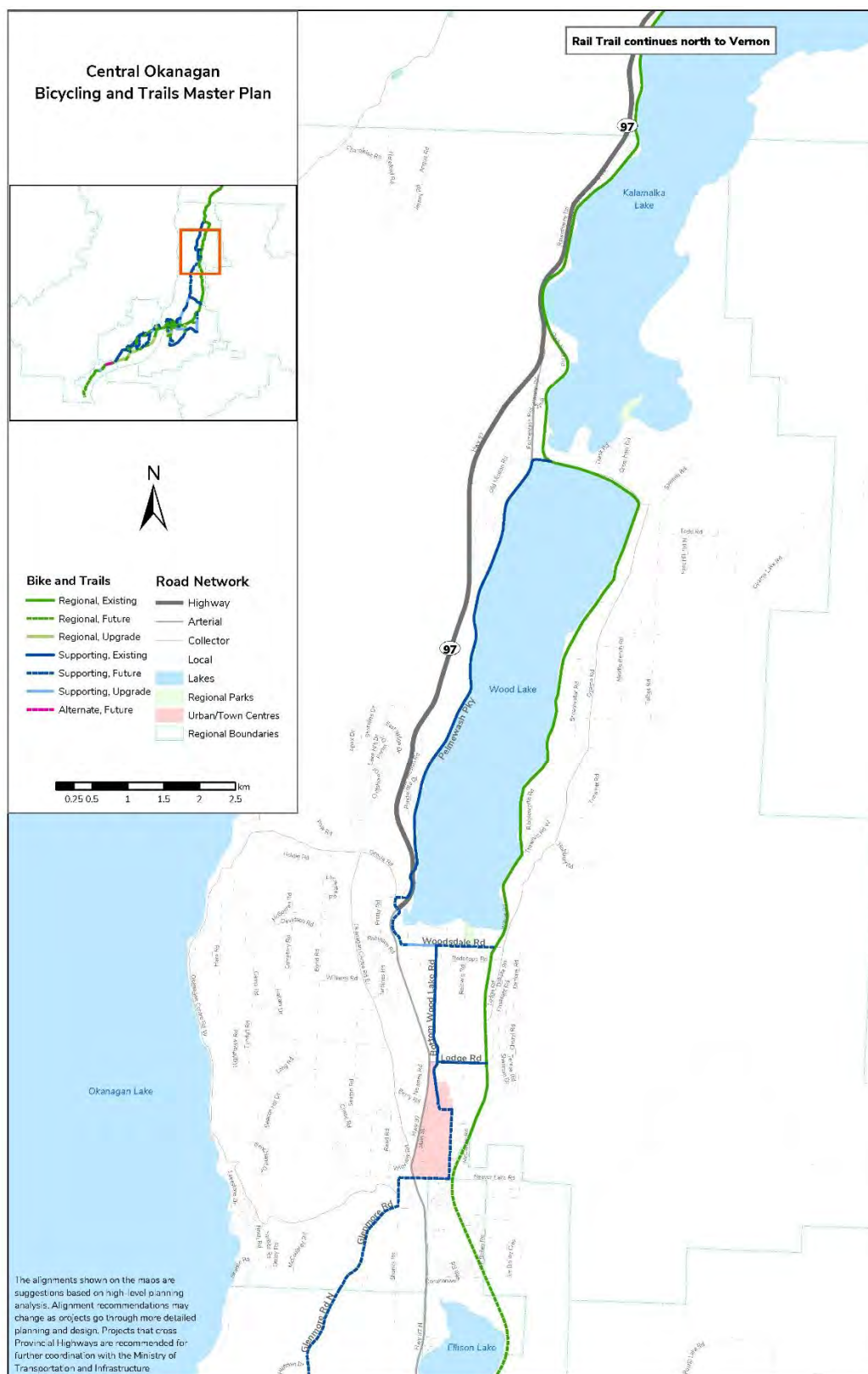


Table 1. Summary of Regional Network by Jurisdiction

Jurisdiction	Length (m)
<b>Peachland</b>	
Regional Network (New)	10,989
Regional Network (Upgrade)	-
Supporting Network (New)	-
Supporting Network (Upgrade)	322
<b>Existing Network</b>	<b>2,096</b>
<b>Total Network</b>	<b>13,407</b>
<b>Total Network (New or Upgrade)</b>	<b>11,311</b>
<b>West Kelowna</b>	
Regional Network (New)	12,060
Regional Network (Upgrade)	6,925
Supporting Network (New)	15,396
Supporting Network (Upgrade)	1,214
<b>Existing Network</b>	<b>4,680</b>
<b>Total Network</b>	<b>40,276</b>
<b>Total Network (New or Upgrade)</b>	<b>35,596</b>
<b>Westbank First Nation</b>	
Regional Network (New)	5,815
Regional Network (Upgrade)	3,536
Supporting Network (New)	6,957
Supporting Network (Upgrade)	291
<b>Existing Network</b>	<b>1,406</b>
<b>Total Network</b>	<b>18,005</b>
<b>Total Network (New or Upgrade)</b>	<b>16,598</b>
<b>Kelowna</b>	
Regional Network (New)	13,904
Regional Network (Upgrade)	5,418
Supporting Network (New)	10,495
Supporting Network (Upgrade)	11,807
<b>Existing Network</b>	<b>48,002</b>
<b>Total Network</b>	<b>89,626</b>
<b>Total Network (New or Upgrade)</b>	<b>41,624</b>
<b>Lake Country</b>	
Regional Network (New)	-
Regional Network (Upgrade)	-
Supporting Network (New)	5,670
Supporting Network (Upgrade)	403
<b>Existing Network</b>	<b>25,848</b>
<b>Total Network</b>	<b>31,922</b>
<b>Total Network (New or Upgrade)</b>	<b>6,074</b>
<b>Regional Summary</b>	
<b>Existing Network</b>	<b>82,033</b>
<b>Total Network</b>	<b>193,234</b>
<b>Total (New or Upgrade)</b>	<b>111,202</b>



## 5.1 Regional Network by Facility Type

The proposed regional bicycle and trails network includes 154 km of fully separated facilities (e.g., multi-use paths, separated bicycle and pedestrian paths, or protected bicycle lanes), 26 km of on-street painted bicycle lanes and bicycle accessible shoulders, and 13 km of shared facilities (neighbourhood bikeways). With 82 km of the network in place, there remains 81 km to be constructed and 30 km to be upgraded in the future. Figure 17 illustrates the proposed facility types by corridor. The facility types shown are suggestions based on high-level planning analysis. Facility type recommendations may change as the projects go through more detailed planning and final design. Appendix 2 provides more detailed maps by sub-area.

**Figure 17. Regional Bicycling and Trails Network by Facility Type**

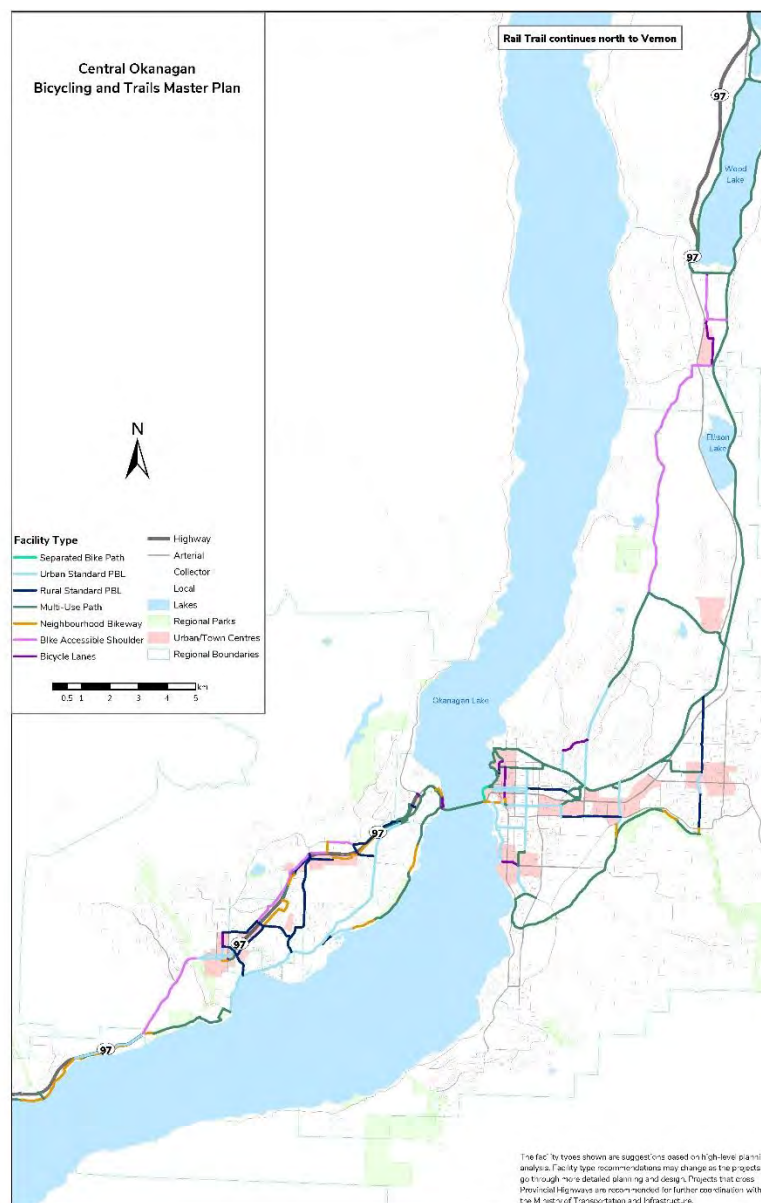


Table 2 provides a summary of facility types by jurisdiction. It is important to note that some routes have multiple facility types, (e.g. bicycle lanes next to a multi-use pathway), but only the higher-order facility type is summarized here. Alternate routes are not included in this calculation.

**Table 2. Summary of Facility Types by Jurisdiction**

Facility Type	Peachland (m)	West Kelowna (m)	WFN (m)	Kelowna (m)	Lake Country (m)	Total (m)
Urban Standard Protected Bicycle Lane	6,435	11,942	1,724	19,012	-	39,113
Rural Standard Protected Bicycle lane	-	9,701	5,274	7,783	-	22,758
Multi-Use Paths	2,826	7,496	5,745	50,437	25,143	91,647
Neighbourhood Bikeways	4,146	4,677	2,452	2,037	-	13,313
Bicycle lanes	-	573	850	2,972	1,855	6,005
Bicycle Accessible Shoulders	-	5,886	2,205	6,699	4,923	19,713
Separated Bicycle and Pedestrian Pathway	-	-	-	686	-	686
<b>Total (m)</b>	<b>13,407</b>	<b>40,276</b>	<b>18,005</b>	<b>89,626</b>	<b>31,922</b>	<b>193,438</b>

## 5.2 Costs

High-level cost estimates have been developed for the proposed regional bicycling and trails network, based on typical construction costs for various types of facilities. A 50% percent contingency has been used to reflect the high planning-level cost assumptions and to provide flexibility in determining the final design of the improvements. Based on the above, cost estimates by facility type are included in Appendix 4.

The total network cost for all facilities not yet in place are estimated to be in the order of \$88.1 million, which includes a requirement for \$55.1 million for the primary regional 'spine' network and \$33 million for the 'supporting' connector routes. In comparison, a single highway interchange project can cost \$50 million or more. Building the proposed regional bicycling and trails network will enable more people to bike for all types of trips, benefiting the climate, economy, and public health, and will provide excellent value for the investment.

## 5.3 Phasing Strategy

Due to the large number of potential projects and magnitude of funding required, a phasing plan has been developed in collaboration with local government representatives to identify projects by priority. Higher priority projects fill critical gaps and are suggested for implementation within 5 years, where

feasible. Medium priority projects are recommended for implementation within 10 years, and lower priority projects are recommended for implementation within 20 years, as illustrated in Figure 18.

**Figure 18. Regional Bicycling and Trails Network by Phasing Recommendations**

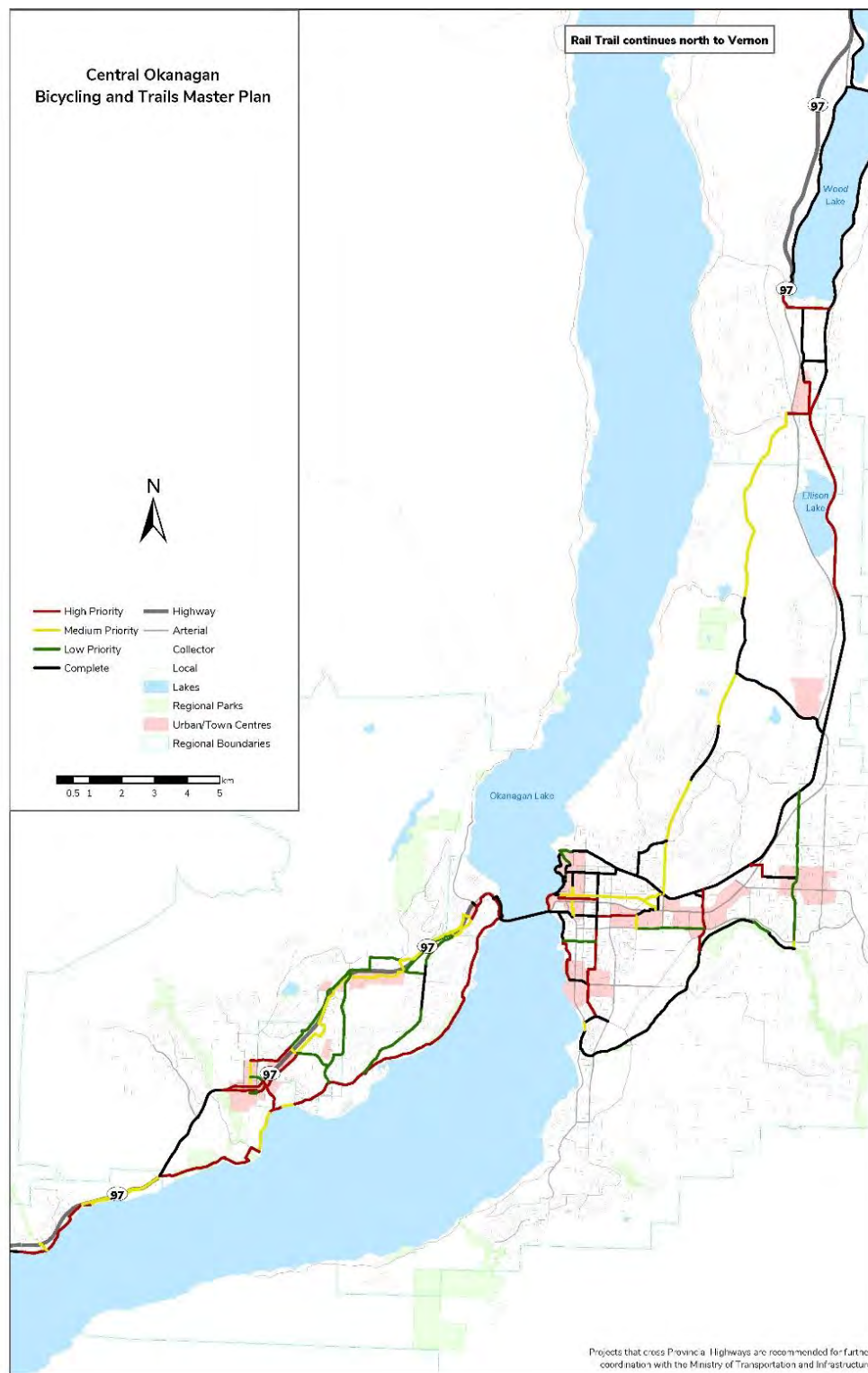


Table 3 provides a summary of the phasing recommendations by jurisdiction.

**Table 3. Summary of New or Upgraded Facilities by Phases**

Jurisdiction	Length (m)**
<b>Peachland</b>	
High (0 - 5 years)	2,983
Medium (5-10 years)	2,633
Low (10 – 20 years)	5,694
<b>West Kelowna</b>	
High (0 - 5 years)	14,945
Medium (5-10 years)	7,770
Low (10 – 20 years)	12,881
<b>WFN</b>	
High (0 - 5 years)	7,201
Medium (5-10 years)	4,859
Low (10 – 20 years)	4,538
<b>Kelowna</b>	
High (0 - 5 years)	16,793
Medium (5-10 years)	15,290
Low (10 – 20 years)	9,540
<b>Lake Country</b>	
High (0 - 5 years)	3,433
Medium (5-10 years)	1,892
Low (10 – 20 years)	0

\*\*Note that Alternate routes are not included in this count.

## 5.4 Priority Projects

Local bicycling networks vary considerably throughout the Central Okanagan in terms of their quality and connectivity. In this plan, the highest priority is to establish a high quality primary regional 'spine' system linking urban and town centres throughout the region. Other projects in this Plan that are indicated as a high priority, but which do not fall on the primary regional system, are those which:

- Have high levels of support from internal stakeholders;
- Fill key functional gaps; or
- Have funding sources identified.

High priority projects listed below are also mirrored within the *Central Okanagan Regional Transportation Plan* to create seamless direction for transportation planning within the region.

A list of full projects with detailed costing is presented in Appendix 4. The project list includes reference to where these projects are also supported in existing local policies or plans.

### 5.4.1 Pelme wash Parkway – Okanagan Rail Trail Connector Multi-use Path

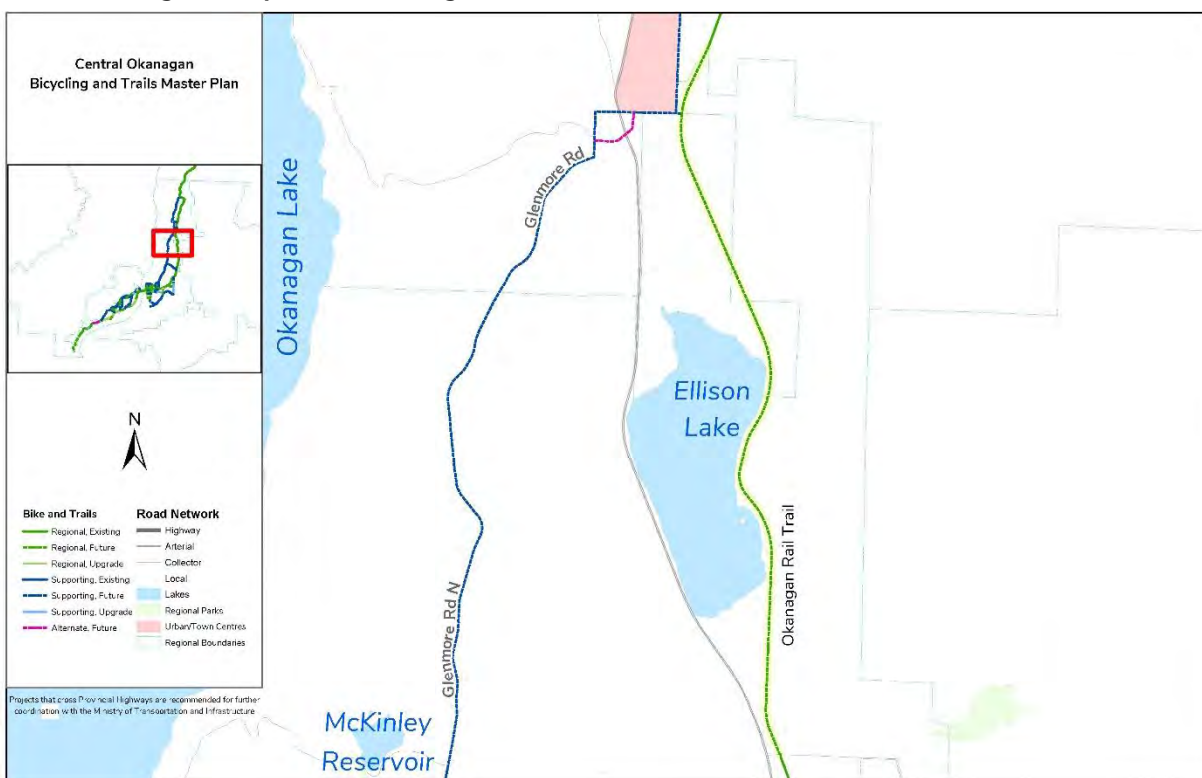


With Lake Country making major investments to their bicycling network by completing multi-use paths on both sides of Wood Lake (Okanagan Rail Trail and Pelme wash Parkway), the final step to complete the loop should be considered a high priority. A high-quality connection can be constructed efficiently and effectively using the available right of way along Pretty Road, Oceola Rd, and Woodsdale Rd. Specific routing should be established through the design process, aiming to limit disturbance to existing street trees and utilities. In the long term, a route that continues down the eastern side of Hwy 97 should be considered, to avoid crossing the Highway. Completing this link would also create a comfortable and accessible ~17 km loop around Wood Lake.

Route On	From	To	Length (m)	Facility Type
Woodsdale Rd	Bottom Wood Lake Rd	Okanagan Rail Trail	822	Multi-Use Pathway
Woodsdale Rd	Bottom Wood Lake Rd	Seymour Rd	403	Multi-Use Pathway
Woodsdale Rd	Hwy 97	Seymour Rd	651	Multi-Use Pathway
Oceola Rd, Petty Rd	Woodsdale Rd	Pelme wash Pky On-ramp MUP	332	Multi-Use Pathway



### 5.4.2 Closing the Gap in the Okanagan Rail Trail



Completing the Okanagan Rail Trail is essential to the success of the *Regional Bicycling and Trails Master Plan* as this corridor represents the primary regional connection between Kelowna, Lake Country, and Vernon to the north. As there is currently no high-quality connection between Kelowna and Lake Country, this limits the feasibility of active transportation trips to and within the eastern portion of the region. Completing the missing 6.5 km of routes between Kelowna, (through IR#7 Duck Lake), and into Lake Country, would create a 48.5km continuous, high-quality route linking the communities to the eastern side of Okanagan Lake.

The gap exists today as The Department of Indigenous Services Canada is facilitating the transfer of corridor ownership from CN Rail to the Government of Canada and deemed the lands for the use and benefit of the OKIB, through the federal Addition to Reserve (ATR) process. Construction and public use of the Okanagan Rail Trail through IR#7 Duck Lake would not occur until after this process is complete and is also subject to OKIB affirming participation in the Okanagan Rail Trail including public access to the lands. There is no specified time frame for this complex project, and currently no comfortable route around this closed section.

Route On	From	To	Length (m)	Facility Type
Okanagan Rail Trail	Old Vernon Rd	Duck Lake IR Boundary	3,251	Multi-Use Pathway
Okanagan Rail Trail	Duck Lake IR Boundary (south)	McCarthy Road	2,605	Multi-Use Pathway
Okanagan Rail Trail	Beaver Lake Rd	McCarthy Road	632	Multi-Use Pathway

### 5.4.3 Dilworth Connection



A north-south connection between the Okanagan Rail Trail and Mission Creek Greenway will link regional routes on either side of Highway 97 and provide a connection into and through the Midtown urban centre. It would offer a continuous AAA connection around the heart of Kelowna and enhance connectivity to regionally significant locations such as Landmark and the Orchard Park Shopping Centre. Coordination with the Ministry of Transportation and Infrastructure regarding the crossing of Highway 97 will be an important part of the project planning and design process.

Additionally, it should be noted that a separate study analyzed Cooper Road as another possible alignment to connect the Okanagan Rail Trail and Mission Creek Greenway. The study found that either Cooper Road or Dilworth Drive would provide similar benefits. Since the important and urgent need is to create a safe AAA connection between the Okanagan Rail Trail and the Mission Creek Greenway, this plan considers either Dilworth Drive or Cooper Road to be appropriate alignments. If development and funding conditions enable the completion of an AAA facility along one corridor sooner than the other, the corridor that can be completed the soonest is considered the priority.

Route On	From	To	Length (m)	Facility Type
Dilworth Dr	Enterprise Way	Okanagan Rail Trail	553	Urban Standard Protected Bicycle Lane
Dilworth Dr	Harvey Ave	Enterprise Way	150	Urban Standard Protected Bicycle Lane

Route On	From	To	Length (m)	Facility Type
Benvoulin Rd, Dilworth Dr	Mayer Rd	Harvey Ave	831	Urban Standard Protected Bicycle Lane
Mayer Rd	Mission Creek Greenway	Benvoulin Rd	442	Neighbourhood Bikeway

#### 5.4.4 Westside Trail

Both the Westside Trail and key portions of the route parallel to Highway 97 are identified as high priorities.

Figure 19. Westside Trail



The Westside Trail will be the primary regional corridor for the western communities. This route follows the edge of Okanagan Lake from the WR Bennett Bridge to Peachland. Aiming for an all ages and abilities standard, these facilities are predominantly separated facilities, protecting cyclists from motor vehicle traffic. The routing travels through both Goats Peak and Kalamo Regional Parks, and ecological considerations suggest these sections should remain unpaved. This route will nonetheless serve both commuter and utilitarian cyclists travelling east-west, while also forming part of the Trail of the Okanagans<sup>19</sup>, and could help draw tourists to the area as part of a greater 'wine trail'<sup>20</sup> route.

<sup>19</sup> <https://www.trailoftheokanagans.com/>

<sup>20</sup> <https://www.thewestsidewinetrail.com/>

As noted in Table 4 on the following page, the Drought Road route is preferred. An alternate route connecting Peachland to the Westside Trail and Highway 97 parallel corridor is to be pursued only if Drought Road is not achievable upon further technical analysis and review. Completion of the Westside Trail will require securing the needed right-of-way, which will entail more detailed corridor-level planning and design work.

**Table 4. Westside Trail Segments and Proposed Facility Types**

Route On	From	To	Length (m)	Facility Type
Hwy 97	Brent Rd	Beach Ave	5,694	Urban Standard Protected Bicycle Lane
Beach Ave	13th St	Buchanan Rd	2,123	Neighbourhood Bikeway
Buchanan Rd, Robinson Pl	Beach	Robinson Lane	860	Neighbourhood Bikeway
Robinson Drought Trail	Robinson Pl	Drought Rd	407	Multi-Use Pathway
Drought Rd	RD Trail	Hwy 97	1,163	Neighbourhood Bikeway
Hwy 97	Drought Rd	Seclusion Bay Rd	741	Urban Standard Protected Bicycle Lane
Seclusion Bay Rd	Hwy 97	Goats Peak Park	394	Neighbourhood Bikeway
Goats Peak Path	Seclusion Bay Rd	Witworth Rd	1,825	Multi-Use Pathway
Witworth Rd	Goats Peak Path	Gellatly Nut Farm Path	767	Multi-Use Pathway
Witworth Rd, Gellatly Rd S	George Crt	Cove Path	753	Multi-Use Pathway
Gellatly Rd	Cove Path	Gellatly Bay Park	1,276	Urban Standard Protected Bicycle Lane
Gellatly Rd, Boucherie Rd	Gellatly Bay Park	WFN Public Beach	457	Urban Standard Protected Bicycle Lane
Boucherie Rd	WFN Public Beach	End of WFN Public Beach	382	Urban Standard Protected Bicycle Lane
Boucherie Rd	End of WFN Public Beach	Old Boucherie Rd	703	Urban Standard Protected Bicycle Lane
Boucherie Rd	Old Boucherie Rd	Pritchard Dr N	997	Urban Standard Protected Bicycle Lane
Boucherie Rd	Pritchard Dr N	Green Bay Rd	785	Urban Standard Protected Bicycle Lane
Green Bay Rd	Boucherie Rd	Green Bay - Sunnybrae Path	483	Rural Standard Protected Bicycle Lanes
Green Bay - Sunnybrae Path	Green Bay Rd	Sunnybrae Rd	728	Multi-Use Pathway
Sunnybrae Rd, Sunnyside Rd	Green Bay - Sunnybrae Path	Kalmoir Park Path	931	Neighbourhood Bikeway
Kalmoir Park Pathway	Sunnyside Rd	Benedick Rd	2,180	Multi-Use Pathway
Benedick Rd, Campbell Rd	Kalmoir Pathway	Lucinde Rd	280	Neighbourhood Bikeway



Route On	From	To	Length (m)	Facility Type
Campbell Rd	Lucinde Rd	Casa Grande Rd	690	Neighbourhood Bikeway
Campbell Rd	Casa Grande Rd	IR #10 Boundary	837	Multi-Use Path and Bicycle Lanes
Campbell Rd	IR #10 Boundary	WR Bennett Bridge	2,347	Multi-Use Path and Bicycle Lanes

#### 5.4.5 Highway 97 Parallel Route

Developing an active transportation route parallel to Highway 97 between the W.R. Bennett Bridge and the Westbank Town Centre should be the next priority for the westside after construction of the Westside Trail. Using routing on both sides of the Highway, this route takes advantage of interchange projects to create a continuous, high-quality active transportation link between West Kelowna and Westbank First Nation's town centres.

Figure 20. Highway 97 Parallel Route



There are several corridors on the Westside that may require additional traffic calming or traffic diversion treatments to achieve comfortable and safe conditions for bicyclists. Brentwood Road serves multiple school trips each day (connecting to Hudson Road Elementary and Mount Boucherie Secondary). Steadily growing traffic volumes may warrant increased traffic calming and/or diversion to achieve conditions that support the implementation of a neighbourhood bikeway. These costs have been considered and accounted for in this plan and are summarized in Appendix 4.

As the bulk of this route is unbuilt, it offers the opportunity to provide a consistent facility and to serve people of all ages and abilities. However, a phased approach for this route may be preferable for implementation. At a cost of \$3.6 million, this route can be completed at a lower standard with all Rural Standard Protected Bicycle Lanes first implemented as standard Bicycle Lanes. Then, over time, these bike lanes can be upgraded to the full Rural Standard Protected Bike Lanes at a cost of an additional \$2 million to finish the route at a full AAA standard.

**Table 5. Highway 97 Parallel Route Segments and Proposed Facility Types**

Route On	From	To	Length (m)	Facility Type
Gellatly Rd	Hwy 97/Gosset Rd	Carrington Rd	186	Rural Standard Protected Bicycle Lanes
Park Cut Through, Carrington Crt	Old Okanagan Hwy	Carrington Rd/Gellatly Rd	372	Multi-Use Pathway
Carrington Rd	Gellatly Rd	WFN Boundary	233	Rural Standard Protected Bicycle Lanes
Carrington Rd	WFN Boundary	Elk Rd	1,180	Rural Standard Protected Bicycle Lanes
Carrington Rd	Elk Rd	Caroline Way	804	Neighbourhood Bikeway
Caroline Way	Carrington Rd	Cougar Rd	189	Neighbourhood Bikeway
Cougar Rd	Caroline Way	Grizzly Rd	319	Neighbourhood Bikeway
Grizzly Rd	Cougar Rd	Hwy 97	241	Neighbourhood Bikeway
Hwy 97 ROW	Grizzly Rd	Cougar Rd	586	Multi-Use Pathway
Cougar Rd, Ross Rd	Hwy 97 ROW Path	Daimler Dr	433	Neighbourhood Bikeway
Ross Rd	Daimler Dr	Bartley Rd	803	Rural Standard Protected Bicycle Lanes
Ross Rd	Bartley Rd	Brentwood Rd	880	Rural Standard Protected Bicycle Lanes
Brentwood Rd	Ross Rd	Alhambra Dr	655	Neighbourhood Bikeway
Alhambra Dr, Hudson Rd	Brentwood Rd	Hudson Rd	354	Neighbourhood Bikeway
Westlake Rd	Stevens Rd	Concord Rd	399	Rural Standard Protected Bicycle Lanes
Stevens Rd	Westlake Rd	Marshall Rd	924	Rural Standard Protected Bicycle Lanes
Stevens Rd Extension	Marshall Rd	Horizon Dr Interchange	714	Rural Standard Protected Bicycle Lanes
Horizon Dr Interchange	Stevens Rd Extension	Boucherie Rd	380	Rural Standard Protected Bicycle Lanes
Hayman Rd, Sneena Rd	Boucherie Rd	Nancee Way	882	Multi-Use Path
Sneena Rd	Nancee Way	Campbell Rd	1927	Multi-Use Path

## 6 Implementation Requirements

Implementation of the Regional Bicycling and Trails Master Plan includes a planning framework built around four key elements:

- i. Plan, Design and Build
- ii. Operate and Maintain
- iii. Educate and Promote
- iv. Monitor and Evaluate

So far, the Plan has focused on identifying a vision for a comprehensive network of regional bicycle and trail facilities that will link urban and town centres and major regional destinations (i.e. plan, design, build). However, to achieve the shifts in transportation that are necessary to move from an auto dominated transportation system to one that delivers greater use of sustainable transportation modes (walking, bicycling and transit), additional actions are required to complement and support the projects identified in Section 5.

### 6.1 Plan, Design and Build

This Plan provides recommendations for a network of routes that will link urban and town centres and regional destinations throughout the region with direct and comfortable bicycling facilities for both commuters and recreational users. There are several supporting elements that, if implemented, will increase the appeal and functionality of the regional network such as wayfinding, end of trip facilities, and integration with transit and shared mobility options, such as bikeshare or scooter share (often referred to as shared micromobility).

#### 6.1.1 Protect and Negotiate Rights of Way

One of the greatest constraints for this network will be where certain segments require travelling through privately owned property. Planning to protect these rights of way will be a critical step in successfully implementing the network. One way to strengthen these connections is to include them in long term planning documents such as Official Community Plans and Transportation Master Plans, and to engage with property owners early in the project planning and design process.

#### 6.1.2 Funding

Stable and long-term funding sources will be required from municipal, provincial and senior levels of governments to fully realize the long-term vision in this plan. Local governments and First Nations should continue to work together to establish a single voice to communicate effectively with other levels of government and demonstrate how new investments in sustainable transportation infrastructure can be allocated effectively and equitably to support economic growth and promote healthy, prosperous communities.

### 6.1.3 Provincial Highway Crossings

For all Provincial highway crossings, the Ministry of Transportation and Infrastructure requires:

1. An application preferably from the local government as the enduring entity
2. Design layout consistent with the BC Supplement to the TAC Geometric Design Guide which shall include, but not be limited to:
  - Detailed civil design (sealed)
  - Turning Templates using the most appropriate TAC design vehicles (using a minimum of a WB20 and IBUS/Firetruck). The template must show smooth arches with adequate offsets from all civil elements, pedestrians, cyclists, opposing lanes and other turning vehicles, etc.
  - Property lines/available right-of-way with overlay of needed right-of-way.

### 6.1.4 Wayfinding

In addition to physical bicycling and trail infrastructure, clear wayfinding, including pavement markings and signage, are also important to aid in orientation, navigation, and exploration of the regional network. The Central Okanagan Active Transportation Regional Wayfinding Strategy (2015) provides a common design standard for regional pathway and bikeway signage that should be implemented along existing routes and as facilities are added or upgraded. This guidance is consistent with active transportation wayfinding design guidance in the TAC Manual of Uniform Traffic Control Devices (5th Edition, 2014) and the BC Active Transportation Design Guide (2019).

### 6.1.5 End of Trip Facilities

End of trip facilities are important components of any bicycle and trail network. Generally, end of trip facilities are places that support bicyclists at the end of their trip or rest stops, such as safe and secure bicycle parking, public washrooms, bike repair stations, water fountains, and seating.

Individual municipalities will often determine the location of these areas. Secure and highly visible bicycle parking in urban areas is also important. For example, The City of Kelowna delivers a bicycle rack program that allows businesses and community organizations to receive subsidized, quality, secure bicycle storage, supplemented by bicycle lockers, available for rent by the month within town centres. Similar bicycle rack cost-share programs are recommended throughout the Central Okanagan.

Recognizing the effects of climate change, shade, rest locations, and water stations should also be provided along key regional routes. Rest areas and water stations help bicyclists reduce discomfort and overheating during hot summer days.

### 6.1.6 Integration with Transit

The Kelowna Regional Transit system was the first in the province to have its entire fleet equipped with bicycle racks, and these continue to be utilized as a means to support longer trips within the region. This Plan encourages the continuation of this program. Additional transit integration considerations include identifying locations for secure weather-protected bicycle parking near transit exchanges.





#### **6.1.7 Micromobility Considerations**

Micromobility is a term typically associated with a rapidly evolving range of shared light vehicles that are increasing in popularity on streets across the globe, such as bikeshare, electric bikes (e-bikes), scooter share and/or e-scooters. Micromobility options are likely to continue rolling out in the Central Okanagan for the foreseeable future. Electric scooters are typically limited to 25 km/h and electric bikes to 32 km/hr. Adjustments to the recommended network and facility types may be needed to ensure the safe accommodation of micromobility in conjunction with other users, as the technology evolves in the future.

#### **6.1.8 Land Use Integration**

As routes grow in popularity, there may be land use opportunities such as bicycle rental shops, bicycle-friendly retailers, and food and beverage service locations. These types of services and amenities can help to make regional bicycling and trail routes more attractive and convenient.

#### **6.1.9 Update the Plan**

The list of priorities identified in this plan has been developed with input from local government representatives; however, it is inevitable that priorities will change as opportunities arise to incorporate new bicycling infrastructure with new developments and road (re)construction projects. For this reason, this Plan should be reviewed and updated at regular intervals (i.e. every five years) to ensure that it is kept current and continues to reflect local and regional priorities.

### **6.2 Operations and Maintenance**

A well-maintained pathway or road surface is crucial for the comfort and safety of people on bikes and people walking. If the street or pathway surface condition is poor, or if potholes, gravel or snow are

present, active transportation users can find themselves at risk of falling or having to travel uncomfortably close to motor vehicle traffic.

It is recommended that local jurisdictions in the Central Okanagan allocate sufficient funding for gravel sweeping, snow clearing, and ice control on the regional bicycling and trails network to ensure they are usable throughout the year. Higher levels of maintenance should be considered for the entire length of regional AAA routes. To encourage year-round use of bicycle and trail facilities, it is recommended that snow is removed 8 hours following a snowfall on all designated bicycling facilities within 3 km of an urban or town centre.

## 6.3 Education and Promotion

An effective Regional Bicycling and Trails Master Plan also requires attention to educating and encouraging safe behaviours from all users of the transportation system.

The STPCO has made considerable strides in supporting education and promotion activities, including leveraging Provincial support to pilot the Everyone Rides skills training at 12 schools in the Central Okanagan School District. In recent years school travel plans and follow-up have occurred at George Pringle Elementary, Raymer School, Pearson Road Elementary, Davidson Road Elementary, Belgo Elementary, and South Kelowna Elementary. In 2019, education and promotional programs were rolled out at Okanagan College and UBCO. The STPCO also maintains the development and maintenance of the SmartTrips website, holds annual Bike Rodeos at schools throughout the region, promotes Bike to Work / Bike to School Week, and implements the School Travel Planning / Safe Routes to School Program which targets 1 to 2 schools per year within the region.

It is recommended that these education and encouragement programs continue. In addition, it is recommended that Central Okanagan governments work together to implement the following educational and promotional activities:

- Fund and enhance the Everyone Rides Bicycling Skills training program to ensure that all school children in the region receive comprehensive bicycle skills training by the time they reach grade eight. This training would complement the Safe Routes to School Program and would ensure that students have the skills required to ride a bicycle to and from school.
- Work with stakeholders and partners to ensure that current safe routes to school initiatives are being supported. Provide a dedicated budget for engineering improvements to address deficiencies and potential conflicts so that parents feel comfortable allowing their kids to bike and walk to school.
- Work with stakeholders and community partners to fund and develop an online and print regional bicycling and trails map that can support trip planning for residents and visitors alike.

- Work with stakeholders to promote new bicycling infrastructure, especially before, and on opening day (this may include a summer student ambassador program, educational mail-outs, and promotional construction signage).
- Work with stakeholders and community partners to develop a Bicycle-Friendly Business Program that recognizes employers or businesses for their efforts to encourage, support and promote bicycling among their employees or patrons.



## 6.4 Monitoring and Evaluation

A monitoring and evaluation program that tracks changes in use and resident perceptions of bicycling and trail infrastructure investment is essential and will allow local governments to gather information to guide future investment decisions. Recommended key performance indicators are grouped into the following four areas:

### **i. Increase in the share of active transportation in the Region**

A broad metric for measuring the change in the use of transportation modes is mode split. The mode split is the proportion of total person trips using each of the various modes of transportation. The proportion using any one mode is its modal share. The best source for this information is the Okanagan Travel Survey, which is typically carried out every five years, and collects data on the daily trips made by households in the region. The most recent survey was conducted in 2018, and findings from the survey are summarized in Section 2.1.

### **iv. Increase in the number of bicyclists at key count locations**

In addition to monitoring regional active transportation mode split, it is also important to monitor the total number of people using a new regional bicycling or trail connection. Permanent or temporary count stations can be used to collect this data and ensure investments are helping to reach active transportation goals. Several permanent counters have been installed in the City of Kelowna, and in the District of Lake Country.

Manual counts are another option that can be conducted by trained staff or volunteers from various community groups and/or students. Monitoring bicycling and walking count data before and after new active transportation projects are constructed is especially important to demonstrate the benefits of investments to decision-makers, which can positively influence funding for additional bicycle and trail facilities.

### **ii. Improve transportation safety**

Safety is paramount in making walking and bicycling viable choices for more people. User perceptions of personal safety and overall satisfaction with the bicycling and pedestrian infrastructure are also crucial in achieving modal shifts from private auto to sustainable transportation modes. Most local governments conduct surveys to measure citizen satisfaction with municipal services. This Plan recommends questions related to pedestrian and bicycling conditions be added to provide an indication of satisfaction with the network as a whole and help identify improvements needed to support increased walking and bicycling.

Data on bicycling and pedestrian collisions are currently available from ICBC and may serve as supplementary information when evaluating bicycle network safety. It is important to note that the ICBC dataset may not be complete, as it often only reflects collisions with vehicles but not injuries associated with a lack of facilities, existing facilities or other objects. Many crashes or 'close calls' do not get



reported; therefore, crash and collision data should not serve as a primary dataset when evaluating real and perceived safety issues along the current and future bicycling and trails network. Datasets from hospitals or clinics (i.e. emergency units) and hospitals will more accurately reflect safety issues related to active transportation users. Effort to collect and analyze alternate dataset should be considered as part of the monitoring and evaluation efforts of this plan.

### **iii. Increase in sustainable transportation options**

Additionally, it is important to track the kilometres of new regional bicycling and trail facilities that have been planned, designed and constructed, as well as the percentage of the proposed regional bicycling and trails network that has been completed.



## 7 Making it Happen

The implementation of this plan will play a significant role in realizing the RTP vision of “a transportation system that connects people to regional destinations within the Central Okanagan and beyond, supporting and enhancing the region’s economy, social networks, and natural ecosystem”. The implementation of the RBTMP plays a significant role in realizing the RTP vision of “a transportation system that connects people to regional destinations within the Central Okanagan and beyond, supporting and enhancing the region’s economy, social networks, and natural ecosystem”. The Plan presents a unified regional active transportation network and supports current local, regional, and Provincial goals related to increasing the use of sustainable modes, supporting the region’s economy, improving accessibility, enhancing quality of life, and reducing greenhouse gas emissions.

Implementation of this plan will be delivered in coordination with the RTP, and will require ongoing regional coordination and collaboration between Central Okanagan governments. Additionally, partnerships with senior-level governments will be needed to implement the regional bicycling and trails network and associated policies and programs recommended in this Plan.

By working together, the members of the Sustainable Transportation Partnership of the Central Okanagan (STPCO) are helping to advance the regional bicycling and trails projects necessary to better connect our region, strengthen our economic competitiveness and enhance our quality of life.

### **Recommendations for Next Steps:**

- Central Okanagan governments should align their local bicycling and trails plans to reflect the regional network contained in this plan
- Central Okanagan governments should work together to engage senior levels of government for funding support for the regionally significant bicycling and trails projects, programs, and policies recommended in this Plan.

Central Okanagan governments should work together to implement a performance monitoring program to monitor and assess progress toward Plan implementation.

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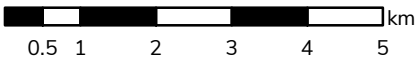
## **Appendix 1** –Regional Network by Primary Regional & Supporting



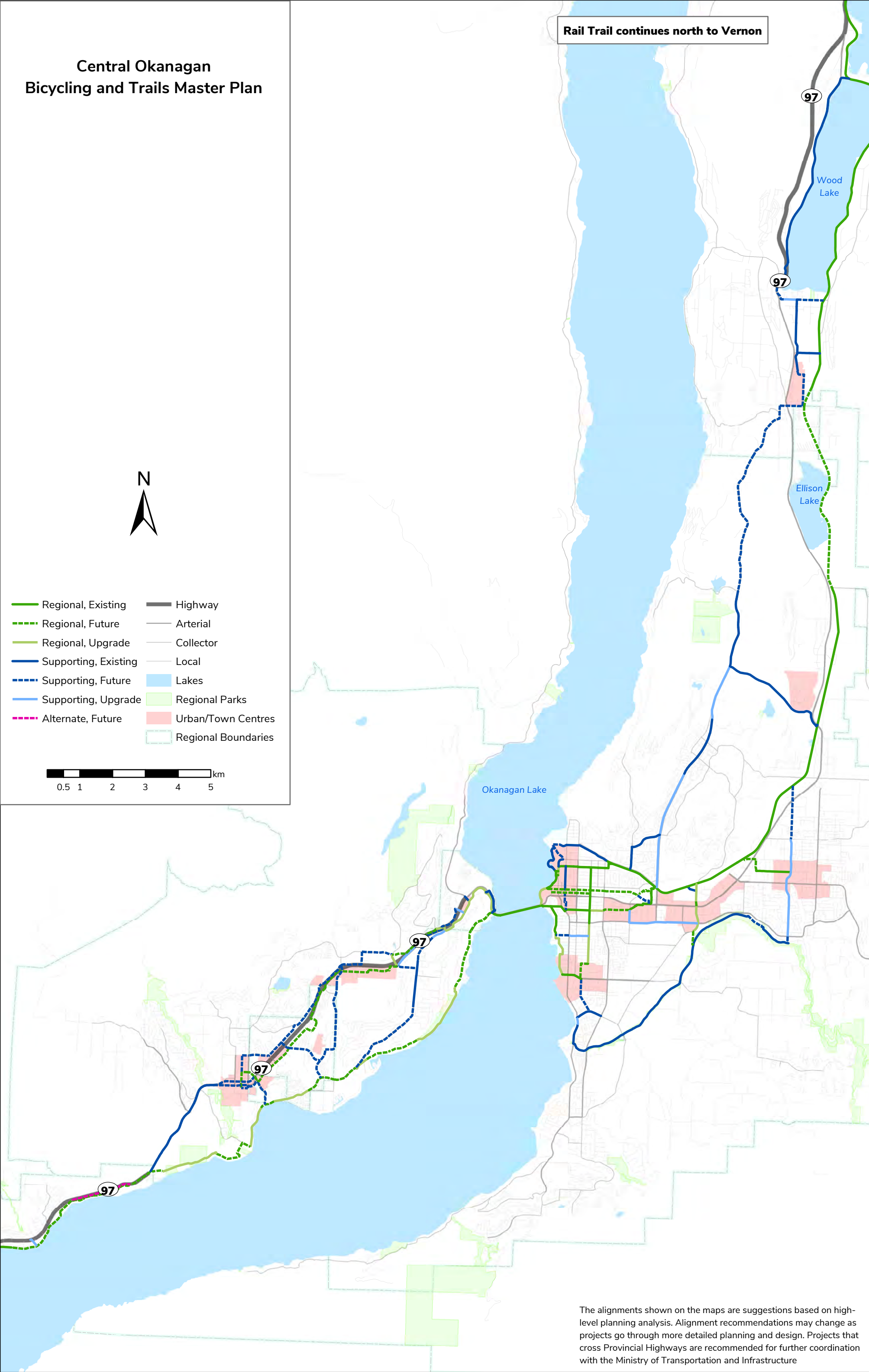
Central Okanagan  
Bicycling and Trails Master Plan



- |                      |                     |
|----------------------|---------------------|
| Regional, Existing   | Highway             |
| Regional, Future     | Arterial            |
| Regional, Upgrade    | Collector           |
| Supporting, Existing | Local               |
| Supporting, Future   | Lakes               |
| Supporting, Upgrade  | Regional Parks      |
| Alternate, Future    | Urban/Town Centres  |
|                      | Regional Boundaries |

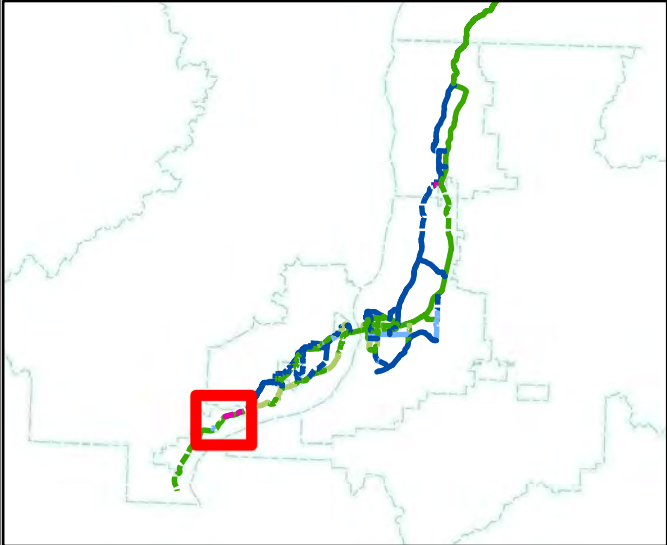


Rail Trail continues north to Vernon

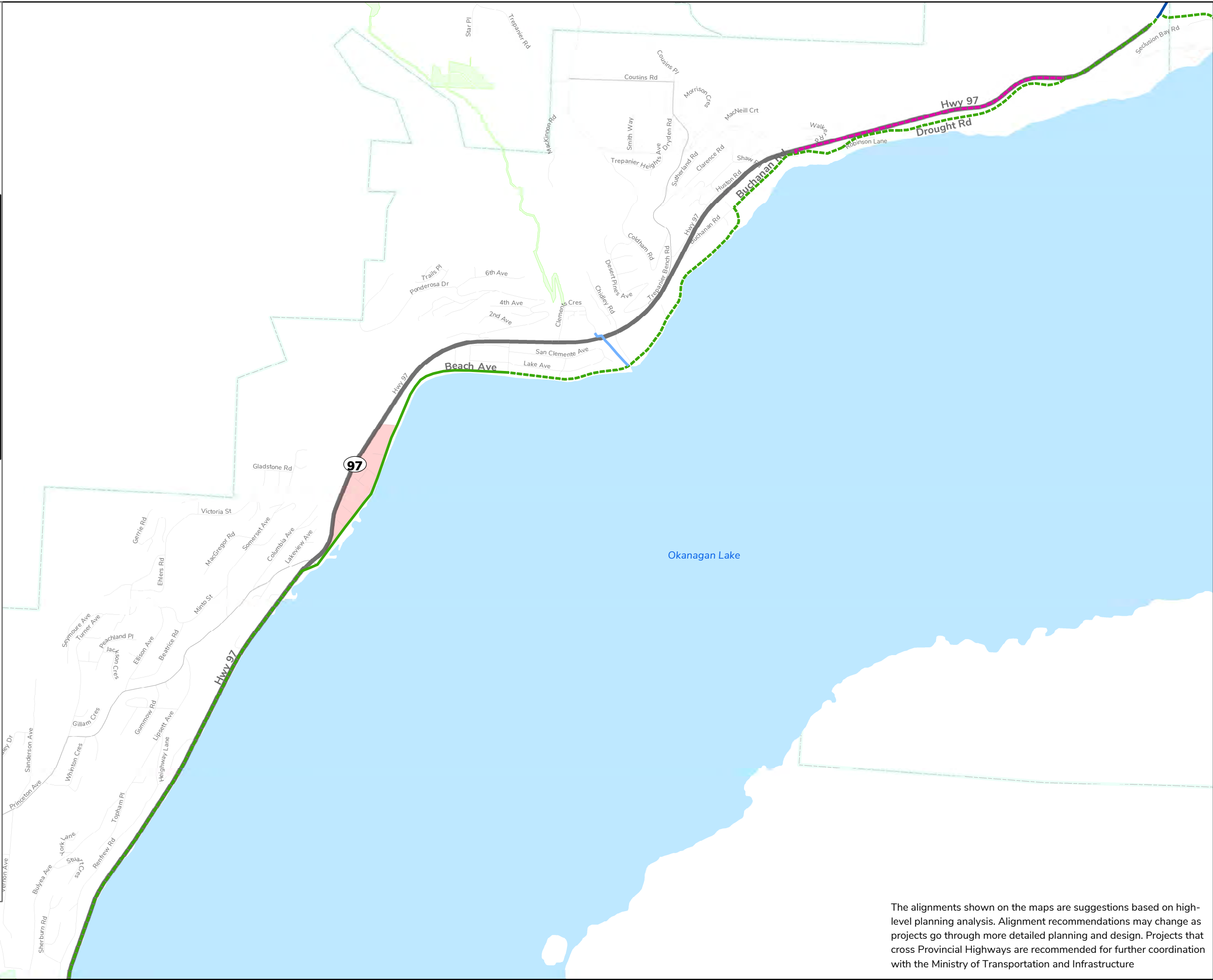
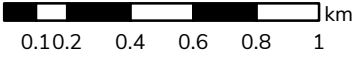


The alignments shown on the maps are suggestions based on high-level planning analysis. Alignment recommendations may change as projects go through more detailed planning and design. Projects that cross Provincial Highways are recommended for further coordination with the Ministry of Transportation and Infrastructure

# Central Okanagan Bicycling and Trails Master Plan

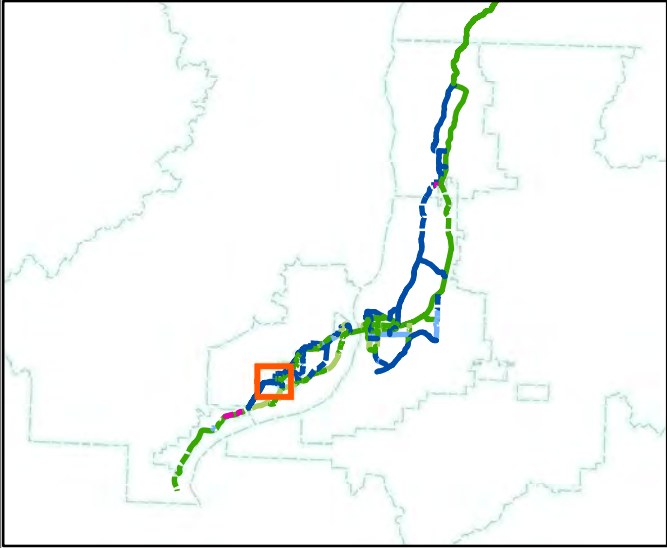


- Bike and Trails**
  - Regional, Existing
  - Regional, Future
  - Regional, Upgrade
  - Supporting, Existing
  - Supporting, Future
  - Supporting, Upgrade
  - Alternate, Future
- Road Network**
  - Highway
  - Arterial
  - Collector
  - Local
  - Lakes
  - Regional Parks
  - Urban/Town Centres
  - Regional Boundaries



The alignments shown on the maps are suggestions based on high-level planning analysis. Alignment recommendations may change as projects go through more detailed planning and design. Projects that cross Provincial Highways are recommended for further coordination with the Ministry of Transportation and Infrastructure

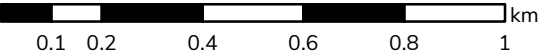
# Central Okanagan Bicycling and Trails Master Plan



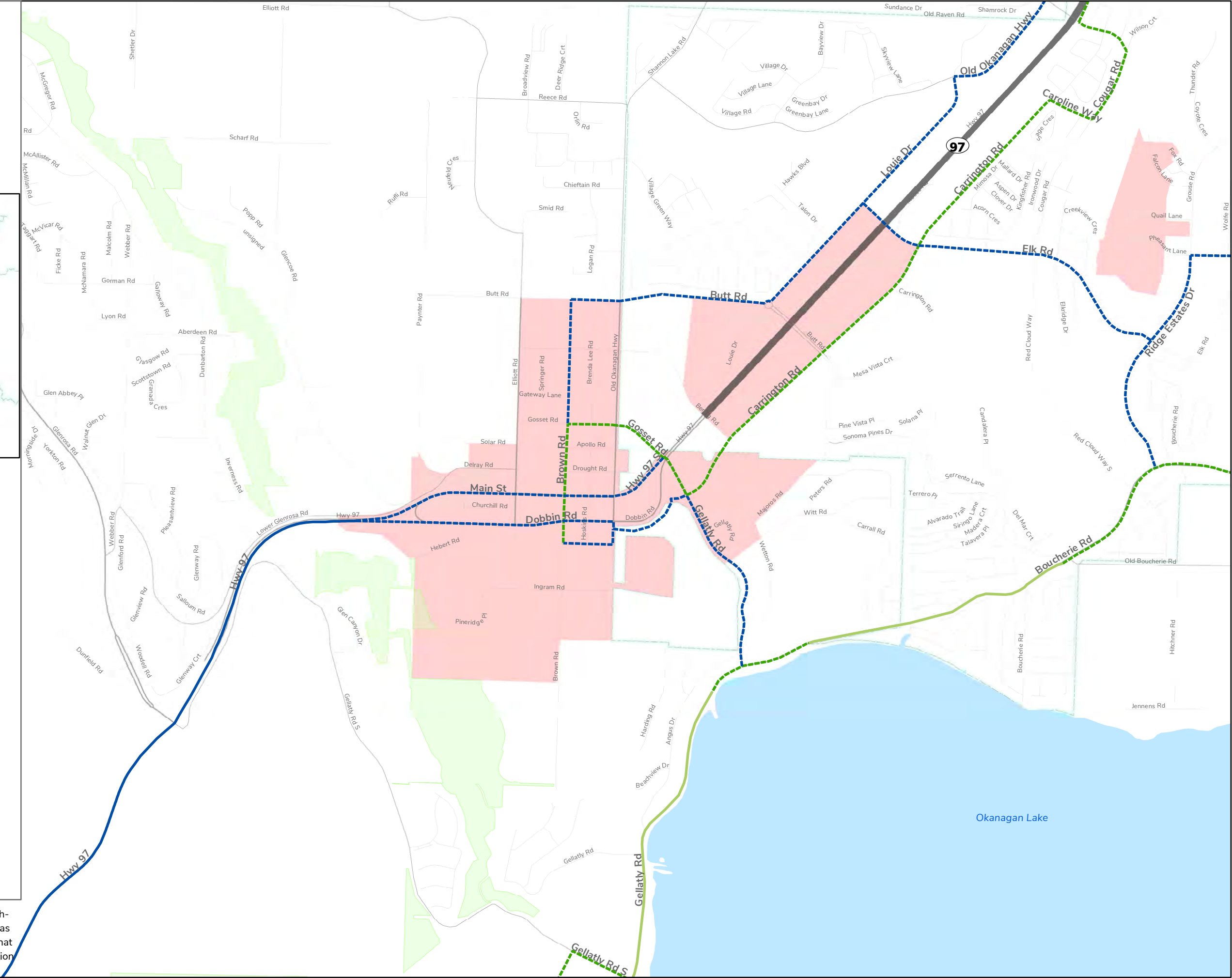
- Bike and Trails**

  - Regional, Existing
  - Regional, Future
  - Regional, Upgrade
  - Supporting, Existing
  - Supporting, Future
  - Supporting, Upgrade
  - Alternate, Future
- Road Network**

  - Highway
  - Arterial
  - Collector
  - Local
  - Lakes
  - Regional Parks
  - Urban/Town Centres
  - Regional Boundaries

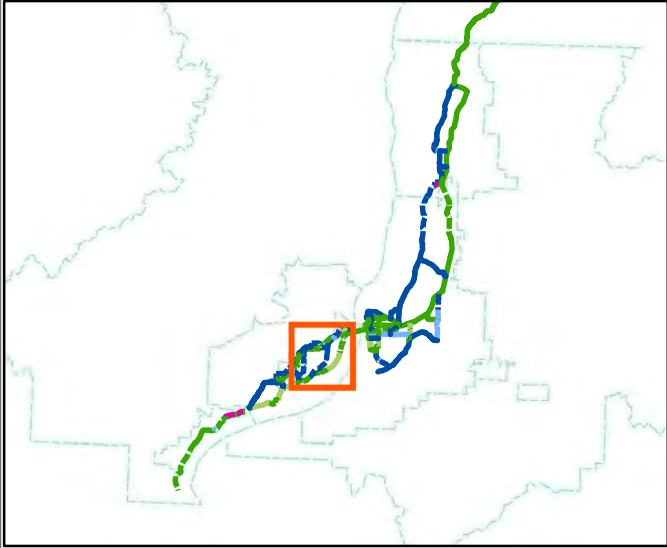


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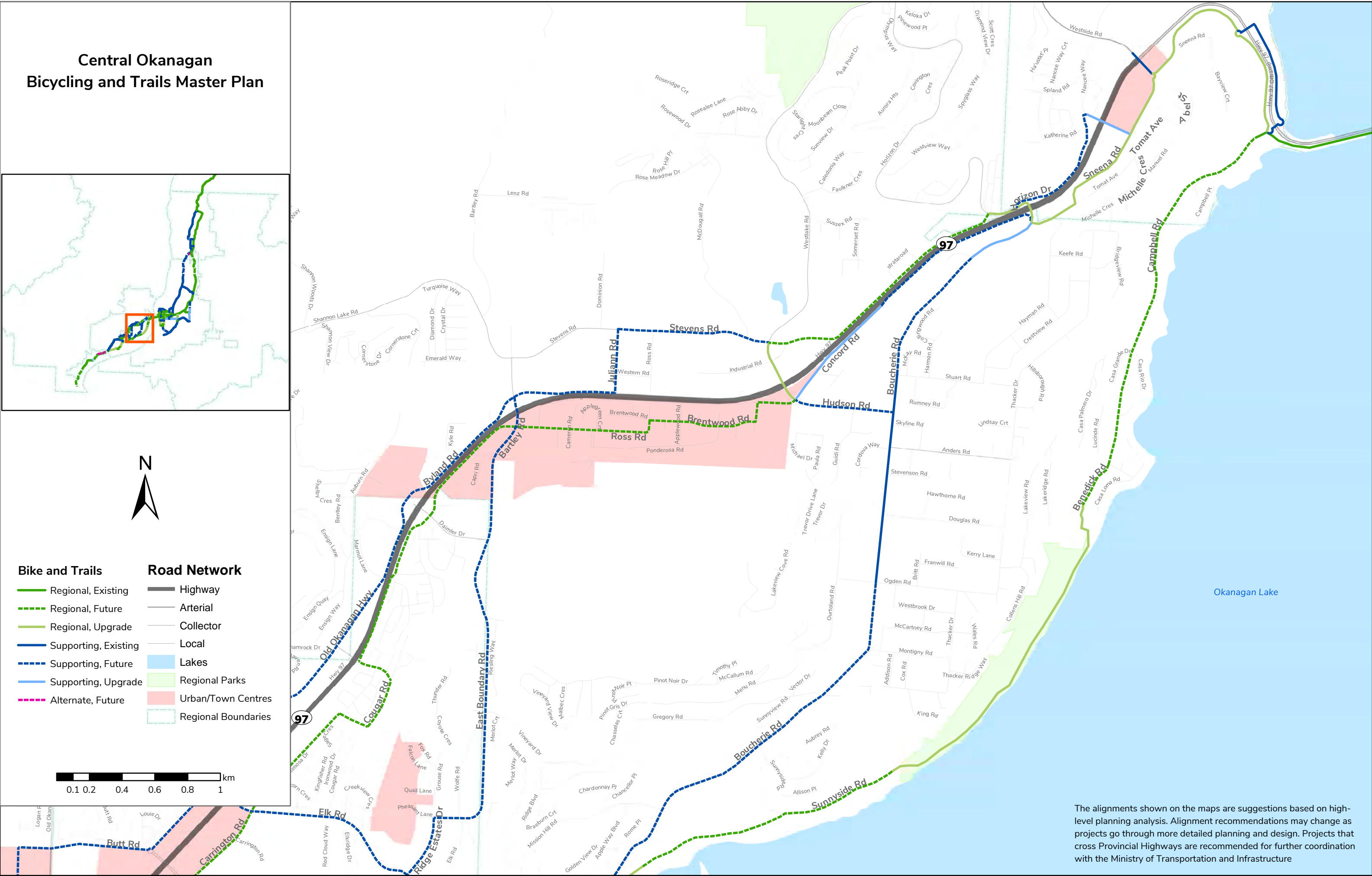
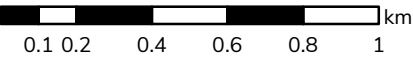
# Central Okanagan Bicycling and Trails Master Plan



- Bike and Trails**

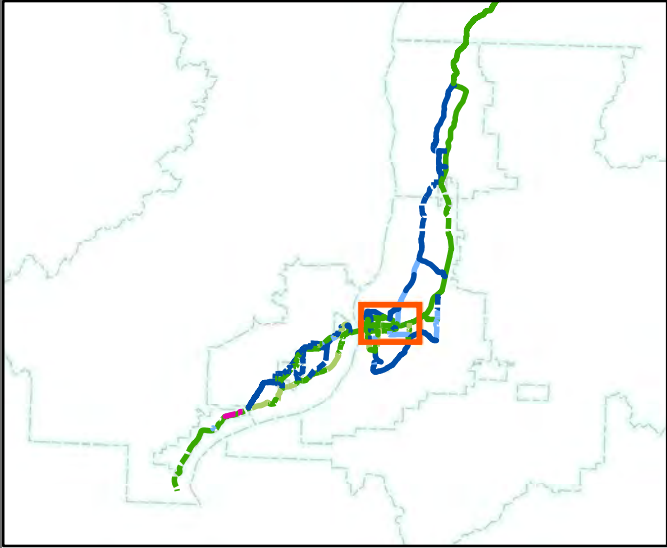
  - Regional, Existing
  - Regional, Future
  - Regional, Upgrade
  - Supporting, Existing
  - Supporting, Future
  - Supporting, Upgrade
  - Alternate, Future
- Road Network**

  - Highway
  - Arterial
  - Collector
  - Local
  - Lakes
  - Regional Parks
  - Urban/Town Centres
  - Regional Boundaries



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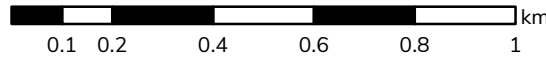
# Central Okanagan Bicycling and Trails Master Plan



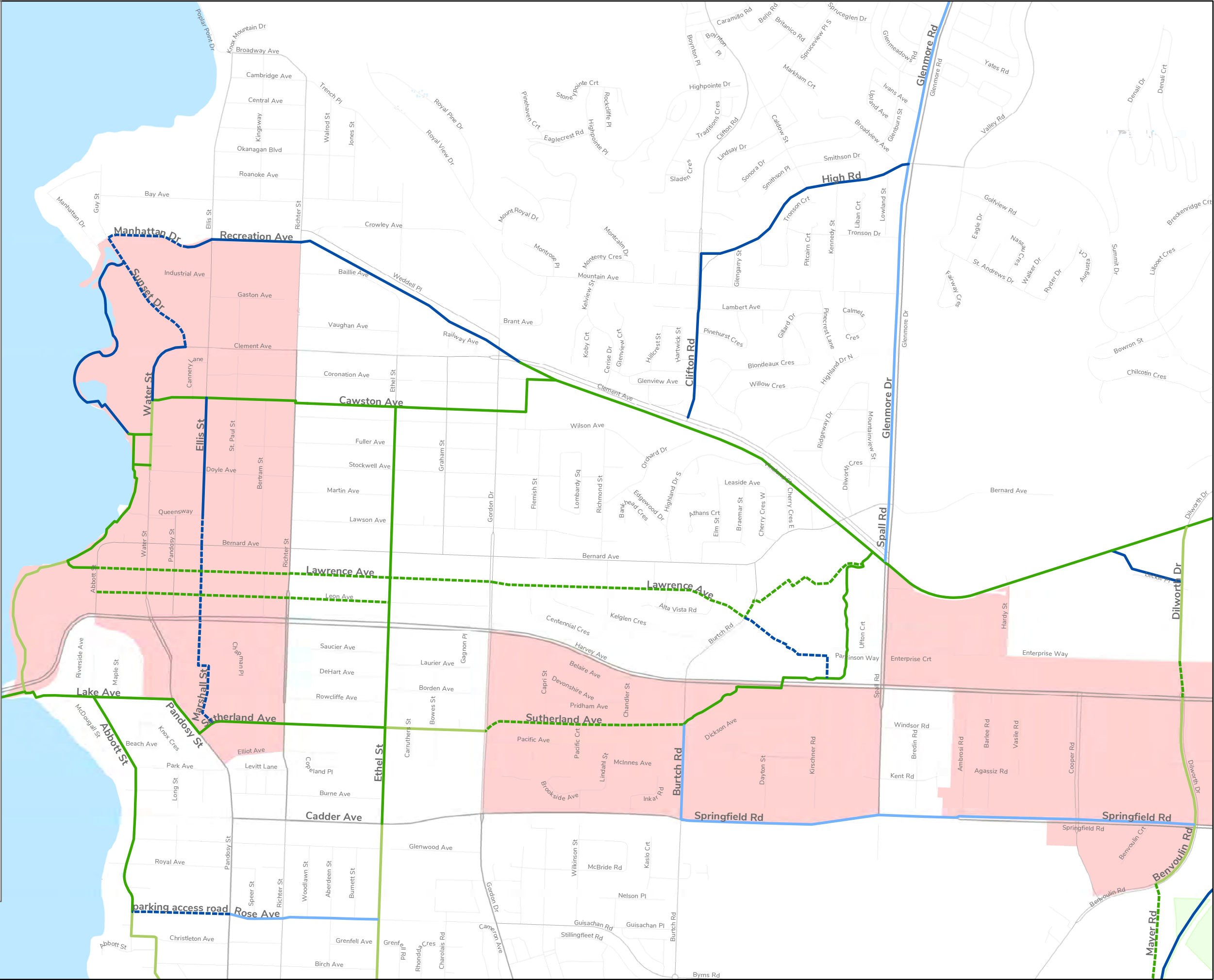
- Bike and Trails**

  - Regional, Existing
  - Regional, Future
  - Regional, Upgrade
  - Supporting, Existing
  - Supporting, Future
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- Road Network**

  - Highway
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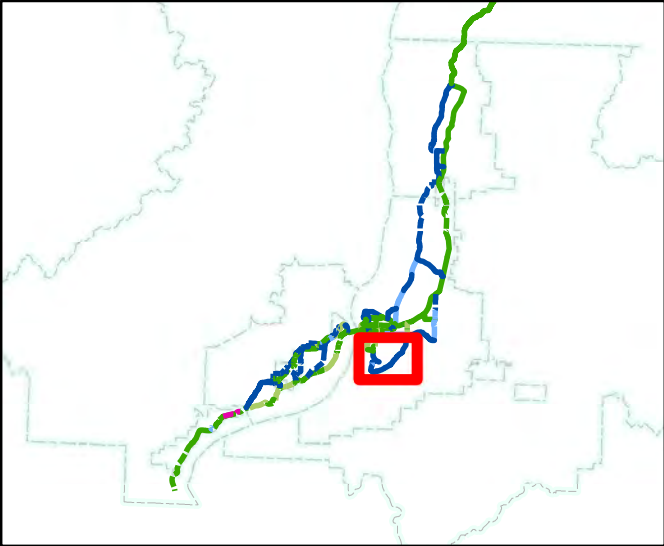


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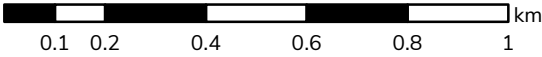
# Central Okanagan Bicycling and Trails Master Plan



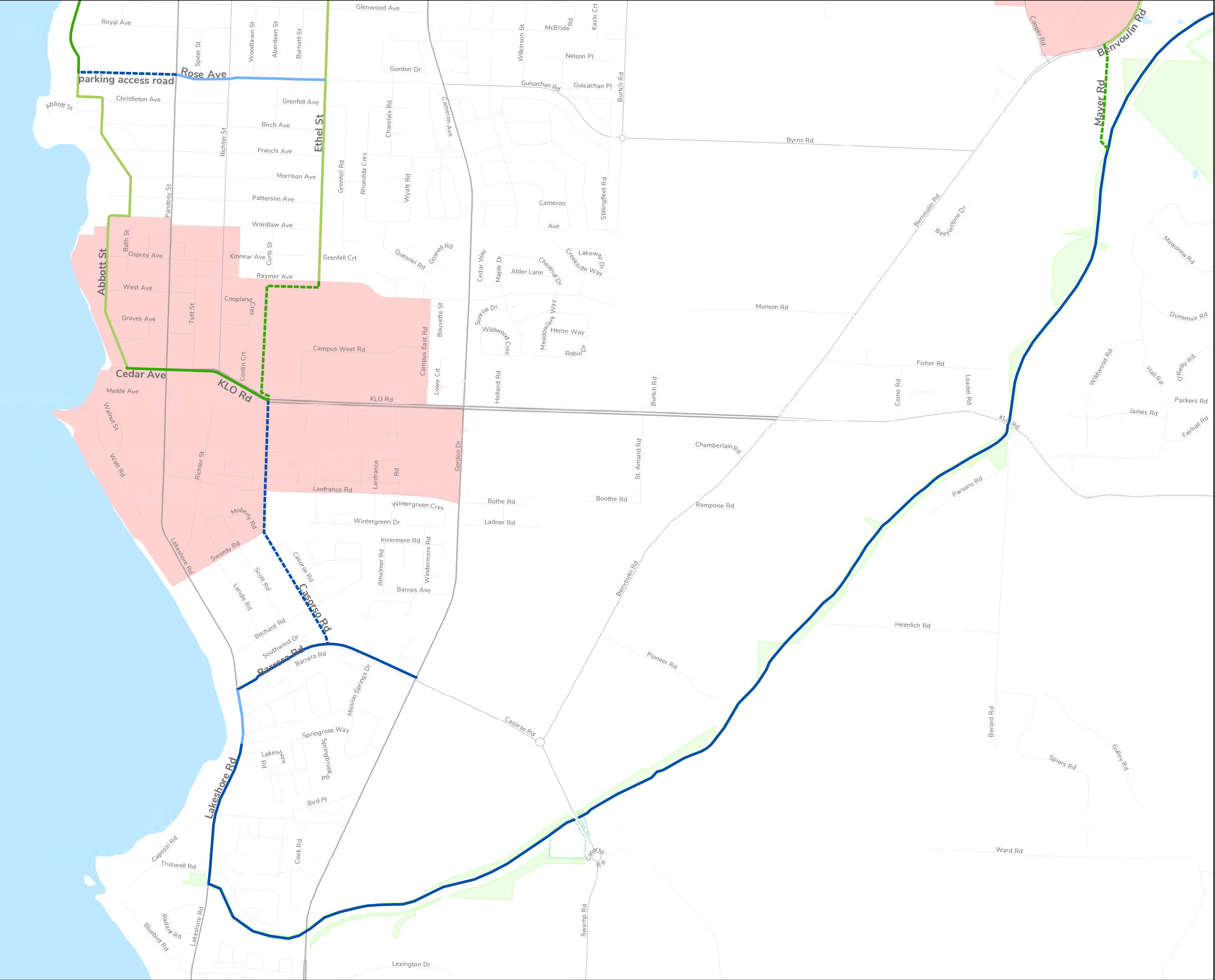
- Bike and Trails**

  - Regional, Existing
  - Regional, Future
  - Regional, Upgrade
  - Supporting, Existing
  - Supporting, Future
  - Supporting, Upgrade
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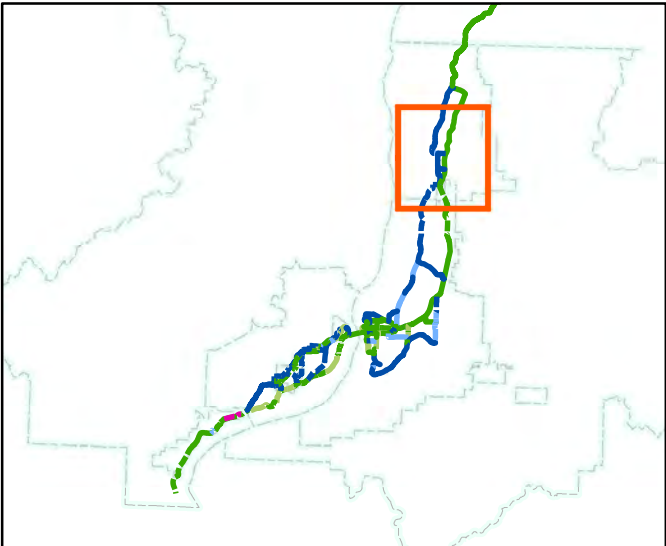
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# Central Okanagan Bicycling and Trails Master Plan

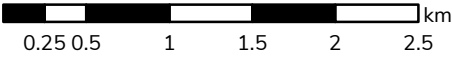


### Bike and Trails

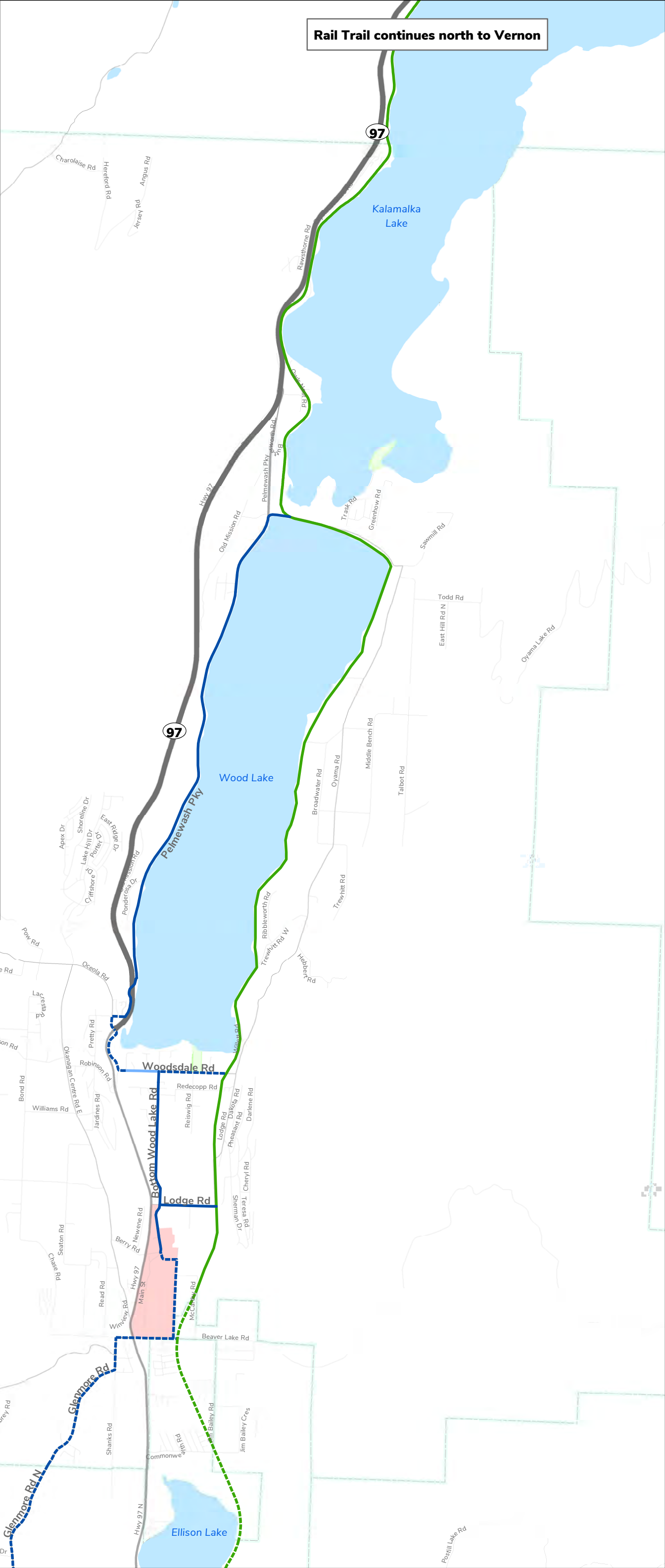
- Regional, Existing
- Regional, Future
- Regional, Upgrade
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- Supporting, Future
- Supporting, Upgrade
- Alternate, Future

### Road Network

- Highway
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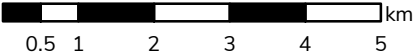
## **Appendix 2 – Regional Network by Facility Types**

# Central Okanagan Bicycling and Trails Master Plan

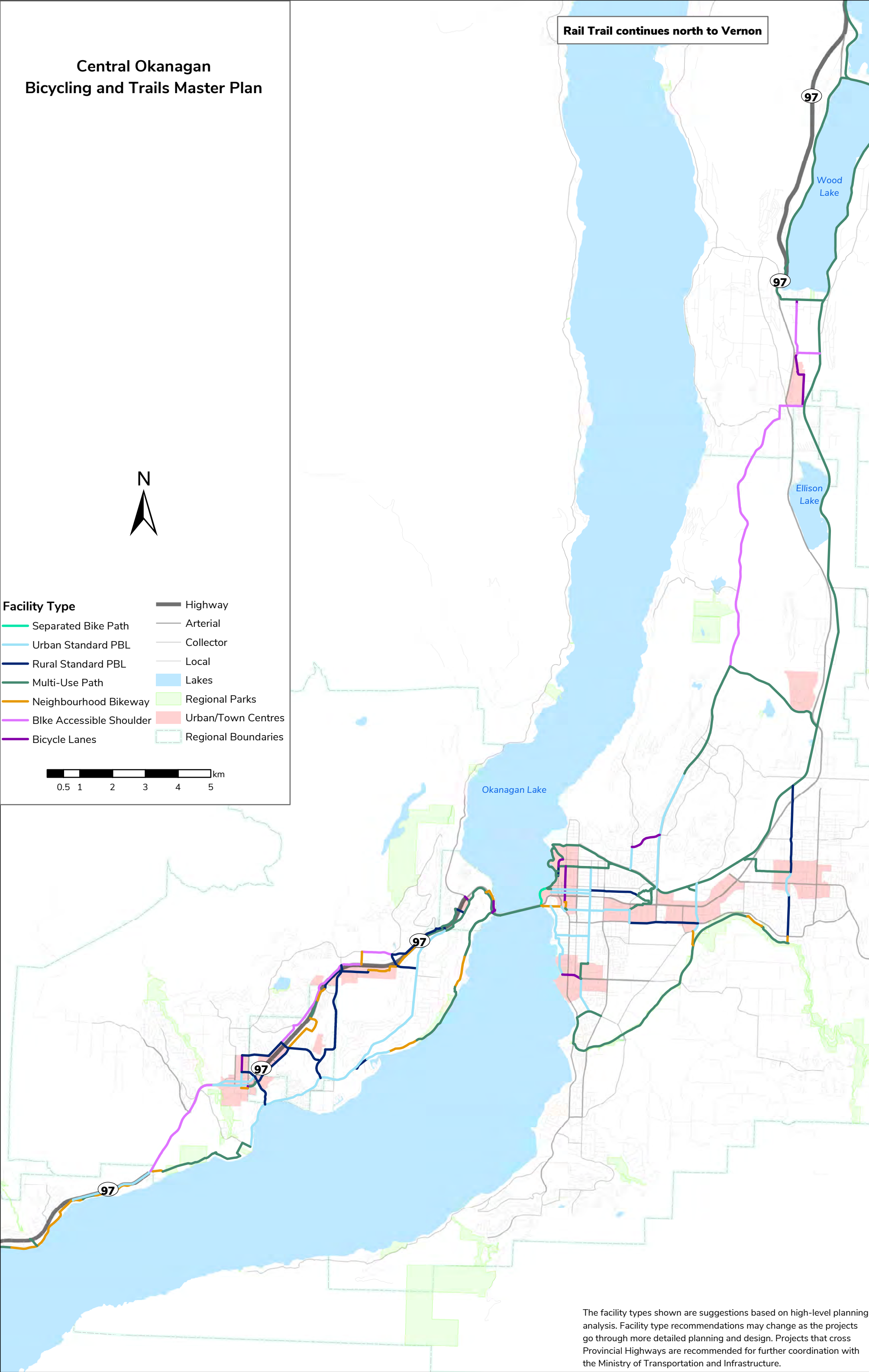


### Facility Type

- |                          |                     |
|--------------------------|---------------------|
| Separated Bike Path      | Highway             |
| Urban Standard PBL       | Arterial            |
| Rural Standard PBL       | Collector           |
| Multi-Use Path           | Local               |
| Neighbourhood Bikeway    | Lakes               |
| Bike Accessible Shoulder | Regional Parks      |
| Bicycle Lanes            | Urban/Town Centres  |
|                          | Regional Boundaries |



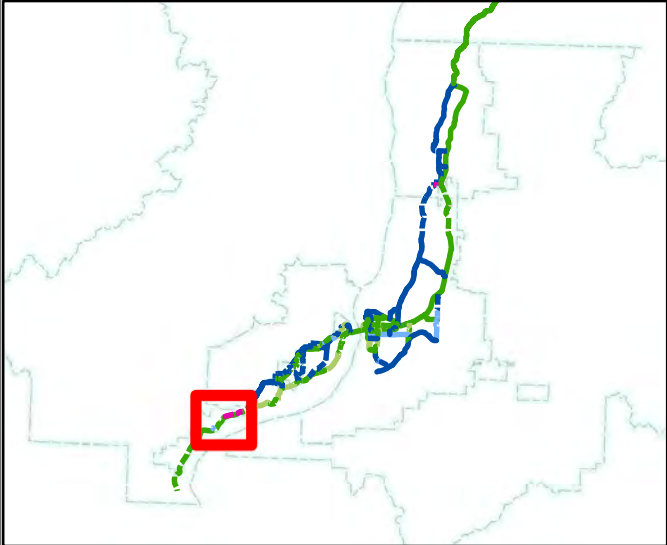
Rail Trail continues north to Vernon



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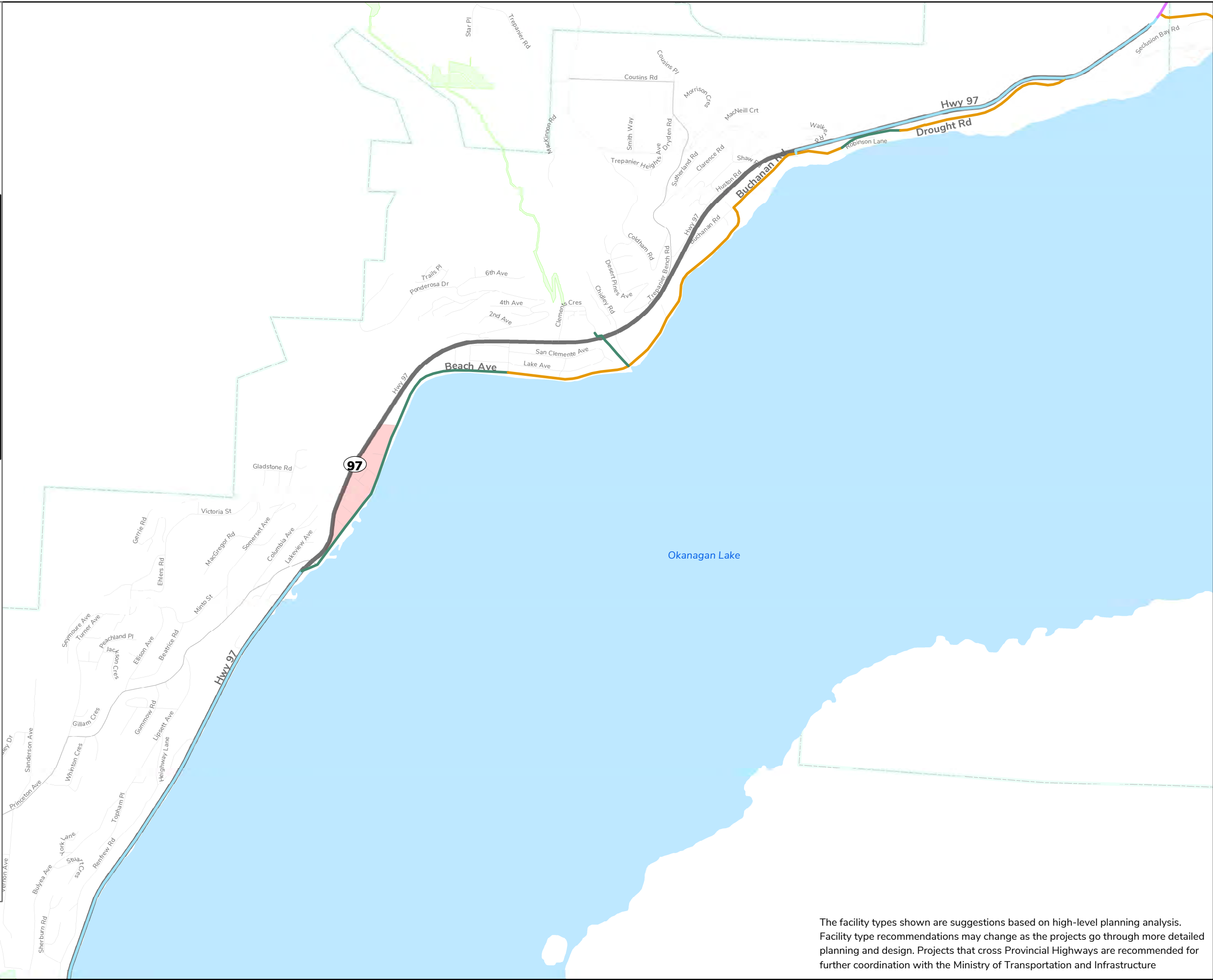
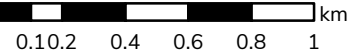
# Central Okanagan Bicycling and Trails Master Plan



- Bike and Trails**

  - Separated Bike Path
  - Urban Standard PBL
  - Rural Standard PBL
  - Multi-Use Path
  - Neighbourhood Bikeway
  - Bike Accessible Shoulder
  - Bicycle Lanes
- Road Network**

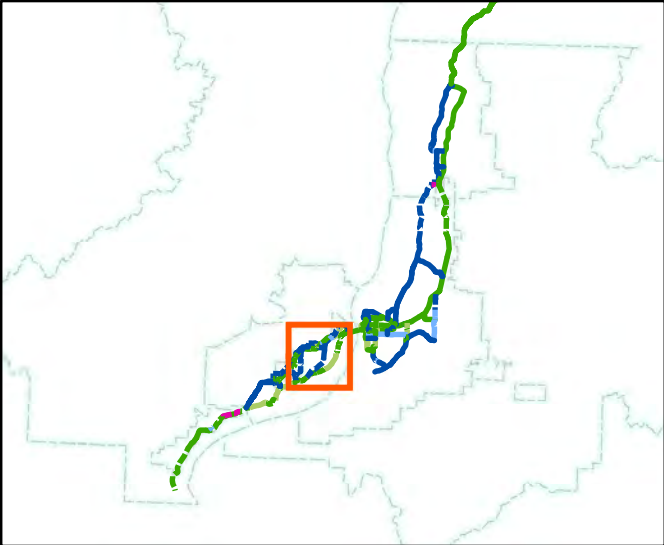
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  - Regional Boundaries



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# Central Okanagan Bicycling and Trails Master Plan

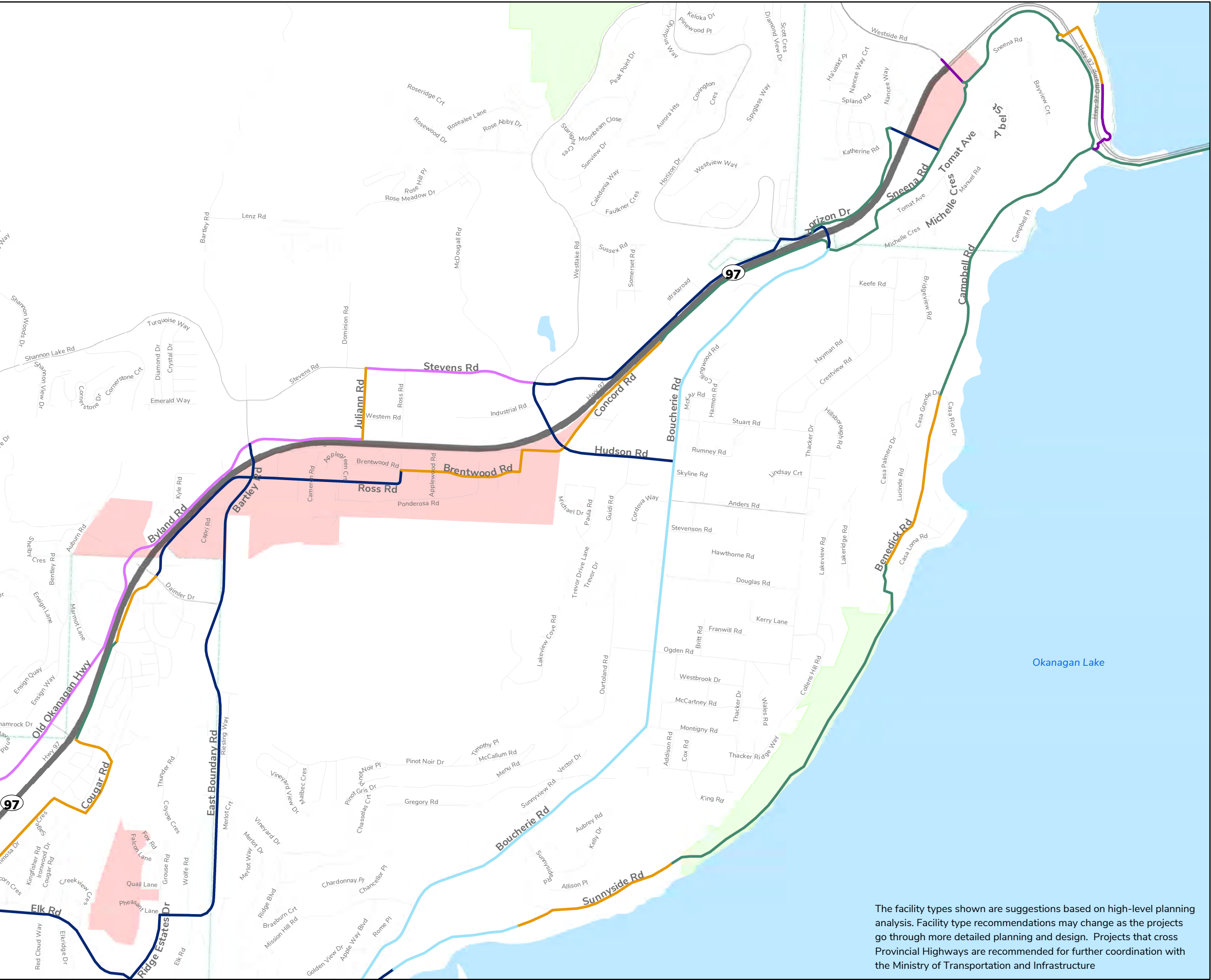
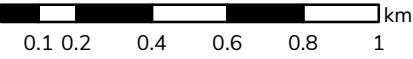


## Bike and Trails

- Separated Bike Path
- Urban Standard PBL
- Rural Standard PBL
- Multi-Use Path
- Neighbourhood Bikeway
- Bike Accessible Shoulder
- Bicycle Lanes

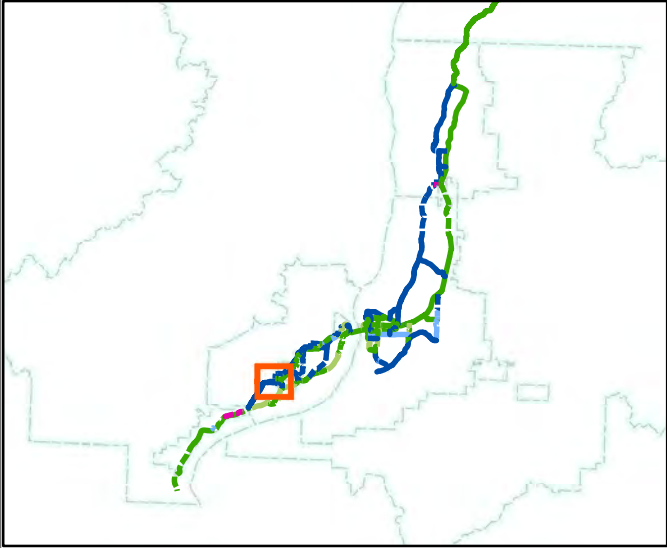
## Road Network

- Highway
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# Central Okanagan Bicycling and Trails Master Plan

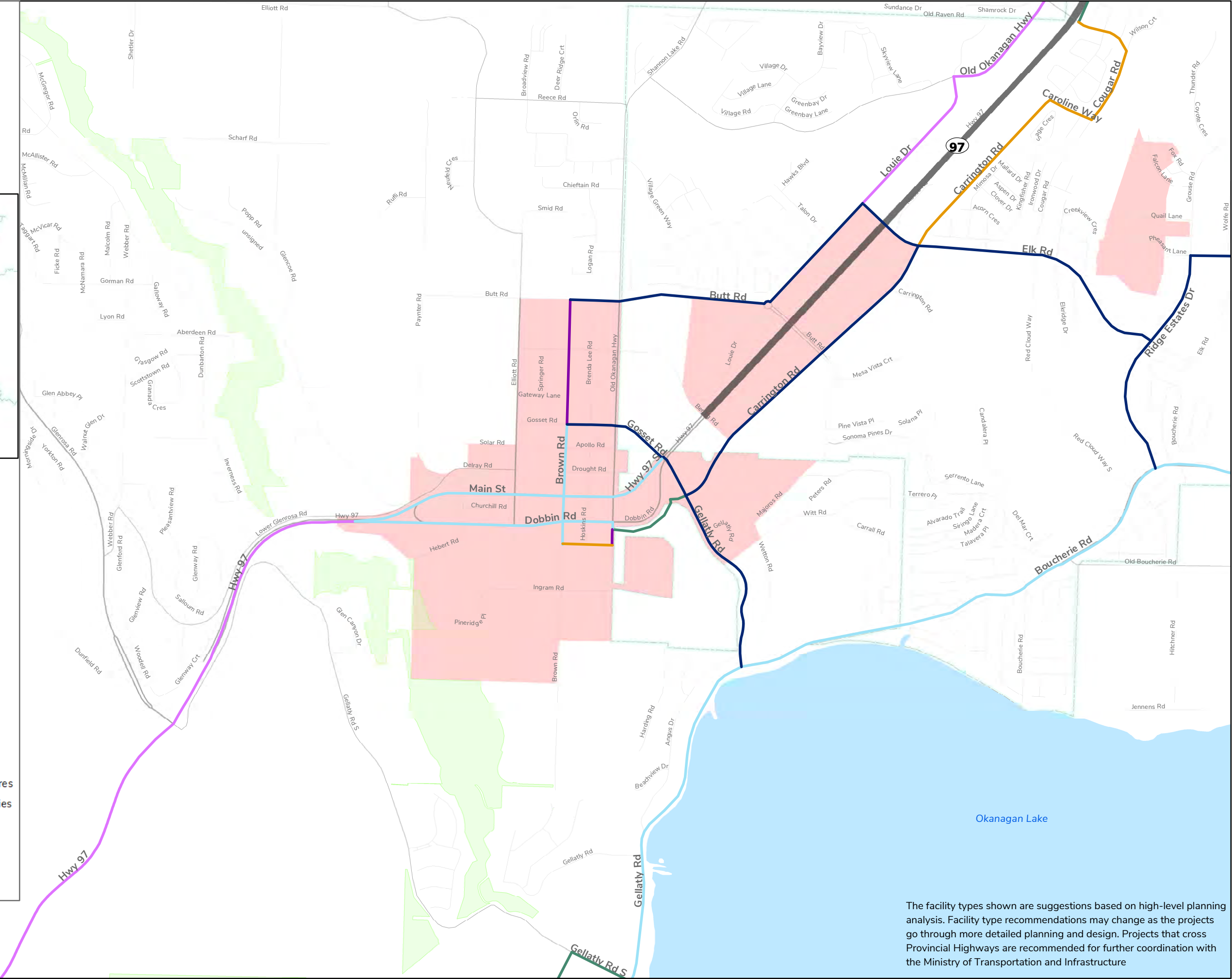
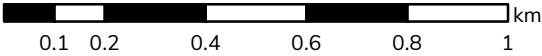


## Bike and Trails

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- Rural Standard PBL
- Multi-Use Path
- Neighbourhood Bikeway
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- Bicycle Lanes

## Road Network

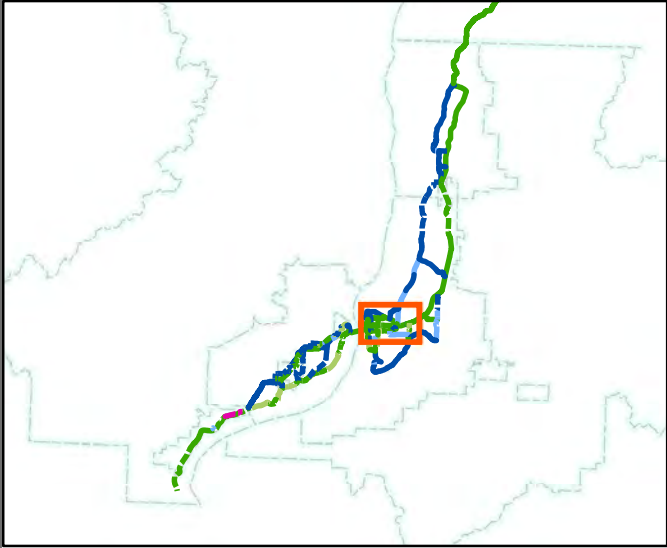
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# Central Okanagan Bicycling and Trails Master Plan

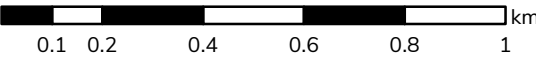


## Bike and Trails

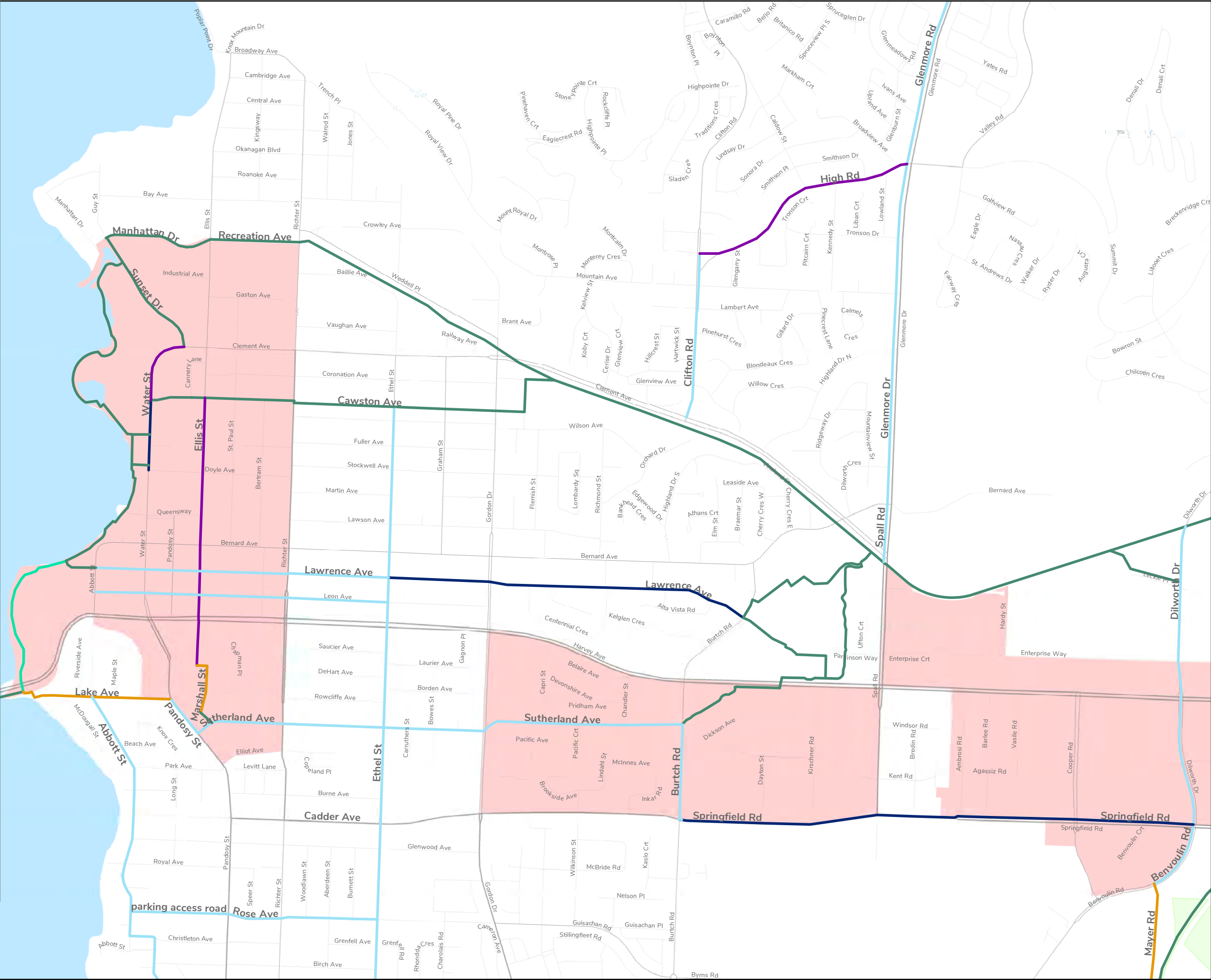
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- Rural Standard PBL
- Multi-Use Path
- Neighbourhood Bikeway
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## Road Network

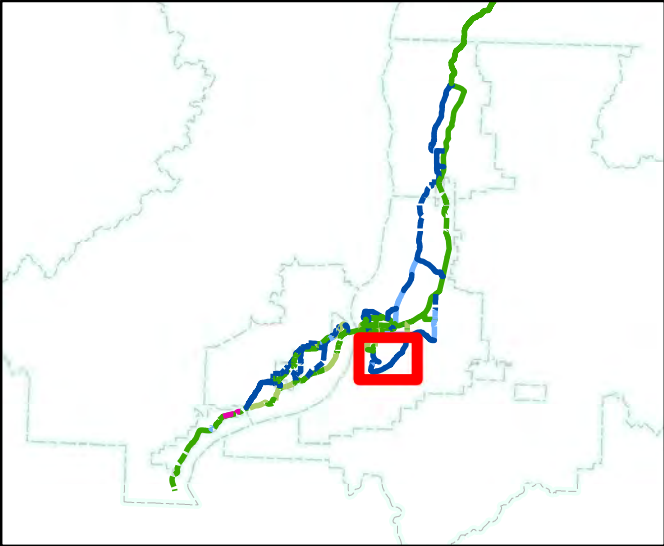
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# Central Okanagan Bicycling and Trails Master Plan

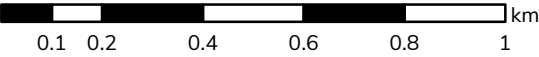


### Bike and Trails

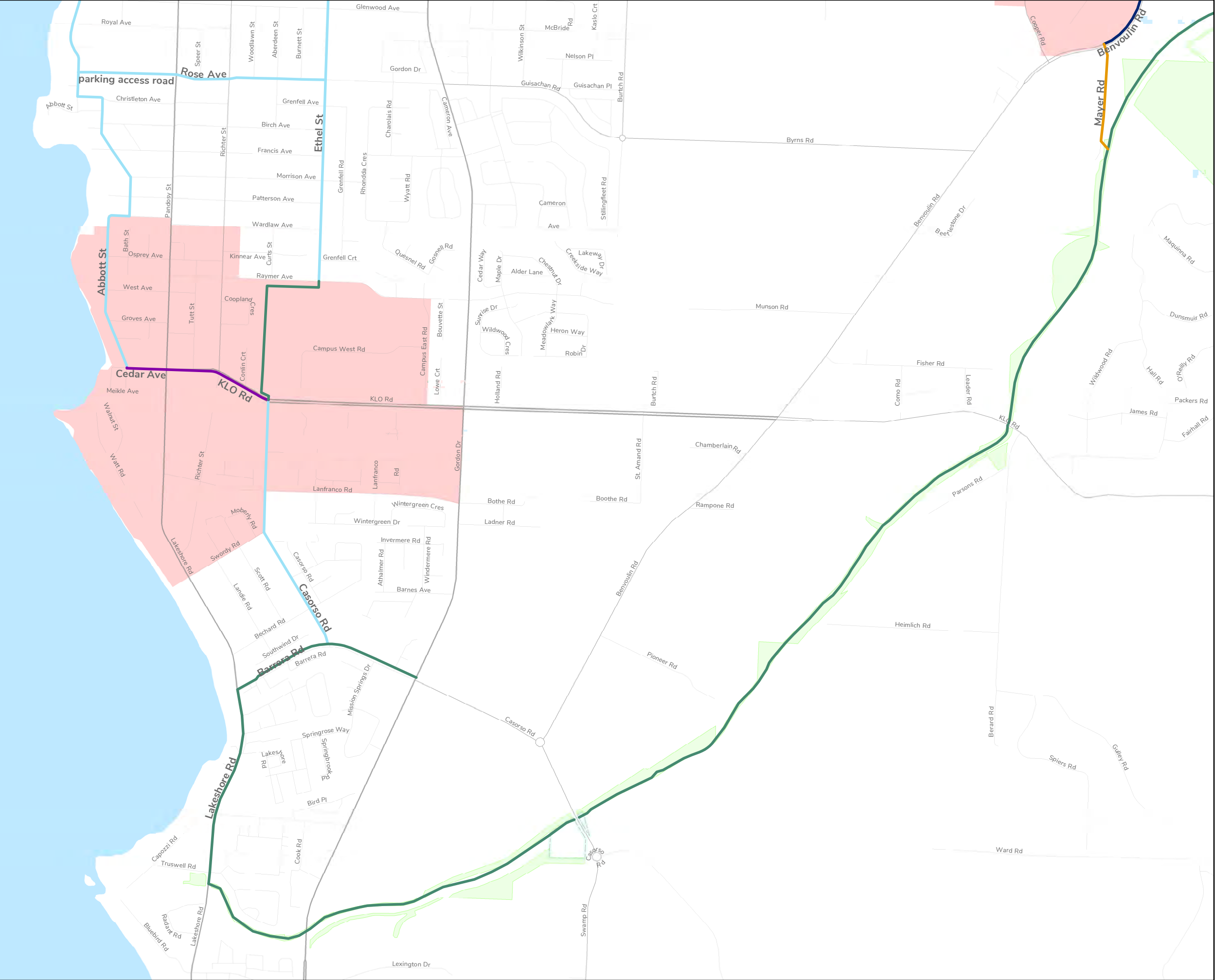
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- Urban Standard PBL
- Rural Standard PBL
- Multi-Use Path
- Neighbourhood Bikeway
- Bike Accessible Shoulder
- Bicycle Lanes

### Road Network

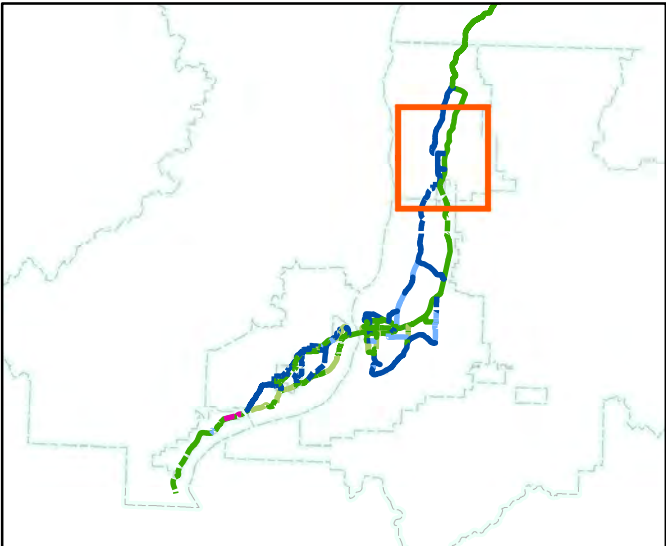
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# Central Okanagan Bicycling and Trails Master Plan

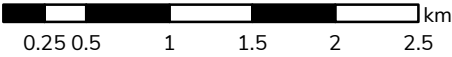


### Bike and Trails

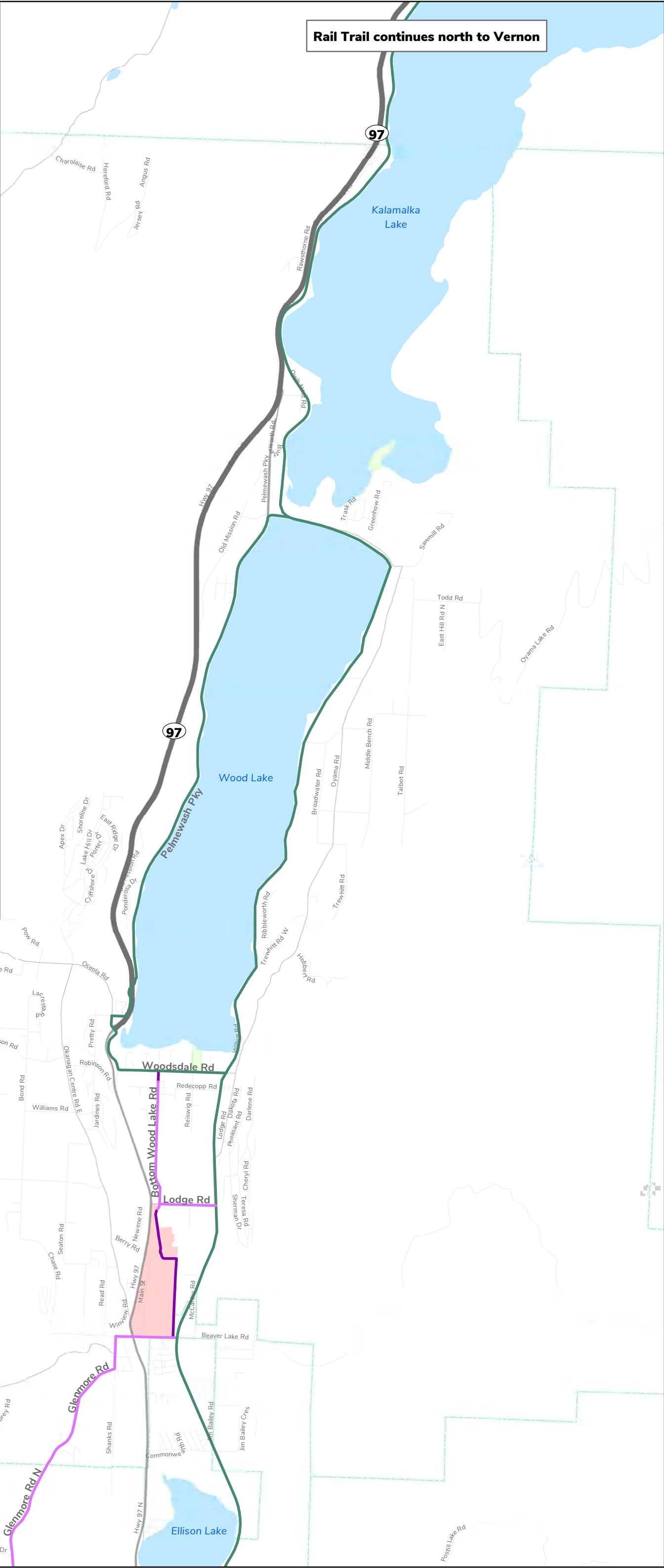
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### Road Network

- Highway
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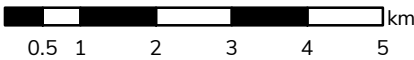


## **Appendix 3 – Regional Network by Phasing Recommendation**

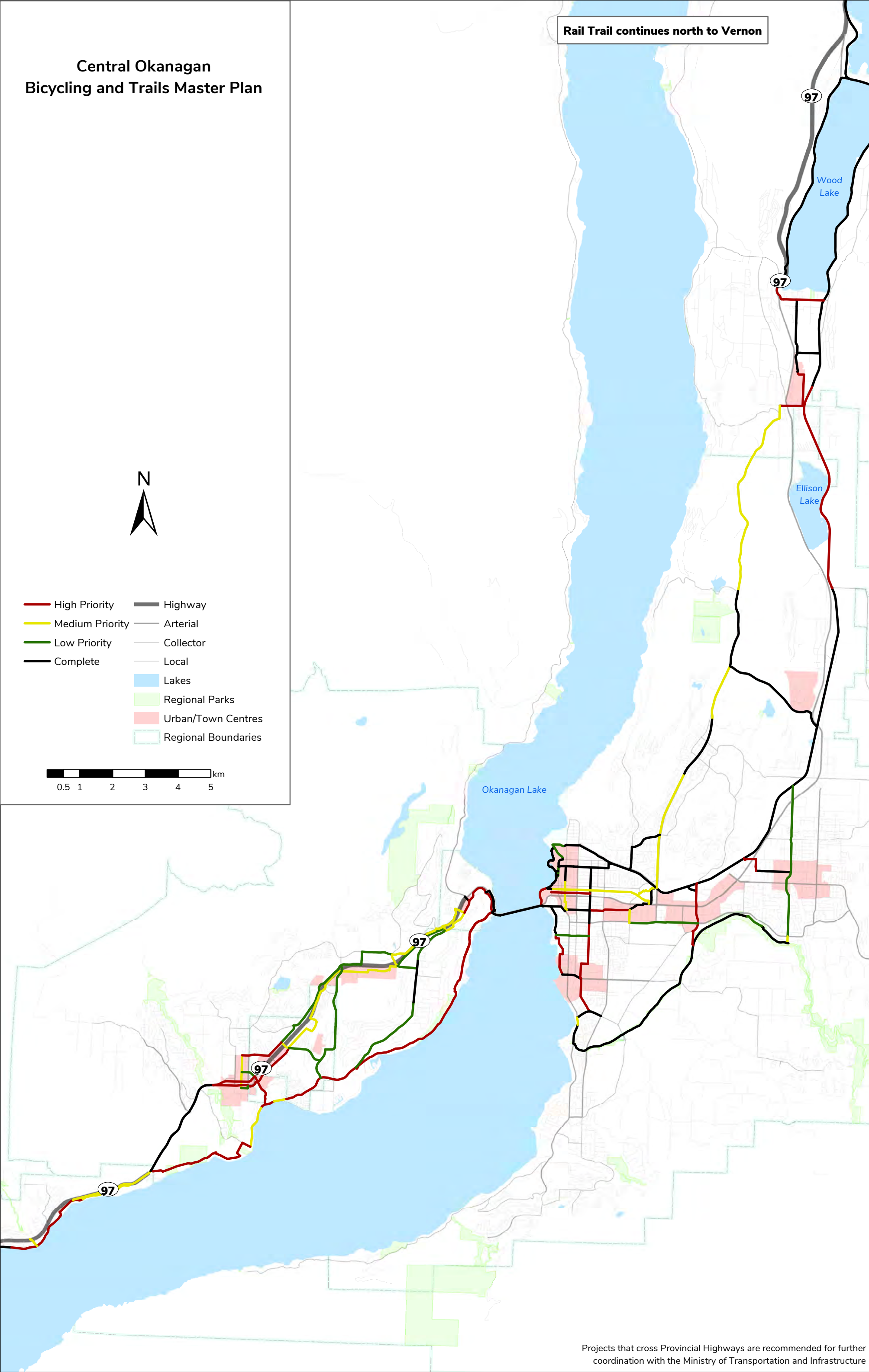
Central Okanagan  
Bicycling and Trails Master Plan



- |                 |                     |
|-----------------|---------------------|
| High Priority   | Highway             |
| Medium Priority | Arterial            |
| Low Priority    | Collector           |
| Complete        | Local               |
|                 | Lakes               |
|                 | Regional Parks      |
|                 | Urban/Town Centres  |
|                 | Regional Boundaries |

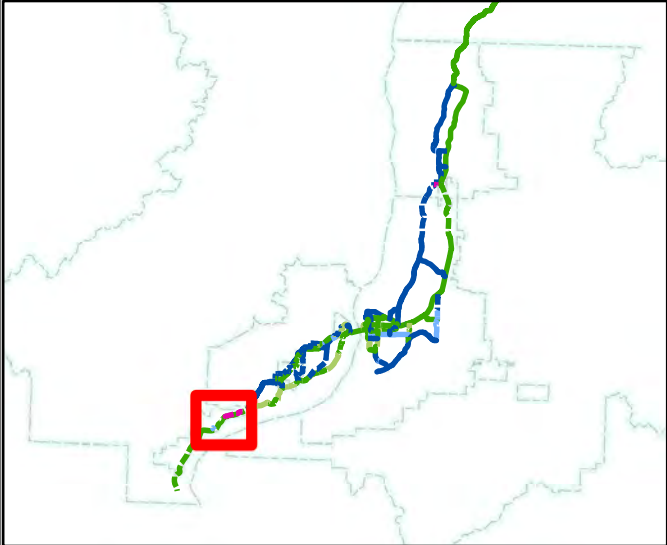


Rail Trail continues north to Vernon

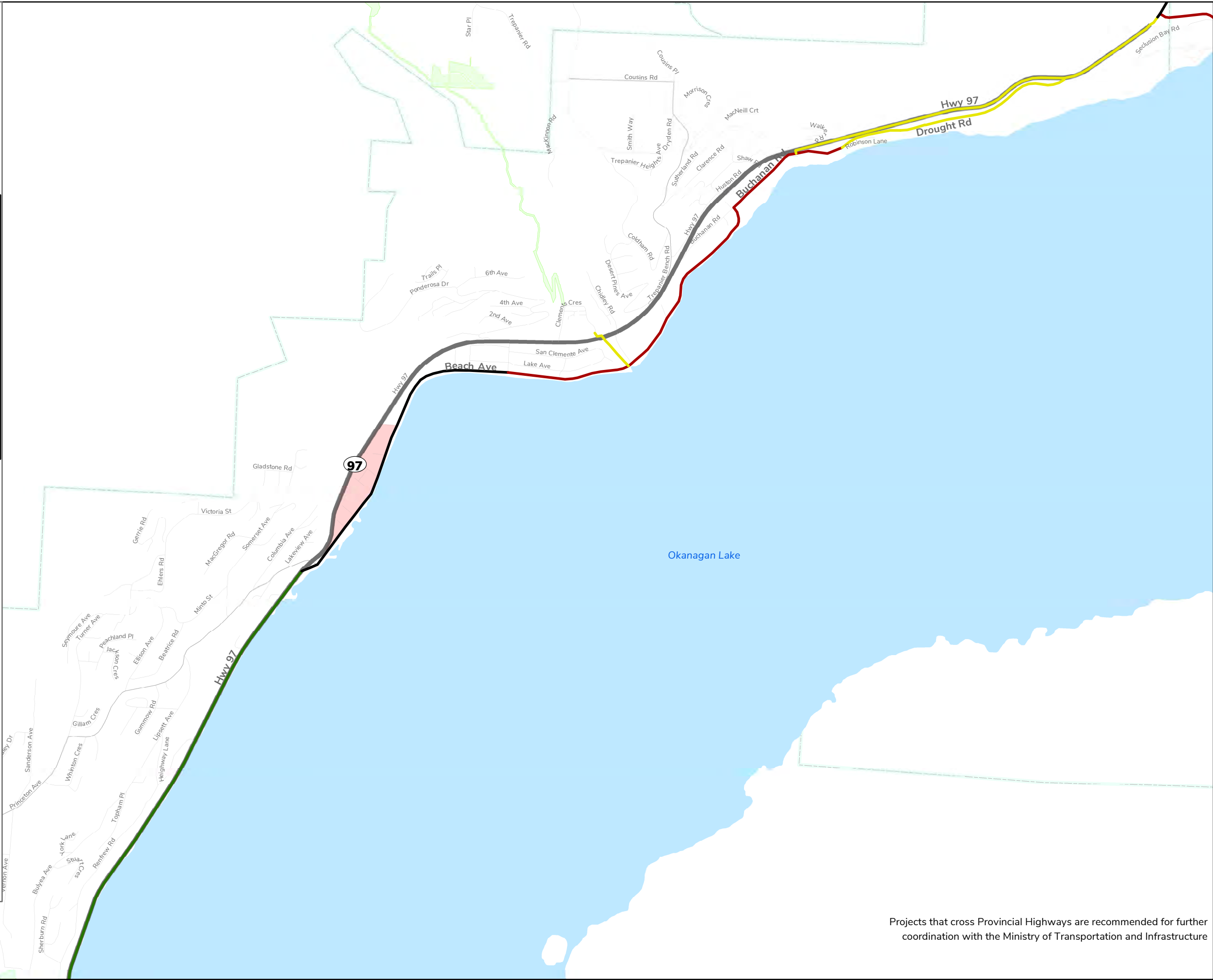
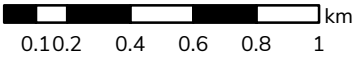


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# Central Okanagan Bicycling and Trails Master Plan

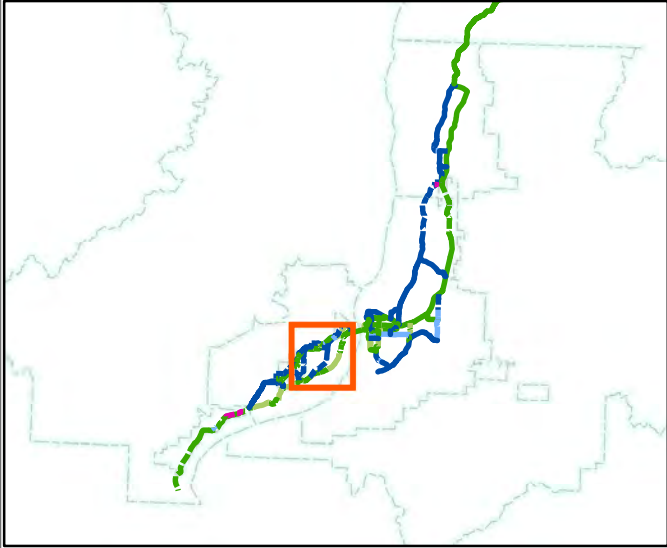


- Bike and Trails**
  - High Priority
  - Medium Priority
  - Low Priority
  - Complete
- Road Network**
  - Highway
  - Arterial
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# Central Okanagan Bicycling and Trails Master Plan

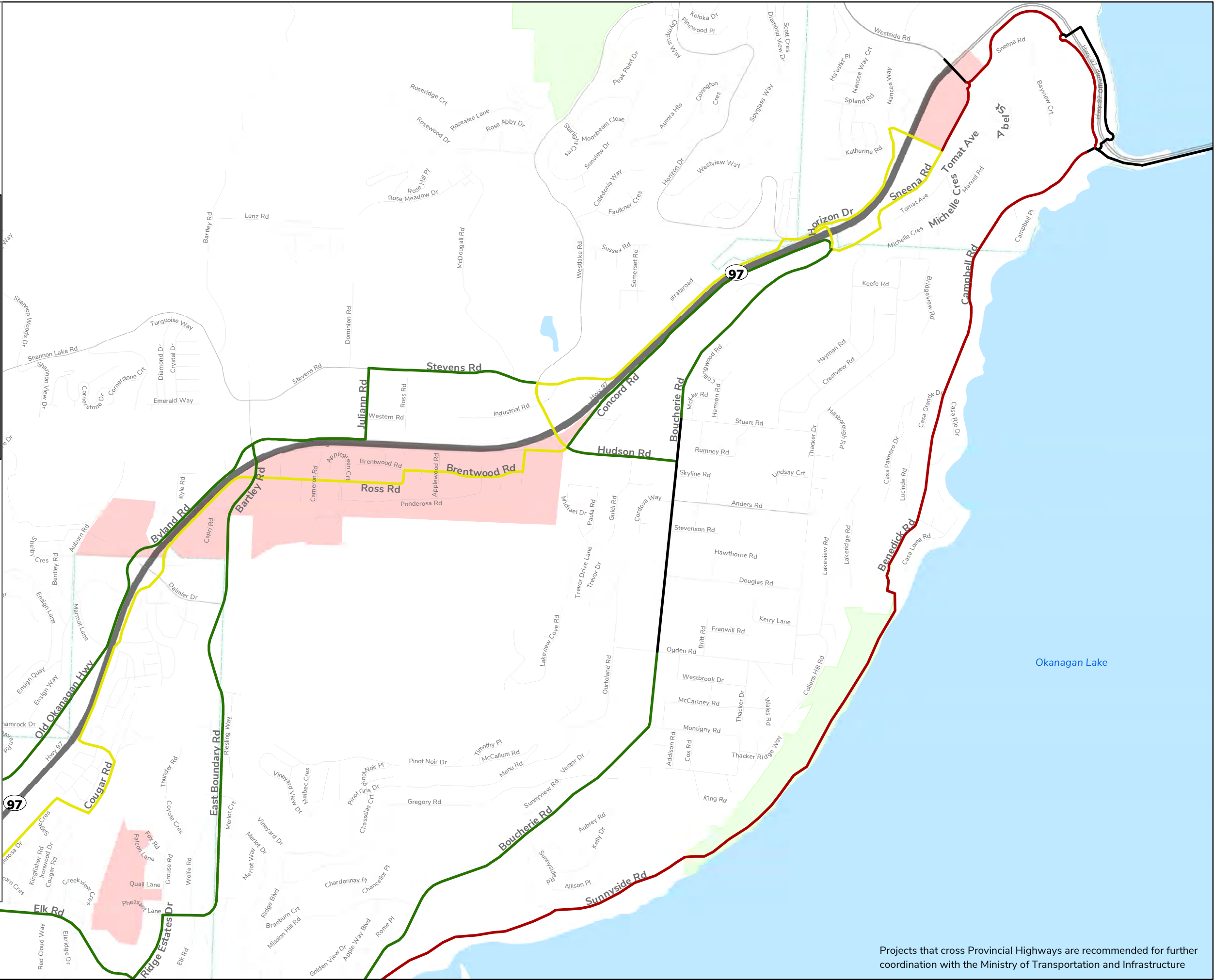
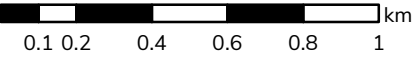


## Bike and Trails

- High Priority
- Medium Priority
- Low Priority
- Complete

## Road Network

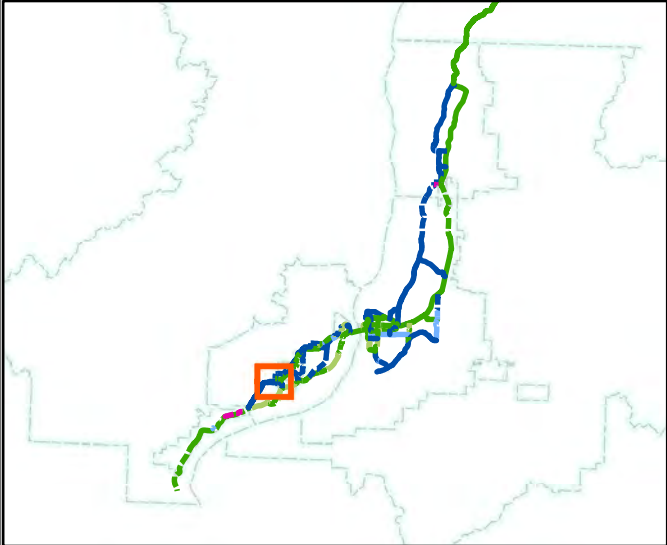
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# Central Okanagan Bicycling and Trails Master Plan

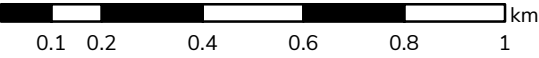


## Bike and Trails

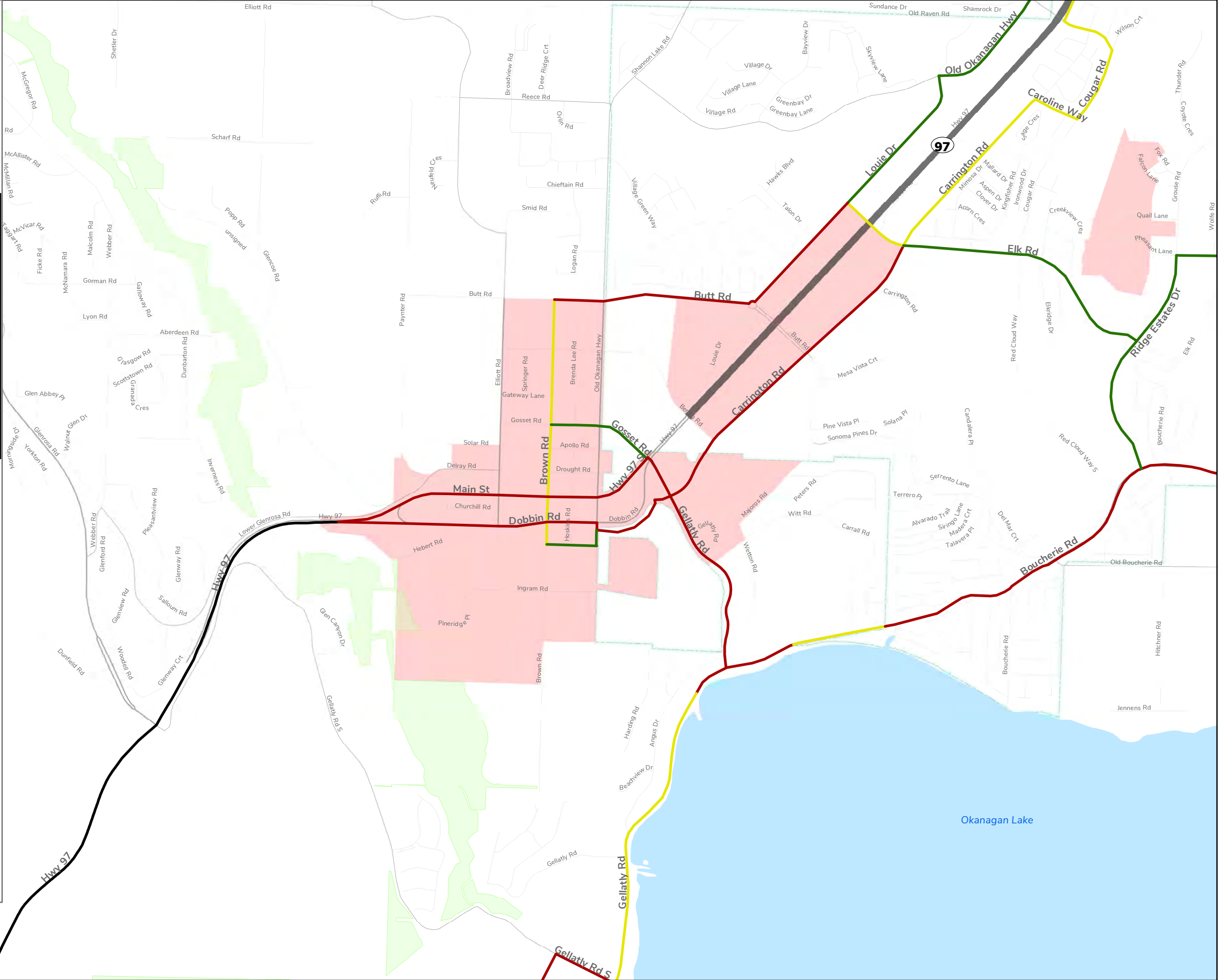
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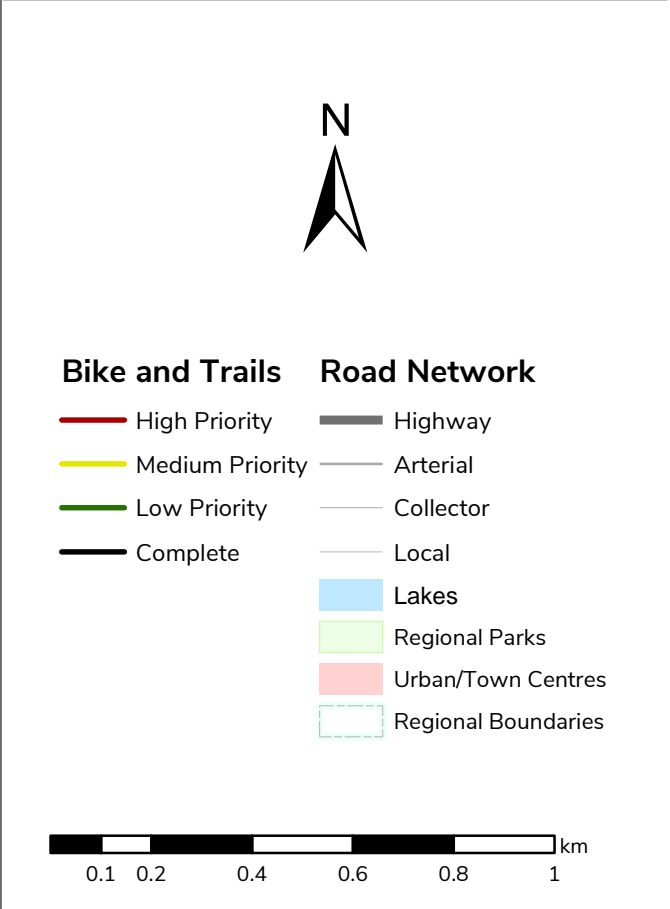




# Central Okanagan Bicycling and Trails Master Plan



The map displays the Central Okanagan region with its geographical boundaries. Overlaid on the map are several colored lines representing proposed bicycling and trails routes. A green line runs along the southern and eastern edges. A blue line runs along the northern and western edges. A pink line segment is located in the central part of the region, near a red box that highlights a specific area of interest.

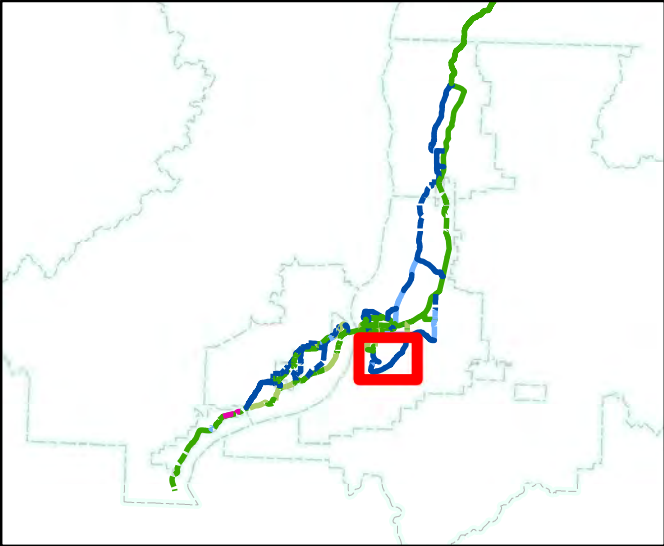


## Road Network

- 

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# Central Okanagan Bicycling and Trails Master Plan

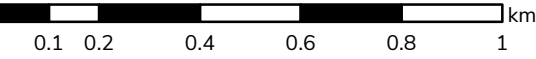


### Bike and Trails

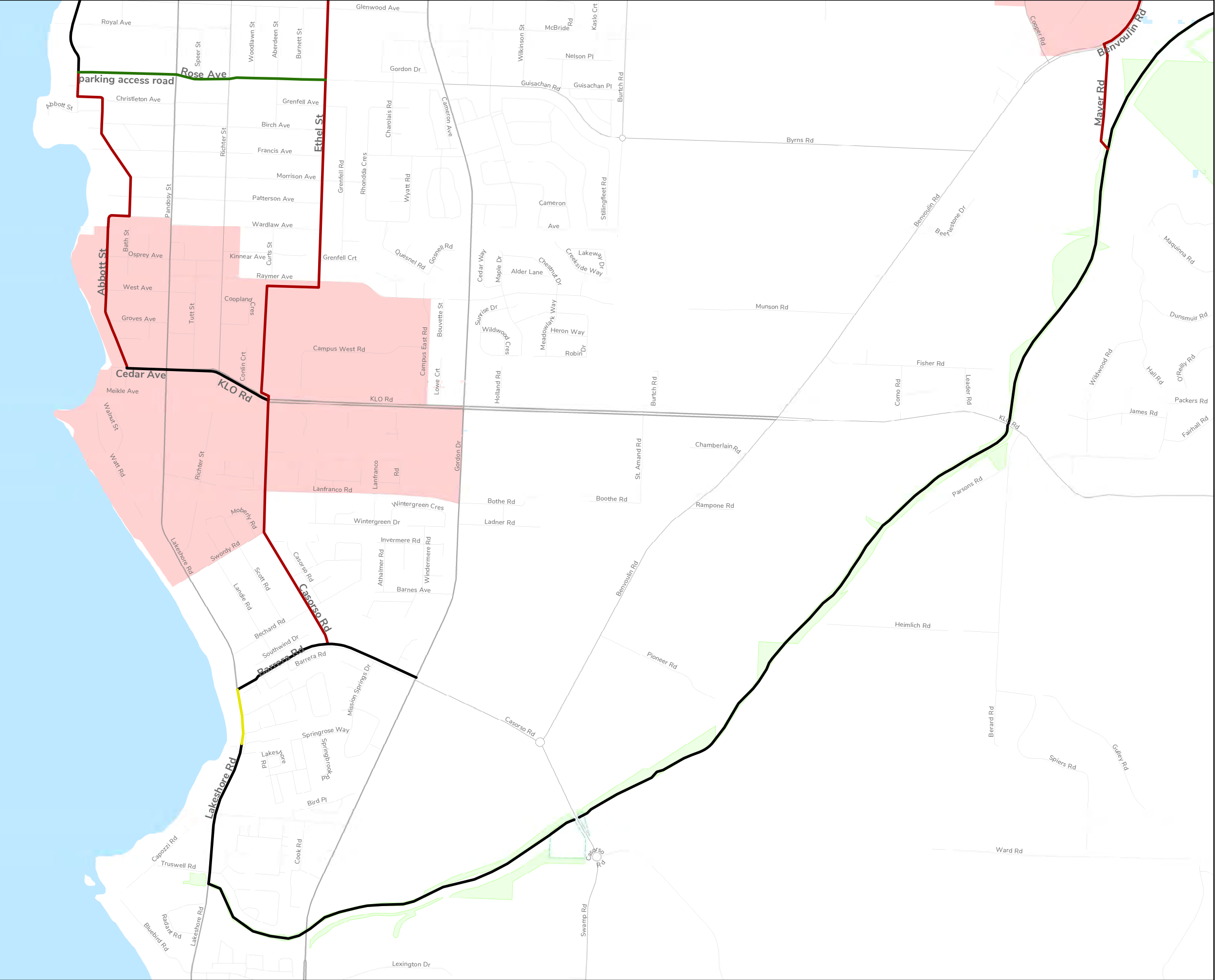
- High Priority
- Medium Priority
- Low Priority
- Complete

### Road Network

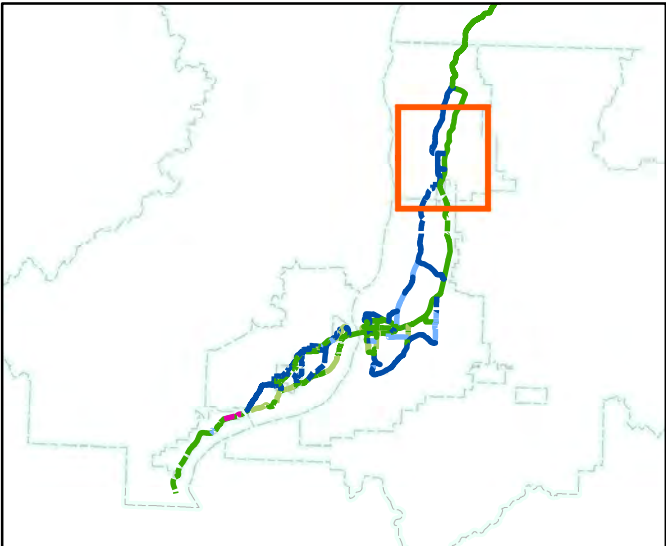
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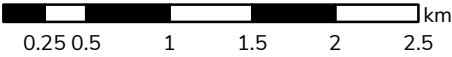
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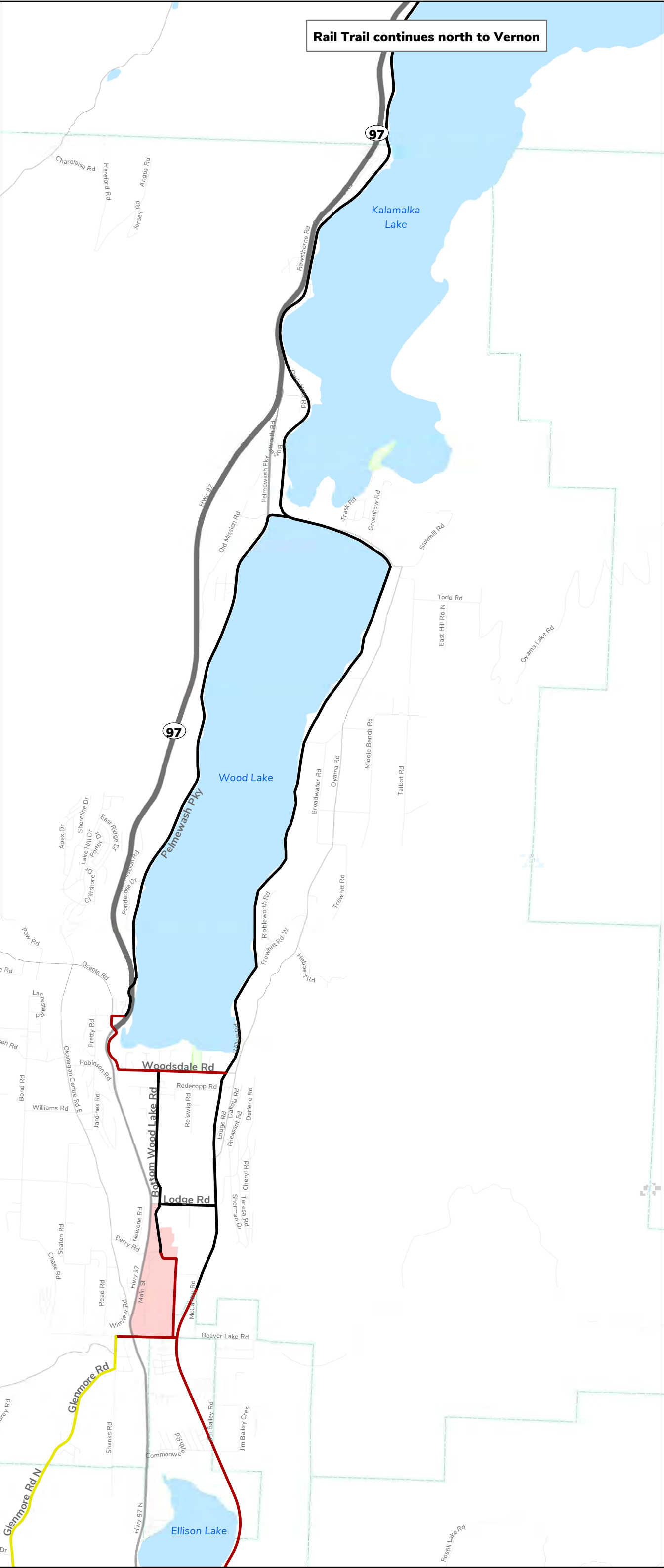
# Central Okanagan Bicycling and Trails Master Plan



- Bike and Trails**
  - High Priority
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## **Appendix 4 – Regional Corridors by Jurisdiction and Cost Estimates**



Projects	From	To	Length (m)	Spine	Type	Phase	Proposed Infrastructure	Unit Cost (\$/m)	Cost	Alt Cost Needed	Cost w Contingency (Rounded)	Notes
Peachland												
Hwy 97	Brent Rd	Beach Ave	5,694	Regional	Future	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 5,694,000		\$ 9,680,000	
Beach Ave	13th St	Buchanan Rd	2,123	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 53,075		\$ 90,000	
Buchanan Rd, Robinson Pl	Beach Ave	Robinson Lane	860	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 21,500		\$ 35,000	
Todd Rd underpass route (through	Beach Ave	Clements Cres	322	Supporting	Upgrade	Medium	Multi-Use Pathway	\$ 500	\$ 161,000	Yes	\$ 275,000	Upgrade lighting
Robinson Drought Trail	Robinson Pl	Drought Rd	407	Regional	Future	Medium	Multi-Use Pathway	\$ 500	\$ 203,500	Yes	\$ 345,000	
Drought Rd	RD Trail	Hwy 97	1,163	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 29,075		\$ 50,000	
Hwy 97	Buchanan Rd	Drought Rd	1,868	Alternate	Future	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,868,000		\$ 3,175,000	
Hwy 97	Drought Rd	Seclusion Bay Rd	741	Regional	Future	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 741,000		\$ 1,260,000	
Total			11,310						\$ 6,903,150		\$ 11,735,000	
West Kelowna - Southern / Westside Trail												
Seclusion Bay Rd	Hwy 97	Goats Peak Park	376	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 9,400		\$ 15,000	
Goats Peak Path	Seclusion Bay Rd	Witworth Rd	1,825	Regional	Upgrade	High	Multi-Use Pathway	\$ 500	\$ 912,500	Yes	\$ 1,550,000	Upgrade lighting and width
Witworth Rd	Goats Peak Path	George Crt	767	Regional	Future	High	Multi-Use Pathway	\$ 500	\$ 383,500		\$ 650,000	
Witworth Rd, Gellatly Rd S	George Crt	Cove Path	753	Regional	Future	High	Multi-Use Pathway	\$ 500	\$ 376,500		\$ 640,000	
Gellatly Rd	Cove Path / Gellatly Rd S	Gellatly Bay Park	1,276	Regional	Upgrade	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,276,000		\$ 2,170,000	Multi-Use Pathway unsuitable for volumes, consider dropping speed limit to 30km/h at waterfront
Gellatly Rd, Boucherie Rd	Gellatly Bay Park	WFN Public Beach	457	Regional	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 457,000		\$ 775,000	
Boucherie Rd	WFN Public Beach	End of WFN Public Beach	382	Regional	Upgrade	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 382,000		\$ 650,000	Separate users on path and widen
Boucherie Rd	Pritchard Dr N	Green Bay Rd	785	Regional	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 785,000		\$ 1,335,000	
Green Bay Rd	Boucherie Rd	Green Bay - Sunnysbrae Path	483	Regional	Upgrade	High	Rural Standard Protected Bike Lane	\$ 225	\$ 108,675		\$ 185,000	Add bollards
Green Bay - Sunnysbrae Path	Green Bay Rd	Sunnysbrae Rd	728	Regional	Future	High	Multi-Use Pathway	\$ 500	\$ 364,000		\$ 620,000	Through private land
Sunnysbrae Rd, Sunnyside Rd	Green Bay - Sunnysbrae Path	Kalmoir Park Path	931	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 23,275		\$ 40,000	
Kalmoir Park Pathway	Sunnyside Rd	Benedick Rd	2,180	Regional	Upgrade	High	Multi-Use Pathway	\$ 500	\$ 1,090,000		\$ 1,855,000	Upgrade lighting and width
Benedick Rd, Campbell Rd	Kalmoir Pathway	Lucinde Rd	298	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 7,450		\$ 15,000	ROW indicates around 20m of space, but does not seem that way at all
Campbell Rd	Lucinde Rd	Casa Grande Rd	690	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 17,250		\$ 30,000	
Campbell Rd	Casa Grande Rd	IR # 10 Boundary	837	Regional	Future	High	Multi-Use Pathway and Bike Lanes	\$ 525	\$ 439,425		\$ 745,000	
Total			12,768						\$ 6,631,975		\$ 11,275,000	
West Kelowna - North												
Dobbin Rd	Hwy 97	Old Okanagan Hwy	1,083	Supporting	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,083,000		\$ 1,840,000	
Main St	Gellatly Rd	Hwy 97	1,344	Supporting	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,344,000		\$ 2,285,000	Tighten lanes, consider rework of parking lanes
Gellatly Rd	Hwy 97/Gosset Rd	Carrington Rd	186	Regional	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 41,850		\$ 70,000	
Gellatly Rd	Carrington Rd	Boucherie Rd	789	Supporting	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 177,525		\$ 300,000	
Brown Rd	Gosset Rd	Last Rd	493	Regional	Future	Medium	Bike Path	\$ 1,000	\$ 493,000		\$ 840,000	
Last Rd	Brown Rd	Old Okanagan Hwy	204	Supporting	Future	Low	Neighbourhood Bikeway	\$ 25	\$ 5,100		\$ 10,000	
Brown Rd	Gosset Rd	Butt Rd	509	Supporting	Future	Medium	Bike Lanes / Bike Accessible Shoulder	\$ 25	\$ 12,725		\$ 20,000	
Butt Rd	Brown Rd	Old Okanagan Hwy	202	Supporting	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 45,450		\$ 75,000	
Byland Rd	Daimler Dr	Juliann Rd	1,548	Supporting	Future	Low	Bike Accessible Shoulder	\$ 25	\$ 38,700		\$ 65,000	
Juliann Rd	Byland Rd	Stevens Rd	389	Supporting	Future	Low	Neighbourhood St Bikeway	\$ 25	\$ 9,725		\$ 15,000	
Stevens Rd	Juliann Rd	Westlake Rd	933	Supporting	Future	Low	Bike Accessible Shoulder	\$ 25	\$ 23,325		\$ 40,000	
Stevens Rd	Westlake Rd	Marshall Rd	924	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 207,900		\$ 355,000	
Stevens Rd Extension	Marshall Rd	Horizon Dr Interchange	714	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 160,650		\$ 275,000	
Horizon Dr Interchange	Stevens Rd Extension	Boucherie Rd	380	Regional	Upgrade	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 85,500		\$ 145,000	
Old Okanagan Hwy	Last Rd	Park Cut Through	64	Supporting	Future	Low	Bike Lanes	\$ 25	\$ 1,600		\$ 5,000	
Carrington Rd	Gellatly Rd	WFN Boundary	233	Regional	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 52,425	Yes	\$ 90,000	
Ross Rd	Daimler Dr	Bartley Rd	803	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 180,675		\$ 305,000	
Ross Rd	Bartley Rd	Brentwood Rd	880	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 198,000		\$ 335,000	
Brentwood Rd	Ross Rd	Alhambra Dr	655	Regional	Future	Medium	Neighbourhood Bikeway	\$ 50	\$ 32,750		\$ 55,000	Additional level of calming needed along Brentwood
Alhambra Dr, Hudson Rd	Brentwood Rd	Hudson Rd	354	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 8,850		\$ 15,000	
Concord Rd	Hudson Rd	End of Concord Rd	780	Supporting	Upgrade	Low	Neighbourhood Bikeway	\$ 5	\$ 3,900		\$ 5,000	
Hwy 97 ROW	Concord Rd	Hayman Rd	1,135	Supporting	Future	Low	Multi-Use Pathway	\$ 500	\$ 567,500		\$ 965,000	
Bartley Rd, East Boundary Rd	Byland Rd	Ridge Estates Dr	2,906	Supporting	Future	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 653,850		\$ 1,110,000	
Hudson Rd	Westlake Rd/Concord Rd	Boucherie Rd	606	Supporting	Future	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 136,350		\$ 230,000	
Boucherie Rd	Horizon Dr	Prosperpine Rd	433	Supporting	Upgrade	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 433,000		\$ 735,000	
Boucherie Rd	Prosperpine Rd	Stuart Rd	876	Supporting	Future	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 876,000	Yes	\$ 1,490,000	Add Bike Lanes to both sides
Boucherie Rd	Ogden Rd	Green Bay Rd	2,807	Supporting	Future	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 2,807,000		\$ 4,770,000	
Gosset Rd	Brown Rd	Old Okanagan Hwy	198	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 44,550		\$ 75,000	
Westlake Rd	Stevens Rd	Concord Rd	399	Regional	Upgrade	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 89,775		\$ 155,000	
Total			22,827						\$ 9,814,675		\$ 16,685,000	
Total for West Kelowna			35,595									
Westbank First Nation												
Boucherie Rd	End of WFN Public Beach	Old Boucherie Rd	727	Regional	Upgrade	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 727,000		\$ 1,235,000	
Boucherie Rd	Old Boucherie Rd	Pritchard Dr N	997	Regional	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 997,000		\$ 1,695,000	
Campbell Rd	IR # 10 Boundary	WR Bennent Bridge	820	Regional	Future	High	Multi-Use Pathway and Bike Lanes	\$ 525	\$ 430,500		\$ 730,000	
Carrington Rd	WFN Boundary	Elk Rd	1,180	Regional	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 265,500		\$ 450,000	
Butt Rd	Old Okanagan Hwy	Louie Dr	596	Supporting	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 134,100		\$ 230,000	
Louie Dr	Butt Rd	Elk Rd	582	Supporting	Future	High	Rural Standard Protected Bike Lane	\$ 225	\$ 130,950		\$ 225,000	
Louie Dr	Elk Rd	Old Okanagan Hwy	668	Supporting	Future	Low	Bike Accessible Shoulder	\$ 25	\$ 16,700		\$ 30,000	
Old Okanagan Hwy	Louie Dr	Byland Rd / Daimler Dr	1,537	Supporting	Future	Low	Bike Accessible Shoulder	\$ 25	\$ 38,425		\$ 65,000	
Carrington Rd	Elk Rd	Caroline Way	804	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 20,100		\$ 35,000	
Caroline Way	Carrington Rd	Cougar Rd	189	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 4,725		\$ 10,000	
Cougar Rd	Caroline Way	Grizzly Rd	319	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 7,975		\$ 15,000	
Grizzly Rd	Cougar Rd	Hwy 97	241	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 6,025		\$ 10,000	
Hwy 97 ROW	Grizzly Rd	Cougar Rd	586	Regional	Future	Medium	Multi-Use Pathway	\$ 500	\$ 293,000		\$ 500,000	
Cougar Rd, Ross Rd	Hwy 97 ROW Path	Daimler Dr	433	Regional	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 10,825		\$ 20,000	
Ridge Estates	Elk Rd	East Boundary Rd	396	Supporting	Future	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 89,100		\$ 150,000	
Ridge Estates	Elk Rd	Boucherie Rd	584	Supporting	Future	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 131,400		\$ 225,000	
Gosset Rd	Old Okanagan Hwy	Hwy 97	246	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 55,350		\$ 95,000	
Park Cut Through, Carrington Crt	Old Okanagan Hwy	Carrington Rd/Gellatly Rd	372	Supporting	Future	Low	Multi-Use Pathway	\$ 500	\$ 186,000		\$ 315,000	
Elk Rd	Ridge Estates Dr	Carrington Rd	1,107	Supporting	Future	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 249,075		\$ 425,000	

Projects	From	To	Length (m)	Spine	Type	Phase	Proposed Infrastructure	Unit Cost (\$/m)	Cost	Alt Cost Needed	Cost w Contingency (Rounded)	Notes
Elk Rd	Louie Dr	Carrington Rd	291	Supporting	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 65,475		\$ 110,000	
Nancee Way Multi-Use Pathway	Horizon Dr	Nancee Way	823	Supporting	Future	Medium	Multi-Use Pathway	\$ 500	\$ 411,500		\$ 700,000	
Nancee Way	Nancee Way Multi-Use Pathway	Sneena Rd	291	Supporting	Upgrade	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 65,475		\$ 110,000	
Hayman Rd, Sneena Rd	Boucherie Rd	Nancee Way	882	Regional	Upgrade	Medium	Multi-Use Pathway	\$ 500	\$ 441,000		\$ 750,000	Add Multi-Use Pathway, keep bike lanes
Sneena Rd	Nancee Way	Campbell Rd	1,927	Regional	Upgrade	High	Multi-Use Pathway	\$ 500	\$ 963,500		\$ 1,640,000	Add Multi-Use Pathway, keep bike lanes
Total			16,598						\$ 5,740,700		\$ 9,760,000	
Kelowna West, North of Hwy 97 / Harvey Avenue												
Water St	Doyle Ave	Cawston Ave	287	Regional	Upgrade	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 64,575		\$ 110,000	
City Park Path	WRB Bridge	Lawrence Ave	686	Regional	Upgrade	High	Separated Bicycle and Pedestrian Pathways	\$ 1,000	\$ 686,000		\$ 1,165,000	Note changing and unstable conditions along waterfront that may affect future cost estimates
Lawrence Ave	Abbott St	Ethel St	1,200	Regional	Future	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,200,000		\$ 2,040,000	South side better for safety purposes, but would remove more parking as currently constructed
Lawrence Ave	Ethel St	Burtch Rd	1,480	Regional	Future	Medium	Rural Standard Protected Bike Lane	\$ 225	\$ 333,000		\$ 565,000	
Leon Ave	Abbott St	Ethel St	1,198	Regional	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,198,000		\$ 2,035,000	
Burtch Rd	Lawrence Ave	Parkinson Multi-Use Pathway	83	Regional	Future	Medium	Multi-Use Pathway	\$ 500	\$ 41,500		\$ 70,000	
Parkinson Multi-Use Pathway N	Burtch Rd	Rail Trail Connection	546	Regional	Future	Medium	Multi-Use Pathway	\$ 500	\$ 273,000		\$ 465,000	
Parkinson Multi-Use Pathway S	Lawrence Ave	Harvey Overpass	485	Supporting	Future	Medium	Multi-Use Pathway	\$ 500	\$ 242,500		\$ 410,000	
Ellis St	Queensway/Bus Loop	Harvey Ave	430	Supporting	Future	High	Bike Lanes	\$ 25	\$ 10,750		\$ 20,000	
Dilworth Dr	Enterprise Way	Rail Trail	553	Regional	Upgrade	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 553,000	Yes	\$ 940,000	
Dilworth Dr	Harvey Ave	Enterprise Way	150	Regional	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 150,000	Yes	\$ 255,000	
Manhattan Dr, Sunset Dr	W of Ellis St	Water St	900	Supporting	Future	Low	Multi-Use Pathway	\$ 500	\$ 450,000		\$ 765,000	
Total			7,998						\$ 5,202,325		\$ 8,845,000	
Kelowna West, South of Hwy 97 / Havey Avenue												
Ellis St	Harvey Ave	Buckland Ave	183	Supporting	Future	Medium	Bike Lanes	\$ 25	\$ 4,575		\$ 10,000	
Buckland Ave, Marshall St	Ellis St	Sutherland Cut-Through	239	Supporting	Future	Medium	Neighbourhood Bikeway	\$ 25	\$ 5,975		\$ 10,000	
Sutherland Cut-Through	Marshall St	Sutherland Ave	63	Supporting	Future	Medium	Multi-Use Pathway	\$ 500	\$ 31,500	Yes	\$ 55,000	Bridge over stream
Sutherland Ave	Ethel St	Gordon Dr	408	Regional	Upgrade	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 408,000		\$ 695,000	
Sutherland Ave	Gordon Dr	Burtch Rd	828	Regional	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 828,000		\$ 1,410,000	
Rose Ave	Pandosy St	Ethel St	610	Supporting	Upgrade	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 610,000		\$ 1,035,000	
Hospital Cut Through	Abbott St	Rose Ave/Pandosy St	401	Supporting	Future	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 401,000	Yes	\$ 680,000	
Benvoulin Rd, Dilworth Dr	Mayer Rd	Harvey Ave	831	Regional	Upgrade	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 831,000	Yes	\$ 1,415,000	
Mayer Rd	Mission Creek Greenway	Benvoulin Rd	442	Regional	Future	High	Neighbourhood Bikeway	\$ 25	\$ 11,050		\$ 20,000	
Ethel St	Springfield Rd	Raymer Ave	1,214	Regional	Upgrade	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,214,000		\$ 2,065,000	
Kelowna Wastewater Treatment Path	Ethel St/Raymer Ave	KLO Rd/Casorso Rd	721	Regional	Future	High	Multi-Use Pathway	\$ 500	\$ 360,500		\$ 615,000	
Casorso Rd	KLO Rd	Barrera Rd	1,067	Supporting	Future	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,067,000		\$ 1,815,000	
Lakeshore Rd	Barrera Rd	S end of Rotary Beach Park	224	Supporting	Upgrade	Medium	Multi-Use Pathway	\$ 500	\$ 112,000		\$ 190,000	
Abbott St	Rose Ave	Cedar Ave	1,439	Regional	Upgrade	High	Urban Standard Protected Bike Lane	\$ 1,000	\$ 1,439,000		\$ 2,445,000	
Springfield Rd	Burtch Rd	Dilworth Dr	2,107	Supporting	Upgrade	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 474,075	Yes	\$ 805,000	
Burtch Rd	Sutherland Ave	Springfield Rd	410	Supporting	Upgrade	Medium	Urban Standard Protected Bike Lane	\$ 1,000	\$ 410,000		\$ 695,000	
Total			11,187						\$ 8,207,675		\$ 13,955,000	
Kelowna East and North												
Lester Rd	Houghton Rd	Leathead Rd	361	Regional	Future	High	Multi-Use Pathway	\$ 500	\$ 180,500		\$ 305,000	
Leathead Rd, Enterprise Way	Lester Rd	Rail Trail	406	Regional	Future	High	Multi-Use Pathway	\$ 500	\$ 203,000	Yes	\$ 345,000	
Hollywood Rd S	Springfield Rd	Mission Creek Greenway	177	Supporting	Future	Low	Neighbourhood Bikeway	\$ 25	\$ 4,425		\$ 10,000	
Hollywood Rd	Springfield Rd	Argyll Rd	1,259	Supporting	Upgrade	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 283,275		\$ 480,000	
Hollywood Rd	Argyll Rd	Houghton Rd	772	Supporting	Upgrade	Low	Urban Standard Protected Bike Lane	\$ 1,000	\$ 772,000		\$ 1,310,000	
Hollywood Rd	Houghton Rd	McCurdy Rd	1,006	Supporting	Upgrade	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 226,350		\$ 385,000	
Hollywood Rd Extension	McCurdy Rd	Rail Trail	1,645	Supporting	Future	Low	Rural Standard Protected Bike Lane	\$ 225	\$ 370,125		\$ 630,000	
Rail Trail	Old Vernon Rd	Duck Lake IR Boundary	3,251	Regional	Future	High	Continue Rail Trail	\$ 500	\$ 1,625,500		\$ 2,765,000	
Glenmore Rd N	Kelowna Boundary	McKinley Rd	4,353	Supporting	Future	Medium	Continue Bike Accessible Shoulder	\$ 25	\$ 108,825		\$ 185,000	
Glenmore Rd N	John Hindle Dr	Scenic Rd	1,758	Supporting	Upgrade	Medium	Multi-Use Pathway	\$ 500	\$ 879,000		\$ 1,495,000	
Glenmore Dr	Dallas Rd	Clement Ave	3,660	Supporting	Upgrade	Medium	Multi-Use Pathway	\$ 500	\$ 1,830,000		\$ 3,110,000	
Rail Trail	Beaver Lake Rd	McCarthy Road	632	Regional	Future	High	Continue Rail Trail	\$ 500	\$ 316,000		\$ 535,000	
Creekside Rd	Graham Rd	Gertsmar Rd	553	Supporting	Future	Low	Neighbourhood Bikeway	\$ 25	\$ 13,825		\$ 25,000	
Total			19,833						\$ 6,812,825		\$ 11,580,000	
Total for Kelowna			39,018									
OKIB Duck Lake IR 7												
Rail Trail	Duck Lake IR Boundary (south)	McCarthy Road	2,605	Regional	Future	High	Continue Rail Trail	\$ 500	\$ 1,302,500		\$ 2,215,000	
Lake Country												
Bottom Wood Lake Rd	Beaver Lake Rd	Berry Rd	1,224	Supporting	Future	High	Bike Lanes / Bike Accessible Shoulder	\$ 25	\$ 30,600		\$ 50,000	
Woodsdale Rd	Bottom Wood Lake Rd	Rail Trail	822	Supporting	Future	High	Multi-Use Pathway	\$ 500	\$ 411,000		\$ 700,000	
Woodsdale Rd	Bottom Wood Lake Rd	Seymour Rd	403	Supporting	Upgrade	High	Multi-Use Pathway	\$ 500	\$ 201,500		\$ 345,000	
Woodsdale Rd	Hwy 97	Seymour Rd	651	Supporting	Future	High	Multi-Use Pathway	\$ 500	\$ 325,500		\$ 555,000	
Oceola Rd, Petty Rd	Woodsdale Rd	Pelmewash Pky Onramp Multi-Use Pathway	332	Supporting	Future	High	Multi-Use Pathway	\$ 500	\$ 166,000		\$ 280,000	
Glenmore Rd	Kelowna Boundary	Seaton Rd	1,892	Supporting	Future	Medium	Bike Lanes / Bike Accessible Shoulder	\$ 25	\$ 47,300		\$ 80,000	
Beaver Lake Rd, Glenmore Rd	Glenmore Rd/Seaton Rd	Rail Trail	749	Supporting	Future	High	Bike Lanes / Bike Accessible Shoulder	\$ 25	\$ 18,725		\$ 30,000	Limited right of way on eastern edge (~8m)
Total			6,073						\$ 1,200,625		\$ 2,040,000	
							Regional Total		\$ 51,816,450	\$ -	\$ 88,090,000	

Summary			
New	81,285	\$	57,945,000
Upgraded	29,914	\$	30,145,000
Total	111,199	\$	88,090,000
Regional	58,647	\$	55,110,000
Supporting	52,552	\$	32,980,000
Total	111,199	\$	88,090,000



