

Attachment 1
French Creek Active Transportation Plan

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FRENCH CREEK

ACTIVE TRANSPORTATION PLAN

FINAL | MAY 2022



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ACKNOWLEDGMENTS

The French Creek Active Transportation Plan was prepared in collaboration between Regional District of Nanaimo staff and ISL Engineering and Land Services, with support from the public and stakeholders who provided their comments.



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The Regional District of Nanaimo Electoral Area 'G' French Creek Active Transportation Plan is a high-level planning document that includes a future OCP amendment providing a roadmap to guide active transportation improvements in the community. The plan builds off of the community's existing OCP with the primary goal of supporting enhancements to the current roadway and active transportation infrastructure to further promote, and make more accessible, active transportation options for all people in the community.

This report, as well as the future OCP amendment, will help support the District's applications for grant funding, which is anticipated to fund a proportion of the improvements proposed in this report.

The vision of this report is to improve community connectivity with facilities that are safe for all ages and abilities. Goals include upgrading the Parksville-Qualicum Beach (PQB) Links, providing safe routes to schools and other destinations, and supporting regional active transportation connectivity.

This report was developed with significant public input. In Phase 1, issues and ideas within French Creek were identified and, in Phase 2, feedback regarding public support for each of the options and their prioritization was collected. This public feedback was used directly in option development, the prioritization of options, and the implementation strategy.

The report identifies main challenges and opportunities, including the lack of existing active transportation infrastructure, constructing proposed facilities in the context of limited funding, constructing facilities on Ministry roadways, and the need to improve crossing safety, improve access to transit, and improve wayfinding and signage.

The active transportation facilities recommended within this plan are separated into three categories of prioritization: high, moderate, and low. High priority sections include portions of Wembley Road and Wright Road and are prioritized both due to the high traffic volumes along these roadways, and the connections they provide to key destinations such as Wembley Mall and Ecole Oceanside Elementary. Moderate priority sections include other sections of the Parksville-Qualicum Beach (PQB) Links, as well as the connections with Island Highway 19A. Low priority sections are primarily characterized as connections between existing residential neighbourhoods and the Parksville-Qualicum Beach (PQB) Links.

The proposed infrastructure within this plan will cost approximately \$21 million in 2022 dollars and is anticipated to be funded through a combination of grant funding, developer contributions, and tax revenue.

This plan includes recommended text for a future OCP amendment whose objectives, policies, and implementation actions reference the recommendations of the French Creek Active Transportation Plan. Recommended text changes to Land Use and Subdivision Bylaw No. 500, 1987 are also provided.

FRENCH
CREEK

COLUMBIA BEACH



1. OCP AMENDMENT PURPOSE

Active transportation is any way of traveling using your own power to get from one place to another. Walking and cycling are the most common, but running, scootering, skateboarding, in-line skating, using a wheelchair, paddling, skiing, snowshoeing, horseback riding, and using electric bicycles or scooters are all types of active transportation.

Making it easier and safer to travel by active transportation provides several benefits, including:

- **Improved Health:** Active transportation improvements support community health and well-being, creating a happier community. Healthcare costs can be reduced through improved physical and mental health and reduced risk of collisions.
- **Cleaner Environment:** Active transportation improvements can reduce transportation related emissions and improve air quality by encouraging people to use cleaner modes of transportation.
- **Reduced Congestion:** By enabling more people to choose active transportation, this can reduce road network congestion by freeing up road capacity and parking for those that still need or want to drive.
- **Stronger Economy:** Active transportation is more affordable for more people and money saved on transportation costs such as vehicle purchase, maintenance, insurance, parking, and gas can be spent in other ways in the local community.
- **Increased Equity:** A transportation network that accommodates only the automobile is inequitable. By providing new and safe active transportation facilities, those who cannot drive, or choose not to, are provided with a safe transportation option.

This French Creek Active Transportation Plan updates past planning direction to reflect evolving standards in the active transportation field that prioritise the safety and comfort of active modes with the intent of enabling more people to walk, roll and cycle.

This update includes a review of existing conditions including public feedback, key challenges, a plan vision and goals, design recommendations for the Regional District of Nanaimo Area G context, recommended options to improve active transportation, and an implementation plan prioritized based on their contribution to the goals and support from the public. This plan will be used as a guide during capital work planning and will help support applications for Provincial and Federal grant funding, greatly reducing Area G's capital costs of the planned improvements.

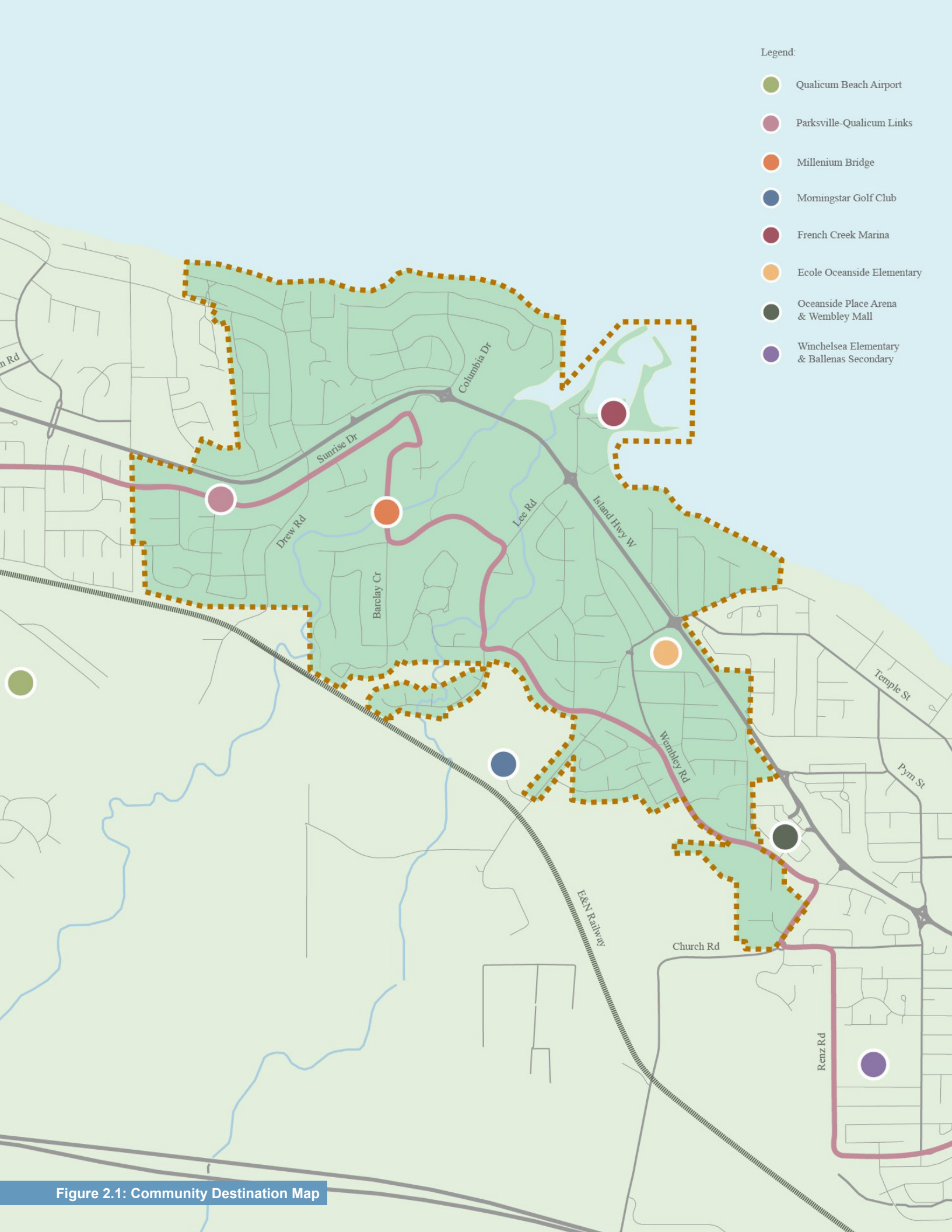


Figure 2.1: Community Destination Map

2.1 LOCATION

Regional District of Nanaimo Area G lies on the east coast of Vancouver Island. While the entirety of Area G is nestled between several communities, this report focuses on the area within the French Creek Growth Containment Boundary, located between the communities of Qualicum Beach and Parksville to the west and east, respectively.

The study area (shown left) measures approximately 3km by 2.5km, making many local trips generally accessible by some form of active transportation if it was safe enough to do so.

2.2 LAND USE

There are limited amenities within the study area where the primary land use is residential. The Beaches are a primary attraction along the coast, while the Marina accommodates local boats as well as the passenger ferry to Lasqueti Island.

Local businesses within the study area include small commercial lots with restaurants, the hardware store, and the marina and Harbour Store. Many French Creek residents utilize local commercial amenities within the neighbouring communities. Of note, Oceanside Place Arena, Wembley Mall, and adjacent stores, including a grocery store, are located on the boundary of the study area at the south east end. Qualicum Beach Airport (XQU) is located just beyond the western boundary of the study area

2.3 DEMOGRAPHICS

Community demographics describe the community the plan must serve and provide insight into how the community compares with others. This section provides a summary of key demographics in the Regional District of Nanaimo Electoral Area G that relate to the community or how they travel.

Population and Dwellings

There were 7,465 residents in Electoral Area G in the 2016 Canadian Census. The population grew 4.3% since 2011, less than the provincial average of 5.6%. Electoral Area G occupies 49.4 square kilometres and has a population density of 151 people per square kilometre, much more than the 5 people per square kilometre for the province, but much less than more densely populated areas. For example, the City of Nanaimo has 997 people per square kilometre. Prior to finalizing this report, 2021 population data was released, indicating that the population of Electoral Area G had increased by a further 7.7% to 8,109 people.

The average household size is 2.5 people per household, which is slightly greater than the provincial average of 2.4.

26.3% of all couples have children, significantly less than the provincial average of 48.1%. Single detached homes account for 85.1% of the housing stock, which is much greater than the provincial average of 44.1%.

The age profile in Electoral Area G is shown in Table 2.1. It leans toward those approaching or beyond retirement age. The region is considerably underrepresented by under '50s compared with British Columbia as a whole and over-represented by every age group over 49 years. Overall, it is likely that there are less employees and more retirees compared to the province as a whole. With respect to active transportation, facilities that are safe for an aging population are important.

Table 2.1: 2016 Census Population Age

| Age Group | Electoral Area G | British Columbia |
|-----------|------------------|------------------|
| 0 - 19 | 13.9% | 20.5% |
| 20 - 29 | 5.7% | 12.7% |
| 30 - 39 | 5.9% | 13.1% |
| 40 - 49 | 9.4% | 13.2% |
| 50 - 59 | 17.6% | 15.2% |
| 60 - 69 | 23.6% | 13.2% |
| 70 - 79 | 16.8% | 7.4% |
| 80+ | 7.0% | 4.6% |

Income

Income can be one indicator of people's transportation needs with those on lower incomes being more reliant on active transportation and transit. In Electoral Area G, those on lower incomes could include the unemployed, underemployed, retired, or in low-income employment. Based on the 2016 Census, the median total income in Electoral Area G is \$34,094, slightly higher than the provincial average of \$33,012.

Table 2.2 provides total income by band. A living wage in Parksville-Qualicum was defined as \$15.81/hour (livingwagecanada.ca) in 2019. For a 35-hour work week this equates to an annual salary of \$28,775.

In Electoral Area G, approximately 43% declared they earn less than a living wage, compared with approximately 52% for the province, which would indicate that there is a smaller proportion of people of low income in Electoral Area G.

Table 2.2: 2016 Census Total Income Bands

| Personal Income | Electoral Area G | British Columbia |
|----------------------|------------------|------------------|
| Under \$10,000 | 11.6% | 15.4% |
| \$10,000 to \$19,999 | 17.2% | 17.5% |
| \$20,000 to \$29,999 | 15.6% | 13.5% |
| \$30,000 to \$39,999 | 12.8% | 11.4% |
| \$40,000 to \$49,999 | 11.0% | 9.8% |
| \$50,000 to \$59,999 | 8.2% | 7.7% |
| \$60,000 to \$69,999 | 6.0% | 6.0% |
| \$70,000 to \$79,999 | 4.9% | 4.6% |
| \$80,000 to \$89,999 | 3.5% | 3.6% |
| \$90,000 to \$99,999 | 2.1% | 2.6% |
| \$100,000 and over | 7.1% | 15.8% |

With the aging population, it is possible that many of those declaring a lower income are retired and have lower expenses than the average Canadian. Still, with auto ownership often consuming a large part of available income, reducing people's need to travel by motor vehicle can support improved livability, regardless of a person's circumstances.

Commute Mode Share

Existing mode share is an indicator of the existing infrastructure for active transportation, but is also subject to land use patterns. Compact mixed-use development has greater potential for shorter active trips than more rural areas.

In Electoral Area G, the overall land area is relatively small but there is limited employment compared to neighbouring communities. Table 2.3 provides 2016 Census mode share for travel to work. 87.7% of residents use a motor vehicle to commute to work.

People biking, walking, and using public transportation make up 2.0%, 3.8%, and 1.4% of commuters, respectively.

Due to the higher population of retirement age, the percentage of commuters is lower than many other areas.

Table 2.3: 2016 Census Mode Share for Travel to Work

| Mode of Transportation | Electoral Area G | British Columbia |
|-----------------------------|------------------|------------------|
| Car, Truck, Van (Driver) | 81.1% | 70.5% |
| Car, Truck, Van (Passenger) | 6.6% | 5.5% |
| Public Transit | 1.4% | 13.1% |
| Walk | 3.8% | 6.8% |
| Bicycle | 2.0% | 2.5% |
| Other Method | 5.2% | 1.7% |

Commute Trip Length

Short trips have the greatest potential for conversion to active transportation. Table 2.4 shows that in the 2016 Census, Electoral Area G residents had a greater percentage of trips under 15 minutes compared with the provincial average. With the high vehicle mode share, it's possible that many of these short trips are currently made by motor vehicle and could feasibly be made on foot, or more likely by bicycle, if safe connections are provided.

Table 2.4: 2016 Census Commute Duration

| Commute Duration | Electoral Area G | British Columbia |
|----------------------|------------------|------------------|
| Less than 15 minutes | 40.2% | 28.8% |
| 15 to 29 minutes | 28.9% | 32.9% |
| 30 to 44 minutes | 16.9% | 20.3% |
| 45 to 59 minutes | 6.6% | 8.8% |
| 60 minutes and over | 7.4% | 9.1% |

Commute Origins and Destinations

There were 1,740 Electoral Area G residents that commute to a usual place of work in the 2016 Census (Table 2.5). With the correct infrastructure in place, it is possible that those commutes that remain within Electoral Area G (9.8%) or adjacent municipalities of Parksville (34.4%) and Qualicum Beach (17.5%) could be made by active modes by many people.

Table 2.5: 2016 Census Electoral Area G Resident Commute Destinations

| Commute Destination | Trips | Percentage Trips |
|---------------------|-------|------------------|
| Parksville | 600 | 34.4% |
| Nanaimo | 320 | 18.4% |
| Qualicum Beach | 305 | 17.5 |
| Nanaimo G | 170 | 9.8% |
| Nanaimo F | 150 | 8.6% |
| Port Alberni | 60 | 3.4% |
| Nanaimo E | 50 | 2.9% |
| Qualicum | 25 | 1.4% |
| Vancouver | 20 | 1.2% |
| North Cowichan | 20 | 1.2% |
| Nanoose | 20 | 1.2% |

There were 595 people employed in Nanaimo Regional District Area G with a usual place of work in the 2016 Census (Table 2.6). The same 170 people noted above represent 28.6% of employees. In addition, 21.0% and 12.6% of employees come from Parksville and Qualicum Beach, respectively. Many trips from these adjacent municipalities could feasibly be made by active transportation if safe connections were available.

Table 2.6: 2016 Census Electoral Area G Employee Commute Origin

| Commute Destination | Trips | Percentage Trips |
|---------------------|-------|------------------|
| Nanaimo G | 170 | 28.6% |
| Parksville | 125 | 21.0% |
| Nanaimo F | 95 | 16.0% |
| Qualicum Beach | 75 | 12.6% |
| Nanaimo | 55 | 9.2% |
| Nanaimo H | 55 | 9.2% |
| Port Alberni | 20 | 3.4% |

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3.1 REGIONAL DISTRICT PLANS

Official Community Plan (OCP) Bylaw No. 1540, 2008

The OCP advocates for "sustainable communities by reduced reliance on the automobile through improved mobility options." The Plan notes that the pattern of existing development in Electoral Area G has evolved with a high dependence on the automobile. This is in part due to past dependence of residents on services in other urban centres.

The Plan recognizes walkways, bikeways, and trails as important networks linking neighbourhoods with parks and recreational opportunities, as well as waterfront areas, community focal features, and neighbourhood centres. Overall network objectives accepted in the Plan include safe pedestrian, wheelchair, and bicycle trails and linkages throughout the community, as well as providing linkages between neighbourhoods and several key destinations, such as schools, services, public transit, and the waterfront. To achieve this, the Plan identifies the need for safe trail crossings of French Creek, Englishman River, and Little Qualicum River. Furthermore, the Plan also recognizes the need for the bikeway and trail networks to provide connections to similar infrastructure in the City of Parksville to the east and the Town of Qualicum Beach to the west.

Additionally, the plan features more efficient approaches to mobility, namely public transit. Neighbourhood centres and mixed use areas are identified as priority areas for future service; however, transit bus routes through rural and rural residential neighbourhoods may also be considered in an effort to "minimize automobile dependency in more remote areas which are less accessible."

Lastly, the Plan also recognizes other rail, bus, and marine-related opportunities for mobility.

Land Use and Subdivision Bylaw No. 500, 1987

Subdivision requirements for the Regional District of Nanaimo are included within Land Use and Subdivision Bylaw 500 under Part 4 -- Subdivision Regulations. Little guidance is provided with respect to roadway design, instead deferring to the BC Ministry of Transportation and Infrastructure who are responsible for the roadways of this unincorporated community.

With respect to highway Requirements, the bylaw states that *"No proposed highway to be dedicated by a plan of subdivision shall be shown on a plan, dedicated, laid out or constructed unless the design, dimensions, locations, alignment and gradient meet the requirements for highways, as established from time to time, by the Ministry of Transportation."*

Furthermore, it states *"Additional dedicated rights of way of up to 6.0m may be required for bus stop areas near key intersections"* and *"A subdivision pursuant to the Strata Property Act and amendments thereto the following minimum access route standards shall apply along with any further requirements by the Ministry of Transportation":* 1 PAVED WIDTH PARKING 6.0m on street parking not permitted - parking provided in accordance with Schedule '3B' 8.5m on street parking permitted on one side.

Community Parks and Trails Strategic Plan (CPTS) (2013)

The CPTS provides a strategic plan to ensure that parks and trails meet the growing demands and needs of Electoral Areas E, F, G, and H. The Plan provides an overview of existing park and trail systems, discusses the evolution of community parks and trails as well as the trends affecting them, proposes a general planning framework for parks and trails, and identifies several actions for each Electoral Area.

Importantly, one of the actions proposed for Electoral Area G as a part of the Plans is the preparation of an Active Transportation Plan and a Bicycle Network Plan to inform and further refine the Conceptual Trail Network Plan. Several other actions are discussed, including the development of a Rivers Edge Community Park and Trail Plan, support for a community trail from Columbia Drive to French Creek Marina, investigating the feasibility of developing a multi-modal pathway from Ganske Road to Waters Road, and considering trail improvements between Miller Road north and the south community parks.

Parks & Trails Design Guidelines (2013)

The guidelines provide direction for planning community and regional parks and trails, staging areas and amenities. The document includes a proposed planning process, trails classifications system, staging area classification system, signage hierarchy and maintenance processes. Additionally, the document provides general guidelines for park and trail design, including provisions relating to accessibility, hazards, environmental protection, structures, and furnishings.

Regional Parks & Trails Plan (2005)

The Regional Parks and Trails Plan 2005 - 2015 identifies the need for the establishment of regional parks and trails, including classification systems, service standards, and implementation strategies. The Plan and the CPTS discussed above are intended to be complementary and integrated documents.

3.2 PROVINCIAL ACTIVE TRANSPORTATION STRATEGY AND DESIGN GUIDELINES

In mid 2019, the Provincial government introduced two key documents relating to active transportation. The Provincial Active Transportation Strategy 'Move, Commute, Connect' is part of the CleanBC plan to build a stronger, brighter future for British Columbia. The strategy will help reinforce the importance of making our communities cleaner, healthier, and more sustainable. The Province is focused on working in partnership with communities to improve our province-wide walking, cycling, and other active networks, as well as to create community-specific active transportation networks that are safe, accessible, and convenient for pedestrians, cyclists, transit riders, and motorists of all ages and abilities.

Goals of the Provincial Active Transportation Strategy include:

- Double the percentage of trips taken with active transportation by 2030.
- Inspire British Columbians of all ages and abilities to choose active transportation with incentives that encourage active transportation use, such as the Scrap-It e-bike rebate, Learn to Ride programs, and Active and Safe Routes to School.
- Build on the success of the BikeBC grant program so that communities can build integrated and accessible active transportation systems that work for all active transportation users.
- Work together with communities to create policies and plans that enable and support complete active transportation networks across the province.

The Design Guide developed in parallel with the strategy draws on best practice and generally aligns with the Transportation Association of Canada Geometric Design Guide for Canadian Roads which was itself recently updated to reflect best practice for active transportation. The guideline provides facility selection advice and design guidance for active transportation infrastructure and specifically provides recommendations on facility type for urban and rural contexts, of which RDN Area G French Creek contains both.

3.3 NATIONAL ACTIVE TRANSPORTATION STRATEGY

Announced in March 2021, Canada's National Active Transportation Strategy provides a merit-based Active Transportation Fund to support projects that improve active transportation infrastructure across Canada. The fund makes available \$400 million over five years to promote new and expanded active transportation networks, as well as active transportation planning and stakeholder engagement activities.

The National Active Transportation Strategy framework has several components, including:

- **Awareness:** Raise public awareness about the benefits of active transportation and promote its use, including by launching an online website to share best practices, relevant government programs, and project success stories. Benefits are felt personally through enhanced safety, accessibility, health, and well-being, and felt communally by reducing traffic congestion, promoting job creation, and reducing carbon emissions and air pollution.
- **Coordination:** Coordinate active transportation investments that reflect best practice planning, design, regulations, and standards across levels of government, Indigenous communities, not-for-profit organizations, and the private sector.
- **Targets:** Support the adoption of targets and data collection while mobilizing existing data to inform an evidence-based approach to active transportation policy-making and investments.
- **Investments:** Guide the investment of the \$400 million fund and other incentives for active transportation projects, and identify areas for financial collaboration with other government departments, other levels of government, and other funders to support good projects in communities across the country.
- **Value:** Ensure that all active transportation investments and policies deliver social, economic, and environmental benefits, maximizing the value and benefit to all Canadians.
- **Experience:** Support active transportation as a positive experience, particularly for vulnerable communities, by promoting safe and accessible project designs and supporting connections between existing transportation, active transportation, or public transit networks.

Goals of the National Active Transportation Strategy include:

- Improve community connections and promote social equity amongst vulnerable Canadians.
- Make travel by active transportation easier, more convenient and enjoyable, and enhance user safety and security.
- Encourage people to choose active transportation over personal vehicles (including supporting walking and cycling to access transit.)
- Reduce GHG emissions in the transportation sector, supporting the goals of the Strengthened Climate Plan.
- Support the Canadian economy through a reduction in congestion, the creation of construction jobs and enhanced access via active transportation modes to businesses.



4.1 TRANSPORTATION NETWORK

The transportation network is primarily auto orientated, with Island Highway forming the primary spine through the study area and neighbourhood streets being accessed from that. The Parksville Qualicum Beach Links is another key route through the study area and the primary active transportation route recommended. It currently comprises mostly local roads where people share the road with motor vehicles, however bike lanes are present on some roads.

In most instances the grades are relatively gentle, supporting active trips by active modes. However, there are a few locations where the grades can be challenging.

4.2 VEHICLE VOLUMES AND SPEEDS

The BC Active Transportation Design Guide (2019 Edition) provides guidance on the selection of bicycle facilities relative to a roadway's motor vehicle speeds and volumes.

In an urban, suburban, and developed rural core context, roadways with vehicle volumes and speeds below 1,000 vehicles/day and 30 kilometres/hour, respectively, are suitable for neighbourhood bikeways. As vehicle volumes and speeds increase, infrastructure must provide a safe environment for people of all ages and abilities. In the context of roadways that have vehicle volumes and speeds above 4,000 vehicles/day and 50 kilometres/hour, protected bicycle facilities are recommended.

Based on the available MOTI count data, the volumes on several local roads accessing Island Highway exceed the 1,000 vehicles per day threshold supporting the need for active transportation facilities separate from traffic at least on the major routes to and from the highway.

Note that daily traffic volumes are highly variable on Lee Road for vehicles making the WBR movement. Daily volumes for this movement range from 460 to 4,999, suggesting either a loop dysfunction or unusually high traffic volumes during the observed period.

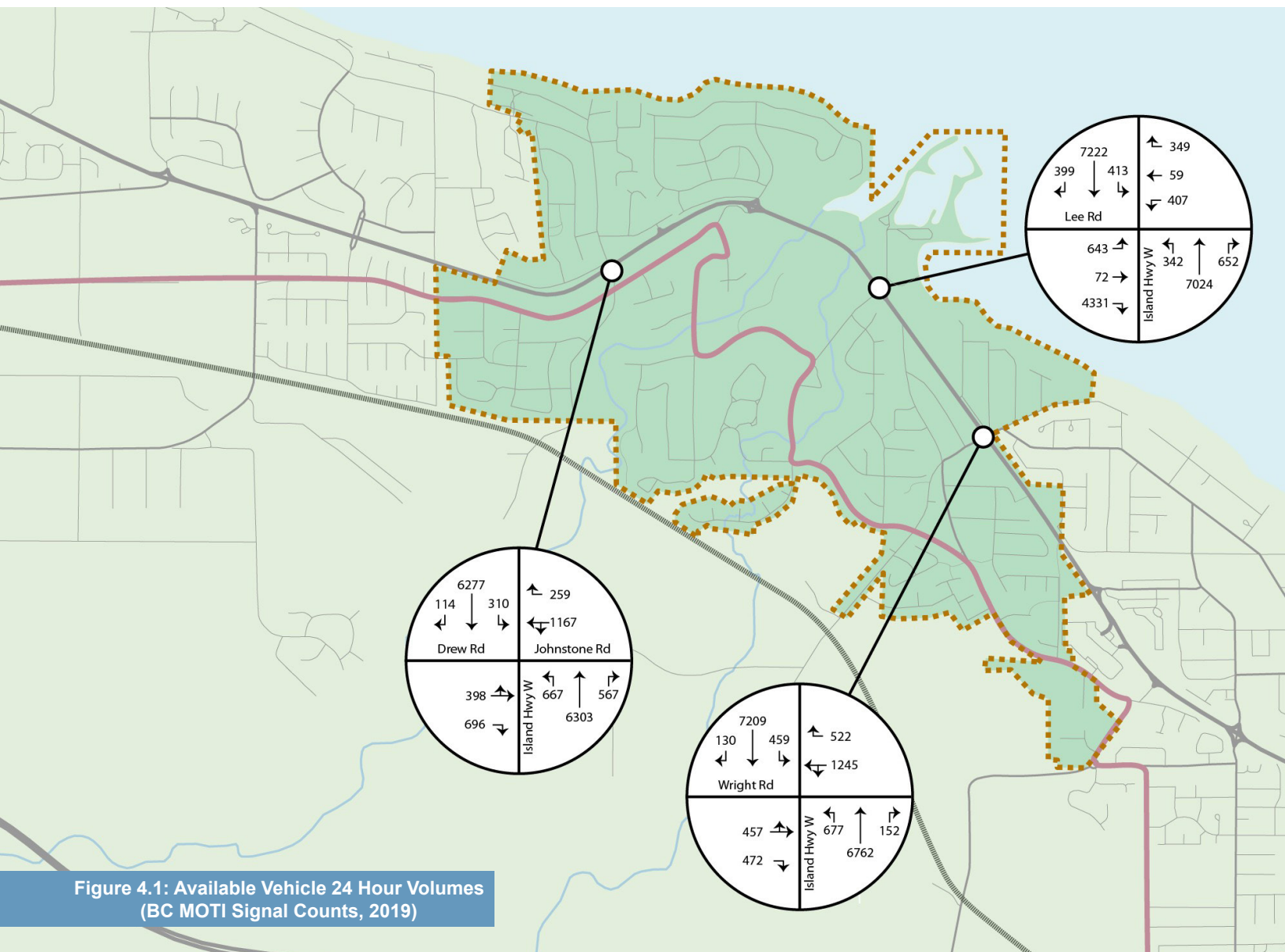


Figure 4.1: Available Vehicle 24 Hour Volumes
(BC MOTI Signal Counts, 2019)

4.3 PEDESTRIAN AND BICYCLE COLLISIONS

ICBC recorded four collisions involving people cycling and no collisions involving people walking between 2016 and 2020.

The locations are shown in Figure 4.2. Three collisions were located along Island Highway. One was located at the informal crossing location at Yambury Road on the border with Qualicum Beach, another at the intersection with Wright Road which is adjacent to Oceanside Elementary School, and one slightly west of that intersection, possibly at, or close to the transit stop.

The other was on Sunrise Drive which forms part of the Parksville-Qualicum Beach Links route and occurred at the intersection with Drew Road.

The collision data does not include near-misses and close passes that occur frequently when people walking and cycling share the road with motor vehicles. These unreported incidents often discourage the use of active modes and can only be removed with separated infrastructure for active transportation. Furthermore, by showing the previous five years, the data excludes a pedestrian fatality that occurred on Robertson Boulevard in 2015 which resulted in recent improvements for active modes.

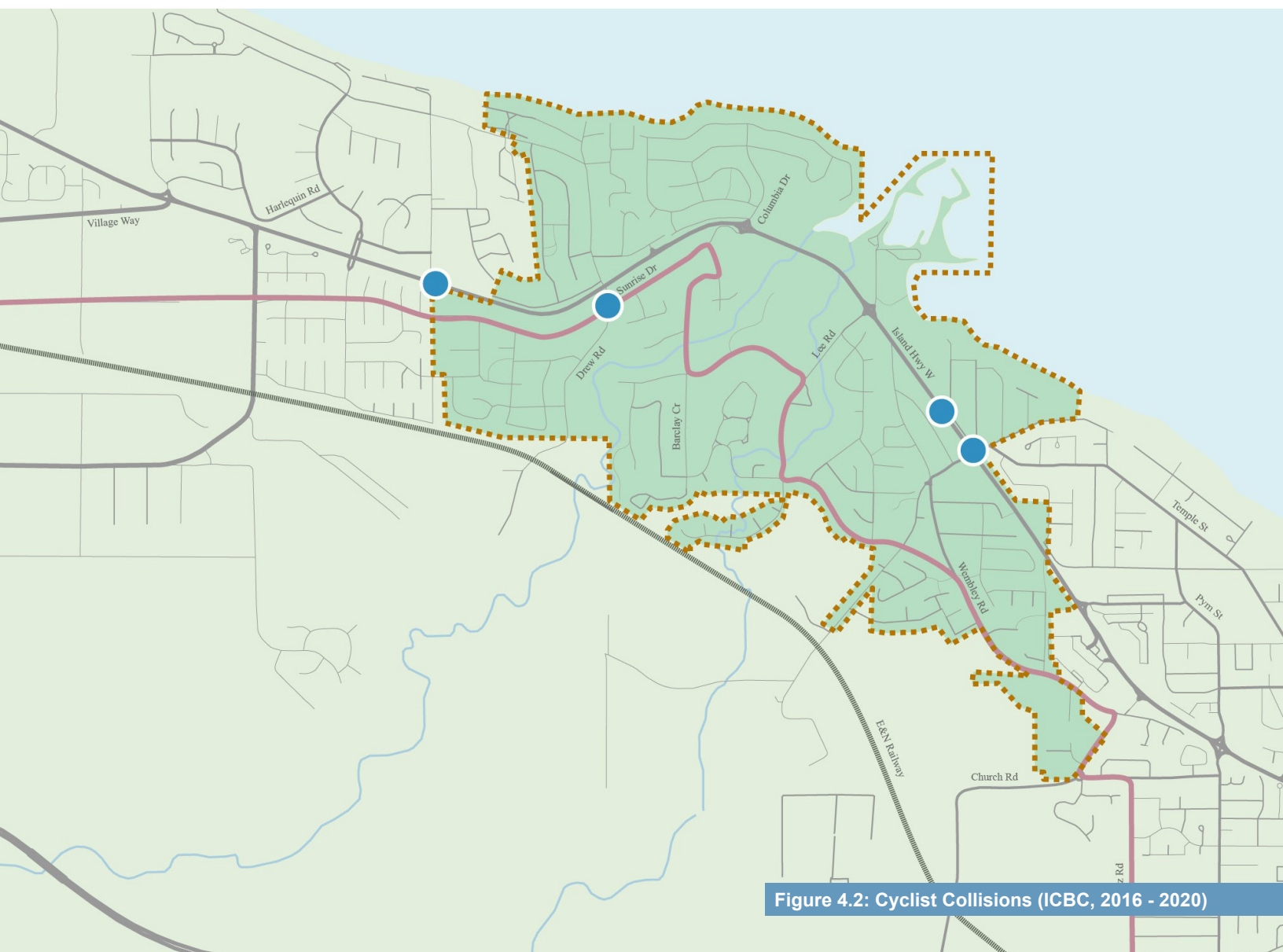


Figure 4.2: Cyclist Collisions (ICBC, 2016 - 2020)



4.4 PEDESTRIAN DESIGN USER

The active transportation plan will consider pedestrians of all abilities and the different needs they may have. The design user could be any of the following:

- **Able Bodied:** Able-bodied pedestrians can generally negotiate most conditions but will still prefer to be safely separated from vehicles and ideally cyclists and other micro-mobility devices.
- **Physically Disabled:** Physical disabilities can vary but this plan generally refers to those using a wheelchair or mobility scooter for transportation. Being often lower down, visibility can be an issue, separation is often preferred, appropriate curb ramps and building access is essential, while steep slopes may be problematic for those using their own power.
- **Cognitively Disabled:** Such disabilities might impact a person's vision or hearing, or they may have other mental disabilities that affect their cognition. Good signing and wayfinding is important, including braille and tactile warning devices. Crossings can include audible sounds to indicate activation.
- **Elderly and/or Infirm:** The elderly or infirm will benefit from the same measures as the physically disabled, and may suffer some physical or cognitive decline, avoidance of steep slopes may be preferable or where possible landings at regular intervals with places to rest are often valued. If such landings can incorporate shade, this also helps provide weather protection.
- **Children:** Children are often less aware and less predictable as they move along the road, often not appreciating the danger posed by other modes. Where children are likely to be present (i.e. schools or parks), more emphasis should be placed on separate pedestrian facilities or traffic calming to reduce the likelihood and severity of a collision.

4.5 PEDESTRIAN FACILITY TYPES

Five different facility types exist for pedestrians in French Creek, but they often do not connect to a cohesive network. The five facility types include concrete sidewalk, asphalt sidewalk, roadway shared with vehicles, shoulder bike lanes that are sometimes used by pedestrians, and trails. There are no paved multi-use paths in French Creek.

- **Sidewalks:** Sidewalks are comfortable for most people but are very limited. Subject to their design, they can present accessibility challenges if curb ramps are designed or placed incorrectly and if there are obstructions that restrict the width. They are typically concrete but in places also created using asphalt.
- **Shared Roadway:** Many roads in French Creek require people to share the roadway with motor vehicles. This can be somewhat comfortable on local roads with low traffic volumes and speeds but less so on busier roads.
- **Bicycle Accessible Shoulders:** Bicycle accessible shoulders are intended primarily for people cycling; however, on some roads in French Creek, they are often utilized by pedestrians.
- **Trails:** Trails often connect to streets with cul-de-sacs, providing key connections between neighbouring streets. An issue some parts of with the trail system is the lack of natural surveillance, or 'eyes on the trail', leading to concerns over personal safety, and potential wildlife encounters. Other concerns include terrain and trail surfaces that may not be passable by all, as well as a lack of lighting -- meaning these trails may be less used in the evening or winter months. Despite these concerns, local residents may prefer such trails to remain natural and not be upgraded to a more urban standard.



Concrete Sidewalk



Asphalt Sidewalk



Shared Roadway



Shoulder



Trail

4.6 PEDESTRIAN CROSSING TYPES

Traffic volumes are relatively low in French Creek, allowing pedestrians to cross the road relatively easily in many places. Crosswalks, however, provide priority and increase safety, particularly for those less able bodied. There are four types of roadway crossing in French Creek:

- **Mid-Block Crosswalk:** These crosswalks feature zebra markings and crosswalk signage. In many locations, they are often accompanied by conventional or Rapid Rectangular Flashing Beacons (RRFB) to increase visibility of pedestrians and driver compliance; however, no such enhancements exist in the study area.
- **Stop Controlled Intersection Crosswalk:** At stop-controlled intersections, these crosswalks will often be marked with parallel white lines. Pedestrians have priority over vehicles even where crosswalk markings are not present.
- **Signalized Crossing:** There are a few signalized intersections in French Creek that feature push-button crosswalk activation, albeit not always on every approach.
- **Unmarked Crossing:** All intersections permit pedestrians to cross the road, regardless of the presence of any crosswalk marking, and pedestrians always have priority over motor vehicles.



Mid-Block Crosswalk



Stop Controlled Intersection Crosswalk








Signalized Crossing



Unmarked Crossing

Legend:

-  Sidewalk (1 Side)
-  Asphalt Sidewalk (1 Side)
-  Sidewalk (2 Sides)
-  Pedestrian Crossing
-  Steep Grade

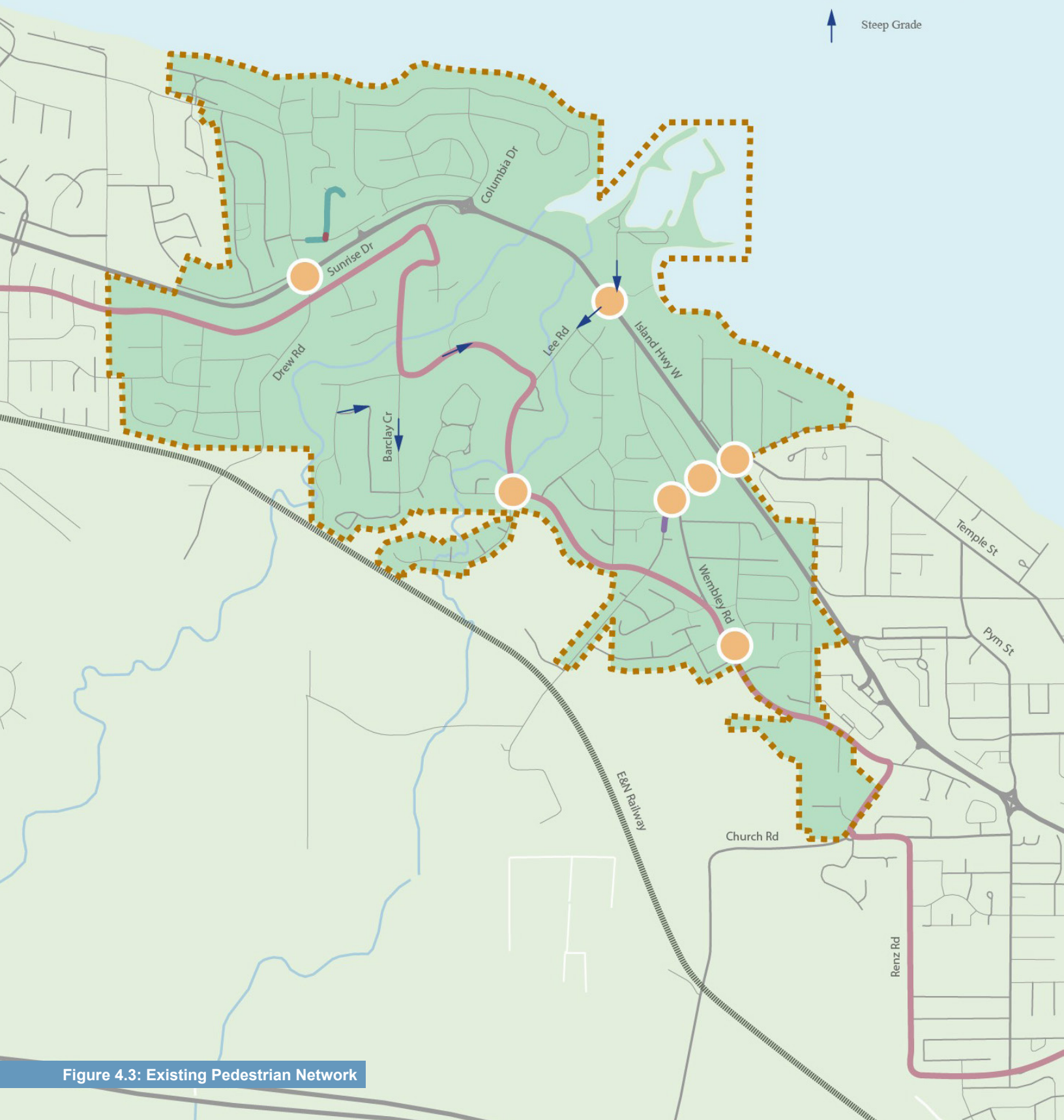


Figure 4.3: Existing Pedestrian Network

4.7 PEDESTRIAN NETWORK

The existing pedestrian network is very limited, with some sidewalk infrastructure located on residential streets such as Sumar Lane and Lowrys Road.

The vast majority of roads do not have pedestrian facilities, which may be acceptable on local roads with low vehicle volumes and speeds but less acceptable on major roadways.

Figure 4.3 illustrates the extent of the pedestrian network including sidewalks and crosswalks.



4.8 CYCLING DESIGN USER

The design user on a bicycle is typically categorized into four primary groups based on their level of comfort mixing with traffic. These are:

- **Strong and Fearless:** Strong and fearless cyclists will cycle anywhere on any facility type. The entire network is available to them and thus connectivity is good. They will often prefer to share with vehicles rather than pedestrians, preferring speed over safety.
- **Confident and Enthused:** The confident and enthused cyclist will also be prepared to use any facility type, but would prefer not to share the road with vehicles, potentially seeking alternative safer routes if available. Major roads with painted bicycle lanes are OK, but where vehicle speeds increase, the level of comfort greatly reduces.
- **Interested but Concerned:** The interested but concerned cyclist represents the latent demand for cycling if sufficiently safe routes and facilities can be provided. They want to cycle, but the risk to their safety is preventing them on all but the safest routes. They may be OK using local streets and separated facilities such as multi-use pathways. Speed may be less of a priority for these cyclists.
- **No Way, No How:** These people are not cyclists and never will be. They often represent a relatively small percentage of the population. They will not cycle and that is OK.

4.9 CYCLING DESIGN VEHICLE

Bicycle infrastructure must consider a number of different bicycle types and in today's evolving micro-mobility world, bicycle infrastructure is often becoming mobility infrastructure. When thinking about the design user, many different vehicle options must be considered. Design vehicles may include:

- **Bicycles:** Bicycles come in many shapes and forms and all can be self-propelled "conventional" bicycles, may be electrically assisted, or may have throttle control. Some bicycle types include:
 - » **Conventional Bicycles:** Used for over a century, the conventional bicycle comes in many shapes and forms. As it is self-propelled, the rider's physical ability will dictate speed on flat or uphill grades and comfort with speed on downhill grades. As people have varying levels of fitness, space to pass on any facility should be provided.
 - » **Electric Bicycles:** Also available in many shapes or forms, the electric bicycle enables the user to maintain their speed with less effort, more so on flat or uphill grades and/or into a headwind. As most electrically assisted bicycles have a limited top assisted speed, they are little different from a conventional bicycle downhill if speeds typically exceed the assist limit. Because people on electric bicycles share space with those on conventional bicycles, the speed differential between users is increased, and space to pass becomes even more important.
 - » **Cargo Bicycles and Trailers:** Cargo bicycles can come in a few varieties. They may have a load area in the front or the back, the cargo component may be integrated into the bicycle between the wheels or may be a trailer pulled behind. These can be used for transporting cargo, but are also often used for transporting children too young to cycle themselves.
 - » **Other Types of Bicycles:** Other types of bicycles that should be considered include recumbent bicycles that allow the user to sit back as if they are sitting in a chair. For this reason, they will be lower than someone using an upright bicycle, and this should be considered when reviewing sightlines for example. Tandem bicycles are longer than conventional bicycles, while tricycles are slightly wider than regular bicycles but often not much wider than the total space of rider and bicycle.
- **Other Wheeled Modes:** Other modes that should be considered include stand-up scooters, skateboards, rollerblades, and one-wheeled devices. These additional users emphasize the potential for different speed differentials possible on a facility. They don't require additional space over and above that required for bicycles; however, many feature smaller wheels and are more sensitive to poor surface conditions or larger control joints in the surface.



Conventional Bicycle



Electric Bicycle



Electric Cargo Bike



Adaptive Bicycle



One Wheel



Scooter

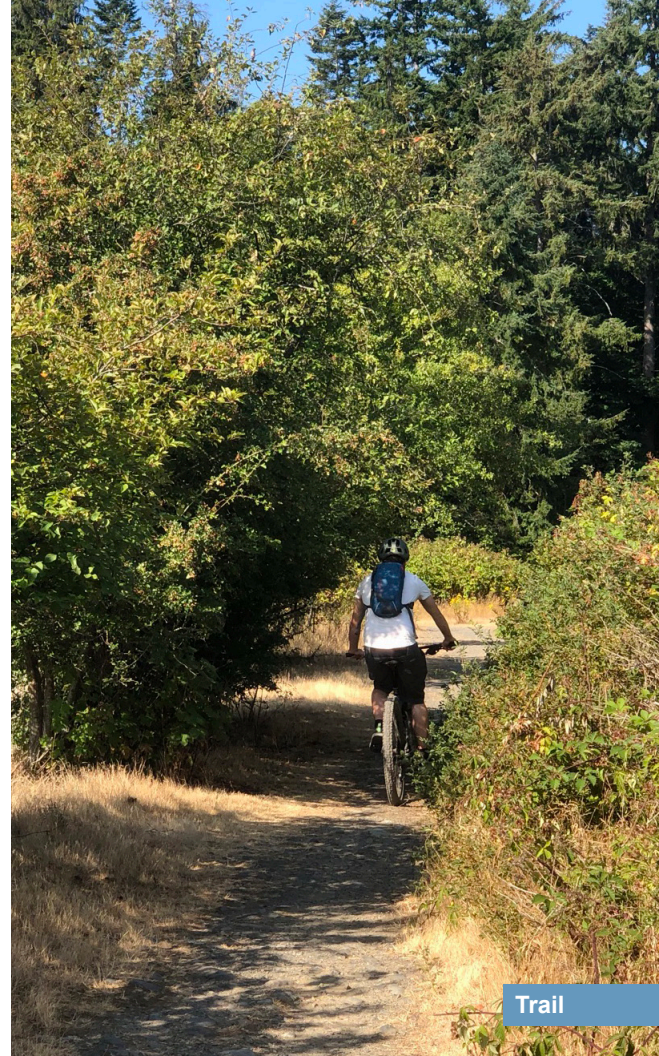
4.10 CYCLING FACILITY TYPES

There are four facility types currently that cyclists may use in the study area, including bike lanes, shared roadways, and trails:

- **Painted Bicycle Lanes / Bicycle Accessible Shoulders:** Bicycle lanes and bicycle accessible shoulders are currently provided on several roadways within Area G, including portions of Wright Road, Wembley Road, and Sunrise Drive. Such facilities provide a dedicated space on the roadway intended for cyclists and in some cases pedestrians. Painted bicycle lanes and bicycle accessible shoulders are typically not considered suitable for all ages and abilities; however, in a rural context with relatively low traffic volumes, they do provide an improvement in comfort. They are appreciated by the strong and fearless cyclist, who can generally travel as fast as they like on such facilities. The confident and enthused cyclist, on the other hand, is generally fine with such facilities where traffic volumes and speeds are lower and will tolerate them when traffic volumes and speeds are higher. Most interested but concerned cyclists would prefer facilities with more physical protection from vehicle traffic.
- **Shared Spaces:** Most roadways in Area G could be considered shared spaces. They can generally be divided into two types:
 - » **Roadways with a Painted Centre Line:** Examples include Sunrise Dr and Robertson Boulevard. These roads are typically more stressful for cyclists and, as such, suitable for the strong and fearless cyclists. This is due to higher vehicle volume and speeds, as well as the fact that some drivers can be reluctant to cross too far over the centre line when passing people cycling, resulting in close and uncomfortable passes.
 - » **Local Roads with No Centre Line:** There are many of these roads in French Creek, but they either don't often provide connectivity across the community or require trails to connect. They are often lower volume and lower speed roads and are comfortable for most cyclists. With no centre line, cars generally provide more space when passing and do so more slowly.
- **Trails:** Trails provide useful connections for trips across French Creek but, similar to pedestrians, cyclists may use them less due to the lack of natural surveillance -- or 'eyes on the trail'-- leading to concerns regarding personal safety, potential wildlife encounters, and the terrain and trail surface that might not be passable for all. A lack of lighting also means that these trails may be used less in the evening or winter months. Nevertheless, local residents may prefer such trails to remain natural and not be upgraded to a more urban standard.



Painted Bicycle Lane / Shoulder



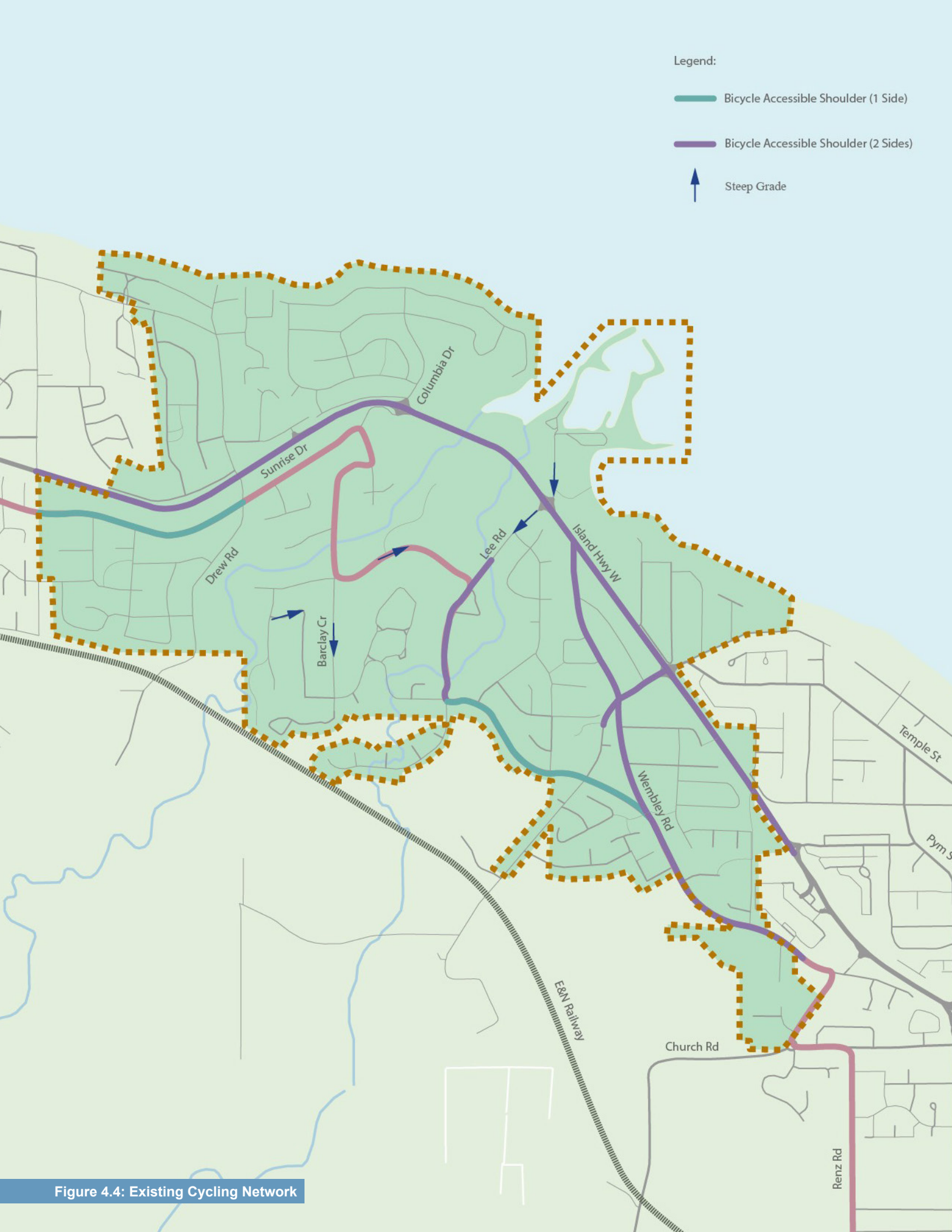
Trail



Roadway with Painted Centre Line



Roadway with No Painted Centre Line



Legend:

Bicycle Accessible Shoulder (1 Side)

Bicycle Accessible Shoulder (2 Sides)



Steep Grade

Figure 4.4: Existing Cycling Network

4.11 BICYCLE NETWORK

The existing bicycle network is very limited and entirely comprised of bicycle accessible shoulders, either on one or both sides of the roadway.

The vast majority of roads do not have paved shoulders accessible to cyclists, which may be acceptable on local roads with low vehicle volumes and speeds but less acceptable on major roadways.

Figure 4.4 illustrates the extent of the existing bicycle network.

4.12 CYCLING NETWORK BY LEVEL OF COMFORT

The cycling network available to people varies based on their level of comfort using different types of facility and their proximity to high volumes and speeds of traffic.

Strong and fearless cyclists have access to the entire road network, but less confident cyclists have much fewer routes on which they feel sufficiently safe to use.

Classifying the cycling network by level of comfort and creating separate maps of the network available to people of differing levels of confidence reveals gaps in the network for each.

The cycling network was broken down into three classifications based on the level of comfort each facility type provides:

- Comfortable for all
- Comfortable for some
- Comfortable for few

These networks can then be combined to illustrate the cycling network available to the different cyclists types:

- Strong and Fearless
- Enthused and Confident
- Interested but Concerned

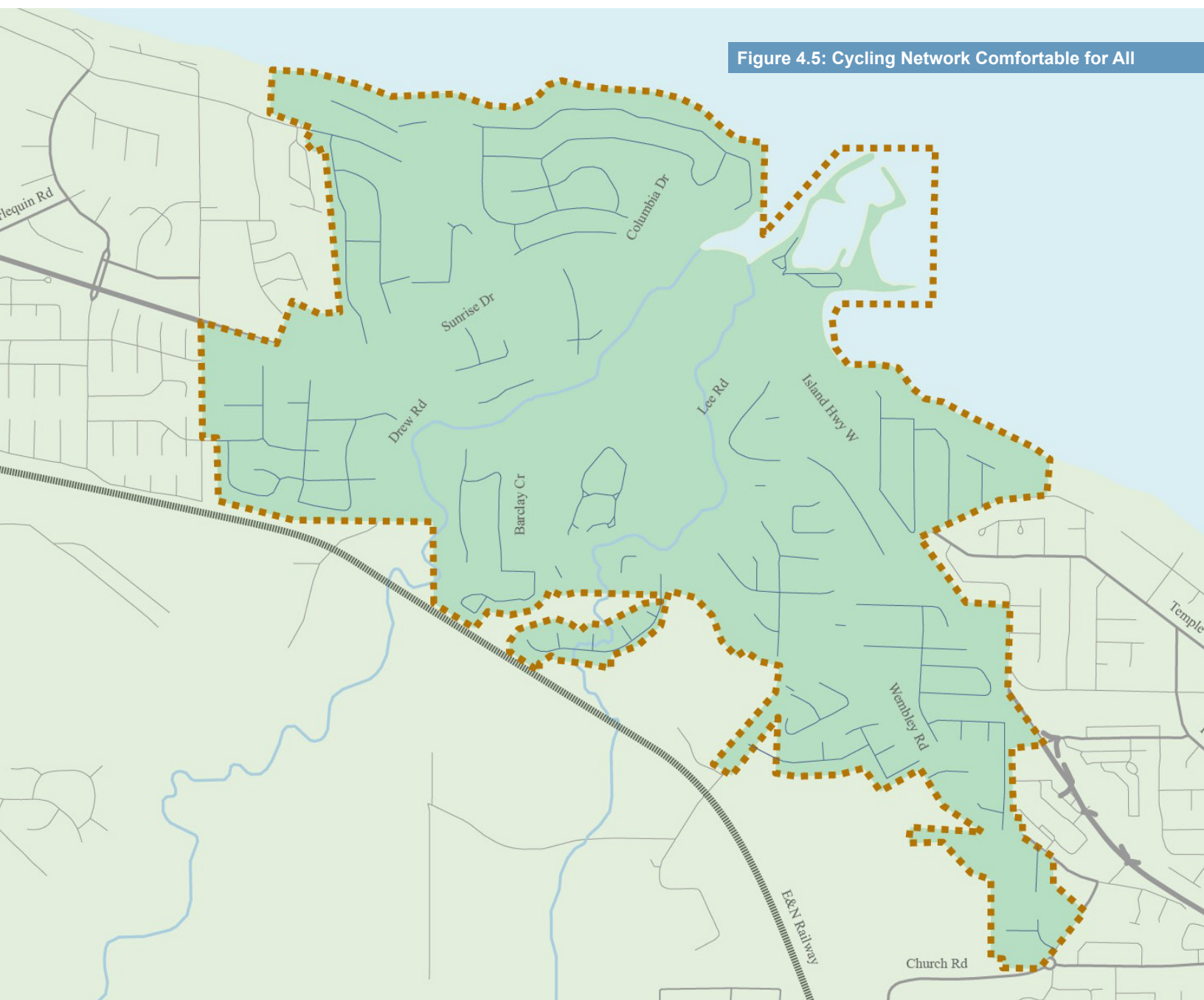
These are described and illustrated in Figures 4.5 to 4.10.

These maps, when compared with how people classified themselves in the first phase of public engagement, demonstrates how many people each variation of the network provides for. While it may not be possible to make the network accessible to all in the plan period, 77% of respondents consider themselves enthused and confident or strong and fearless and are comfortable using the existing painted bike lanes.

Comfortable For All

The comfortable for all routes were identified based on different factors for different road classifications. On arterial and collector roadways, only facilities fully separated from traffic can be considered comfortable for all. Local roads, on the other hand, are generally comfortable for all cyclists due to low traffic volumes and speeds. In the study area, the extent of the network that is comfortable for all is limited to Local Roads. Due to lack of separation and protection, none of the arterial or collector roadways could be considered comfortable for all. This map illustrates that people can generally safely cycle in their own neighbourhood, but each neighbourhood is an island with no safe connection to other neighbourhoods or communities. the Parksville Qualicum Beach Links is the main route connecting many of these communities, as are the Highway crossings, and this map illustrates that these routes are not comfortable enough to enable everybody in the community to leave their neighbourhood by active modes.

Figure 4.5: Cycling Network Comfortable for All



Comfortable For Some

The comfortable for some network is comprised of collector roadways with painted shoulders for cyclists. Due to generally lower traffic volumes on French Creek's collector roads relative to other communities, this network is also comprised of collector roadways without a paved shoulder. Additionally, trails are included in this category as they provide a safe facility with no traffic but a surface condition that may limit some users. Many of these routes form the Parksville Qualicum Beach Links route or those roads that cross the highway and are the routes that connect neighbourhoods to each other. These routes may provide the most practical value to create a network comfortable for all.

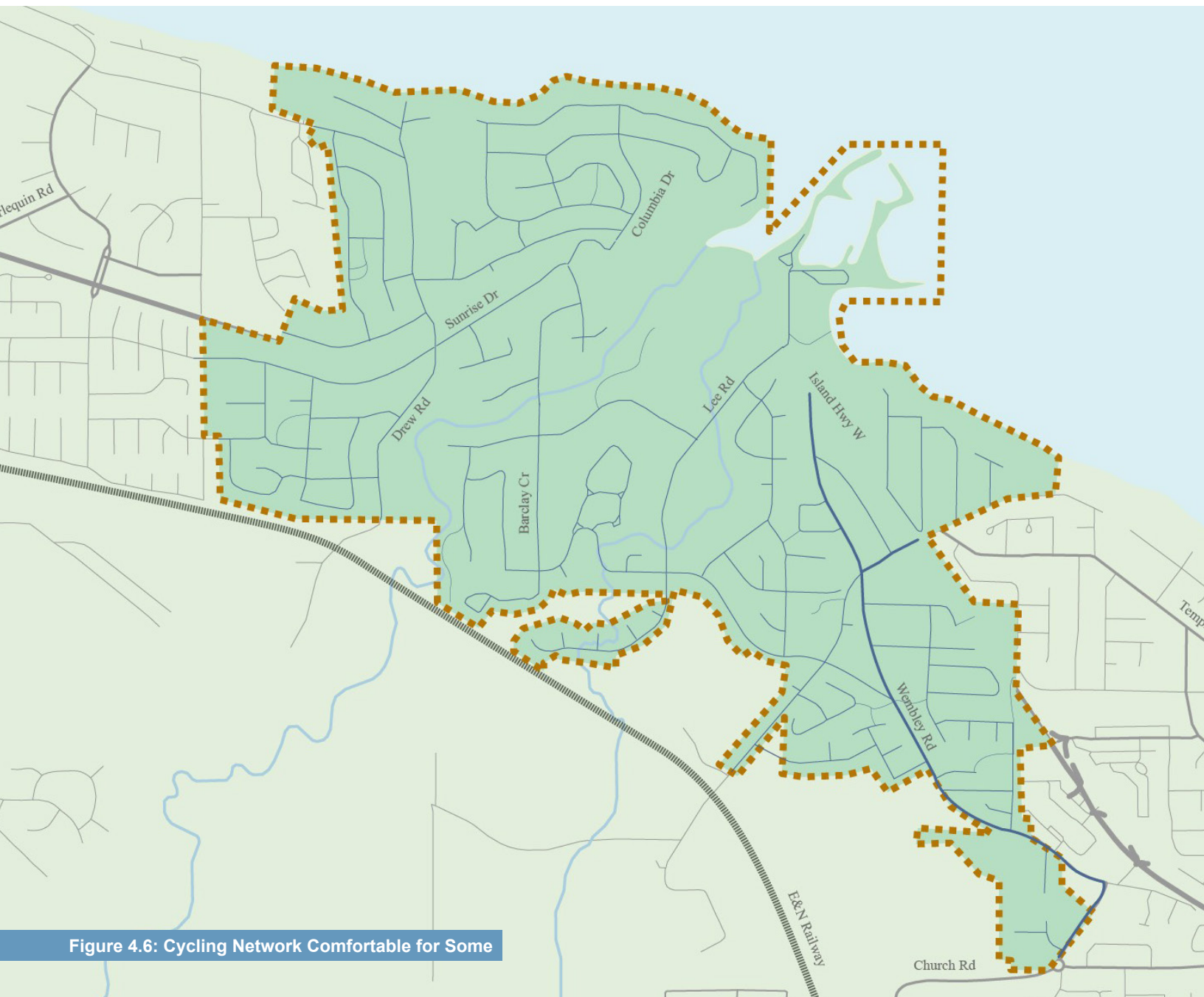
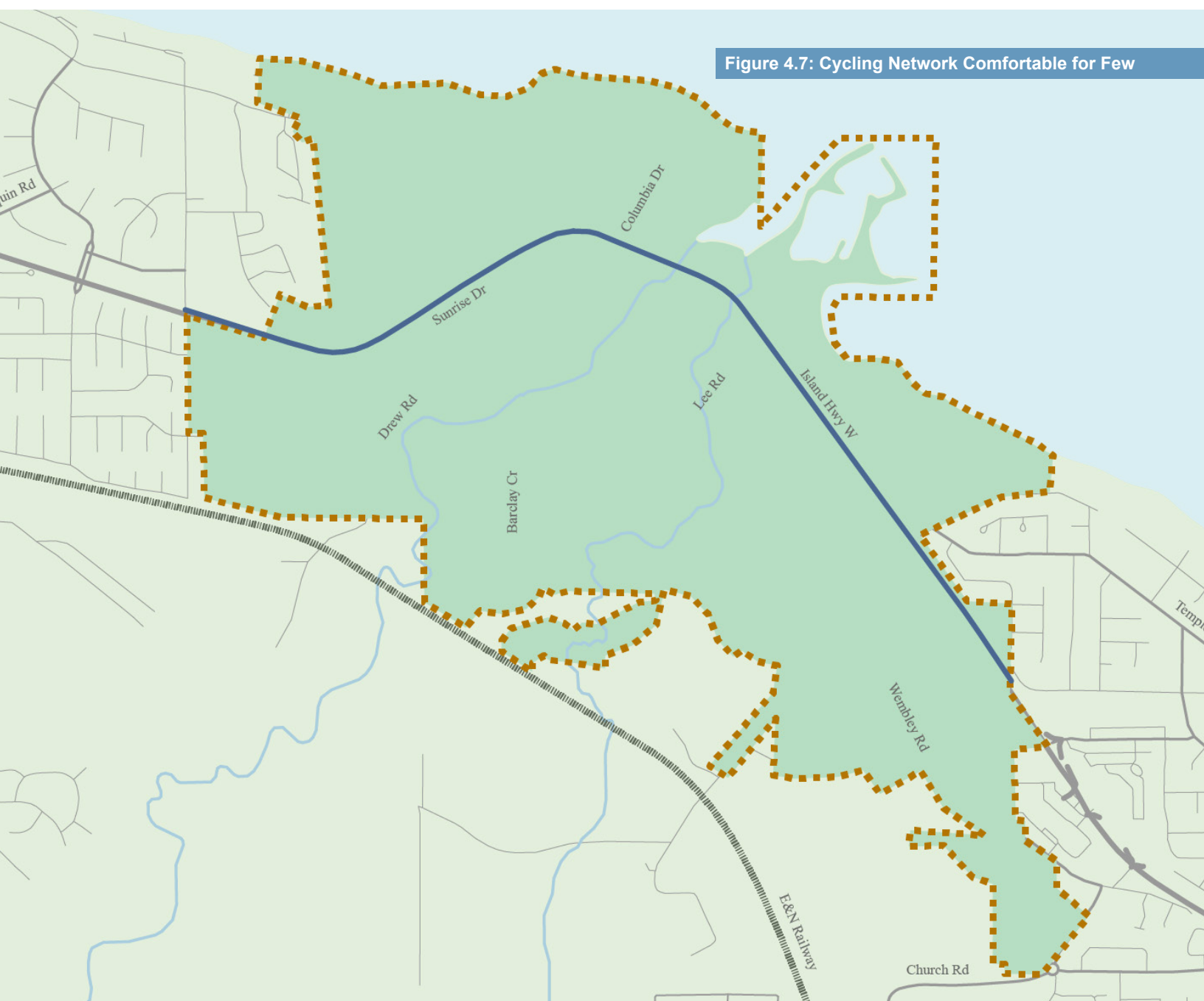


Figure 4.6: Cycling Network Comfortable for Some

Comfortable For Few

The comfortable for few routes were classified based on arterial roads with no separated bike facilities. Due to the volume and speed of traffic only more confident cyclists will use this route in it's current condition which includes paved shoulders. In the study area this includes only Island Highway. Improvements to this corridor will provide higher value at intersections where crossing provision could be improved. But it was noted that pinch points such as the French Creek Bridge are problematic for all cyclists, requiring cyclists to merge into traffic or take the very narrow pedestrian walkway.



Network Available to the Strong and Fearless:

The strong and fearless cyclists are comfortable without dedicated bicycle facilities. They have the entire road and pathway network available to them. In the Regional District of Nanaimo Area G, 14% of people cycling or interested in cycling consider themselves strong and fearless cyclists.

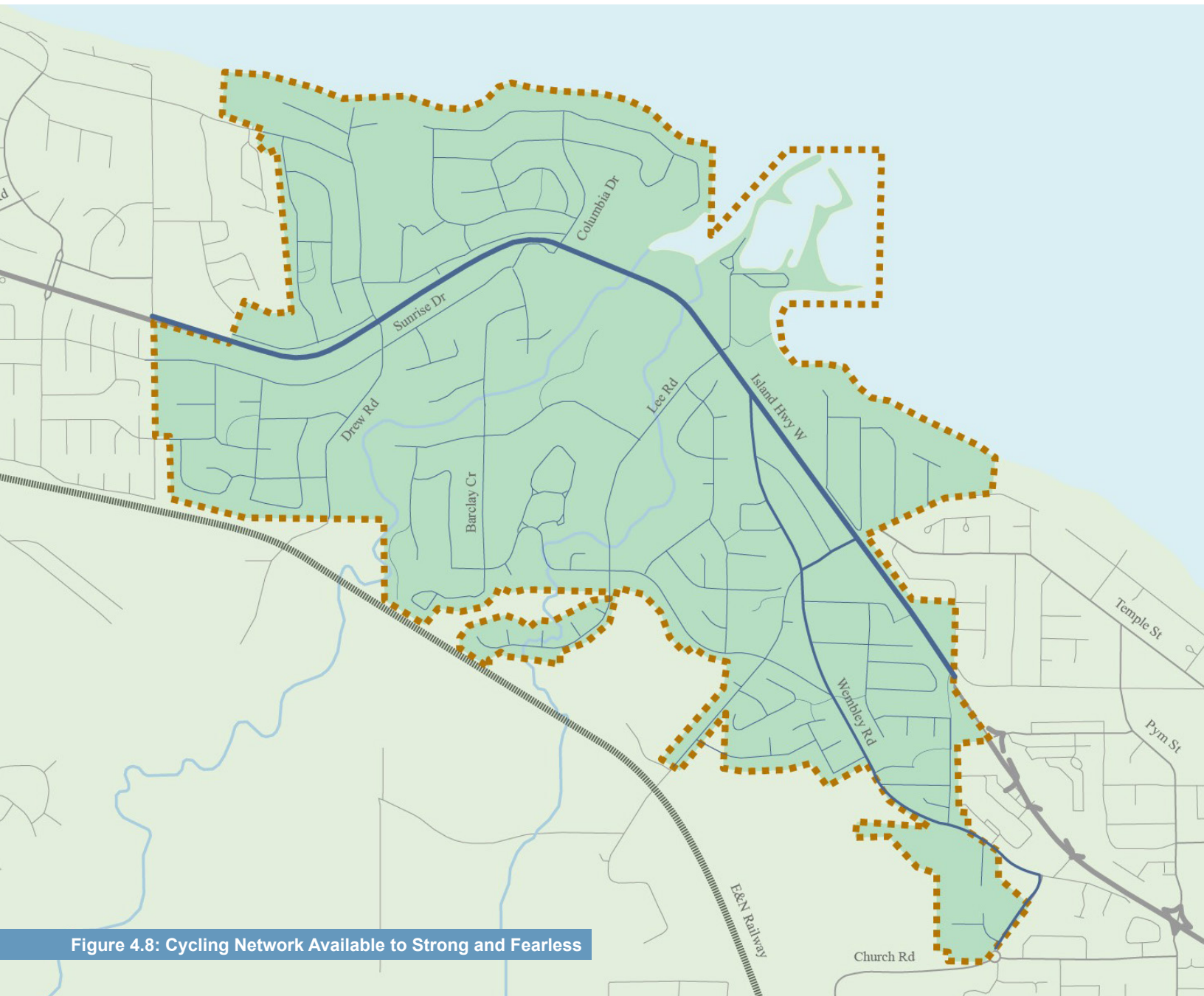
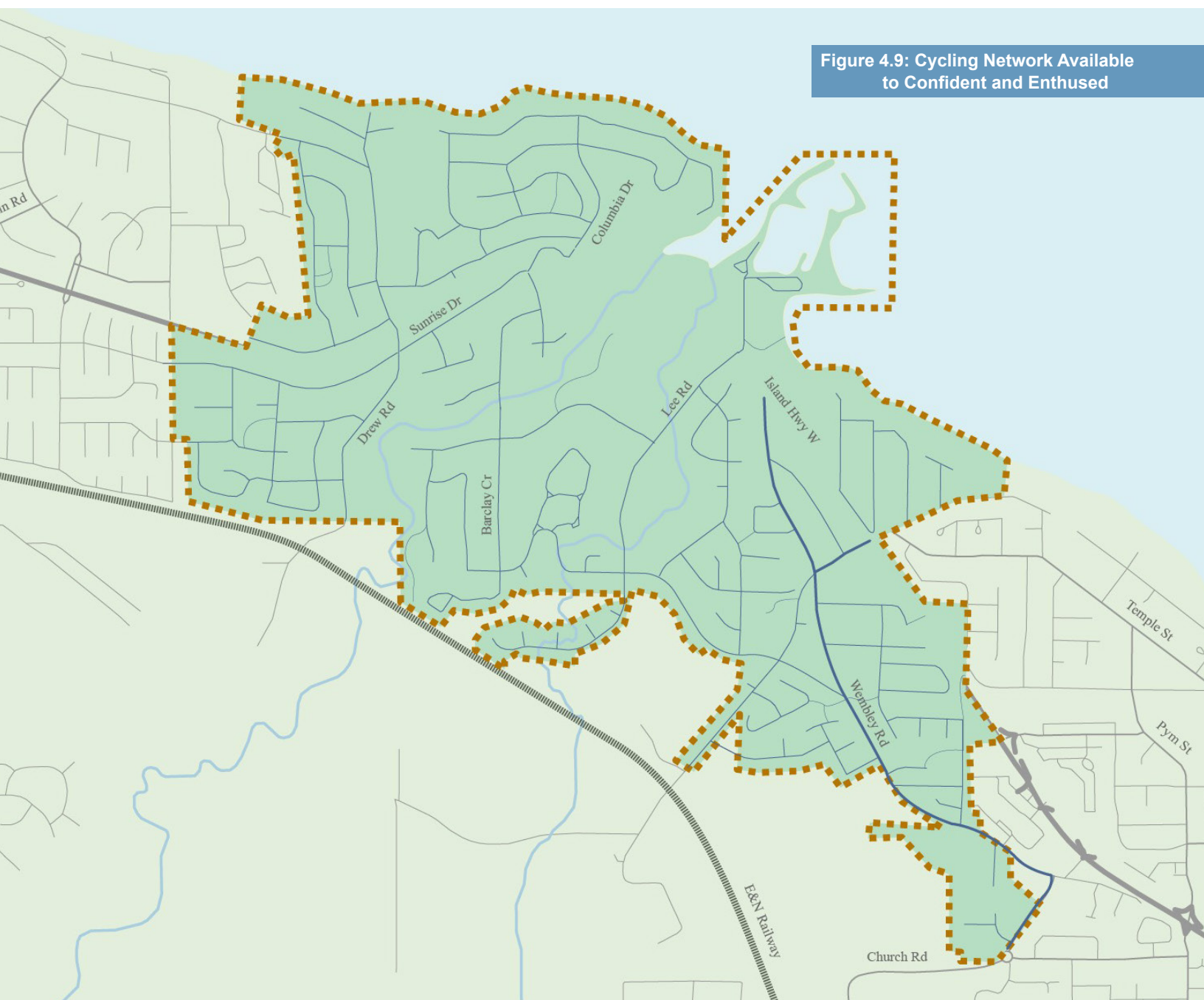


Figure 4.8: Cycling Network Available to Strong and Fearless

Network Available to the Confident and Enthused

The confident and enthused cyclist will tolerate painted bike lanes, but likely prefers to avoid major roads with no facilities or high-speed, high-volume roads such as Wembley Road. They can get around most parts of the network but may have to take a circuitous and less convenient routes to avoid those roads with no bike facilities. In Area G, 63% of people cycling or interested in cycling consider themselves a confident and enthused cyclist. These people have access to local roads and major roads with a bike lane. These facility types are also available to the strong and fearless cyclists, thus this network is available to 77% of the cycling population.

Figure 4.9: Cycling Network Available to Confident and Enthused



Network Available to the Interested but Concerned

The interested but concerned cyclist will not use the busier and higher speed roadways whether there are painted bike lanes or not. They prefer separated facilities or local roads. For these individuals, the network is quite limiting and many would be confined to their own neighbourhoods. In Area G, 23% of those cycling or interested in cycling considered themselves interested but concerned. This network demonstrates the limits of the overall active transportation network for those that are not confident enough to use the painted bike lanes or mix with traffic. This network is available to 100% of the cycling population, but at least 23% of the population are restricted from making trips throughout the study area due to the risk posed by the current conditions.

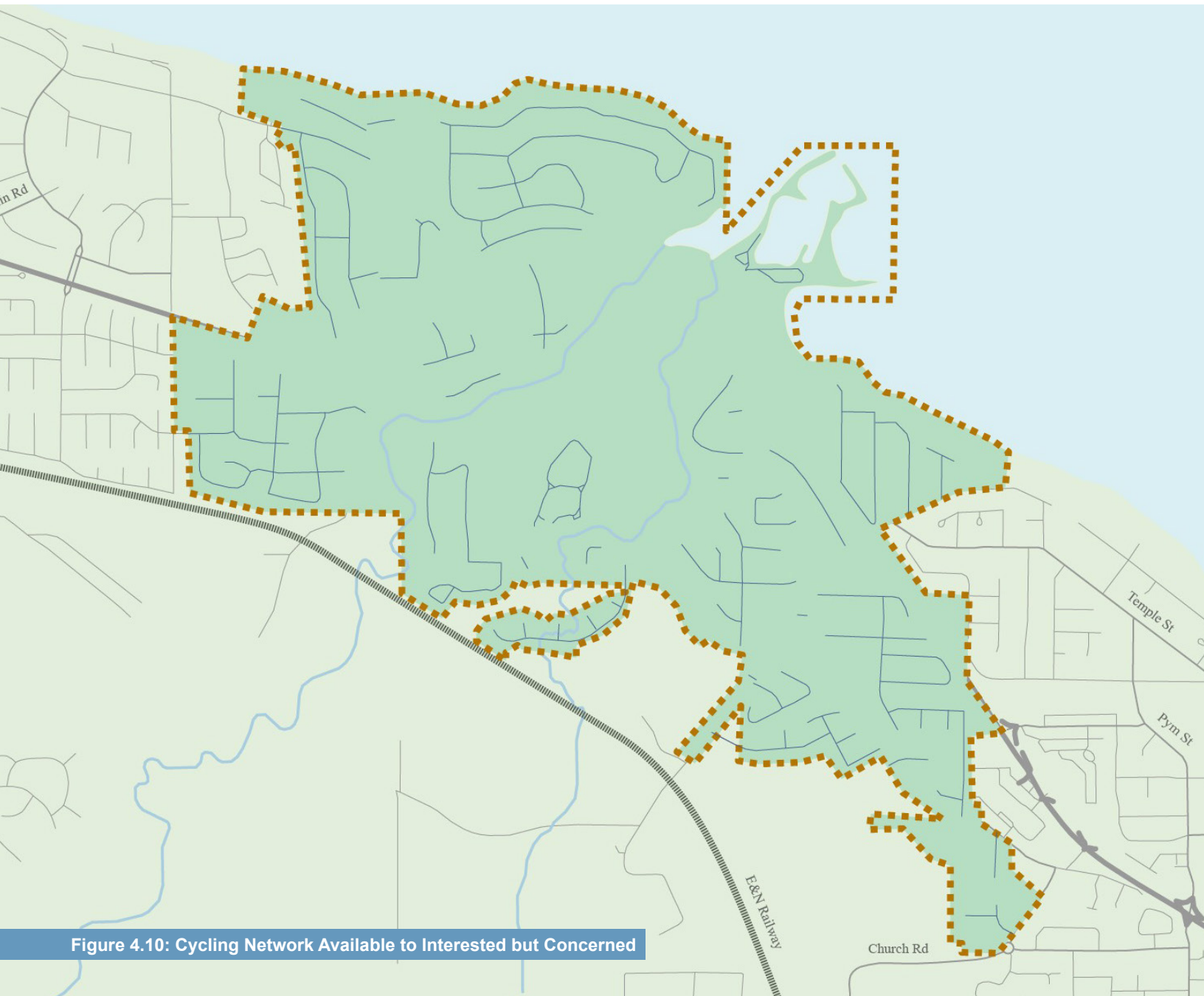


Figure 4.10: Cycling Network Available to Interested but Concerned

4.12 ACCESS TO TRANSIT

While transit is not a mode of active transportation, people must travel by active modes to access transit services.

There are two primary areas of importance. The facilities on-route to the transit stop and the waiting conditions at the stop must each be safe and comfortable.

In the Regional District of Nanaimo Area G where buses are relatively infrequent, the waiting facilities become more important as people tend to arrive earlier to avoid missing the bus and a long wait for the next one. This is even more important after dark and during bad weather, as walking for the bus on the roadway or waiting in the grass are neither pleasant experiences.

Common transit waiting facilities are described below:

- **Stop With Pole and Flag:** At its simplest, a stop might be marked with a simple pole and flag. Ideally, there would be a paved waiting area for passengers, but often, this is not the case, and people are required to wait in the grass or gravel shoulder area. This is not comfortable for anyone, but especially difficult for those with disabilities.
- **Stop With Shelter:** Some stops are equipped with shelters which include seating and lighting. While these are provided on paved bus stop pads and provided with accessible curb ramps, these are often accessed via the gravel shoulder.



Typical Bus Stop Pole and Flag



Typical Bus Stop with Shelter

There are three transit routes servicing the study area. The Intercity 91 travels primarily along Island Highway 19A in both directions, but within the study area it diverts onto Sunrise Drive. The Parksville 88 service serves the eastern extents while the Qualicum Beach 97 serves the western extents. These routes and stops within the study area are shown in Figure 4.11. Access could be improved to these stops through improvements in active transportation infrastructure.

Three future routes are proposed within the Transit Redevelopment Strategy. These include the Intercity 9, which would travel in both directions through the study area along Island Highway 19A. Proposed transit routes 32 and 33 similarly use Island Highway 19A to connect the communities of Parksville and Qualicum Beach; however, both routes divert onto Sunrise Drive. In contrast to routes 9 and 33, route 32 accesses French Creek via Wembley Road, and later diverts onto Johnstone Road to access the north area of Parksville, as illustrated in Figure 4.12. At the time of this report's writing, future transit stop locations serviced by these routes remain unconfirmed.

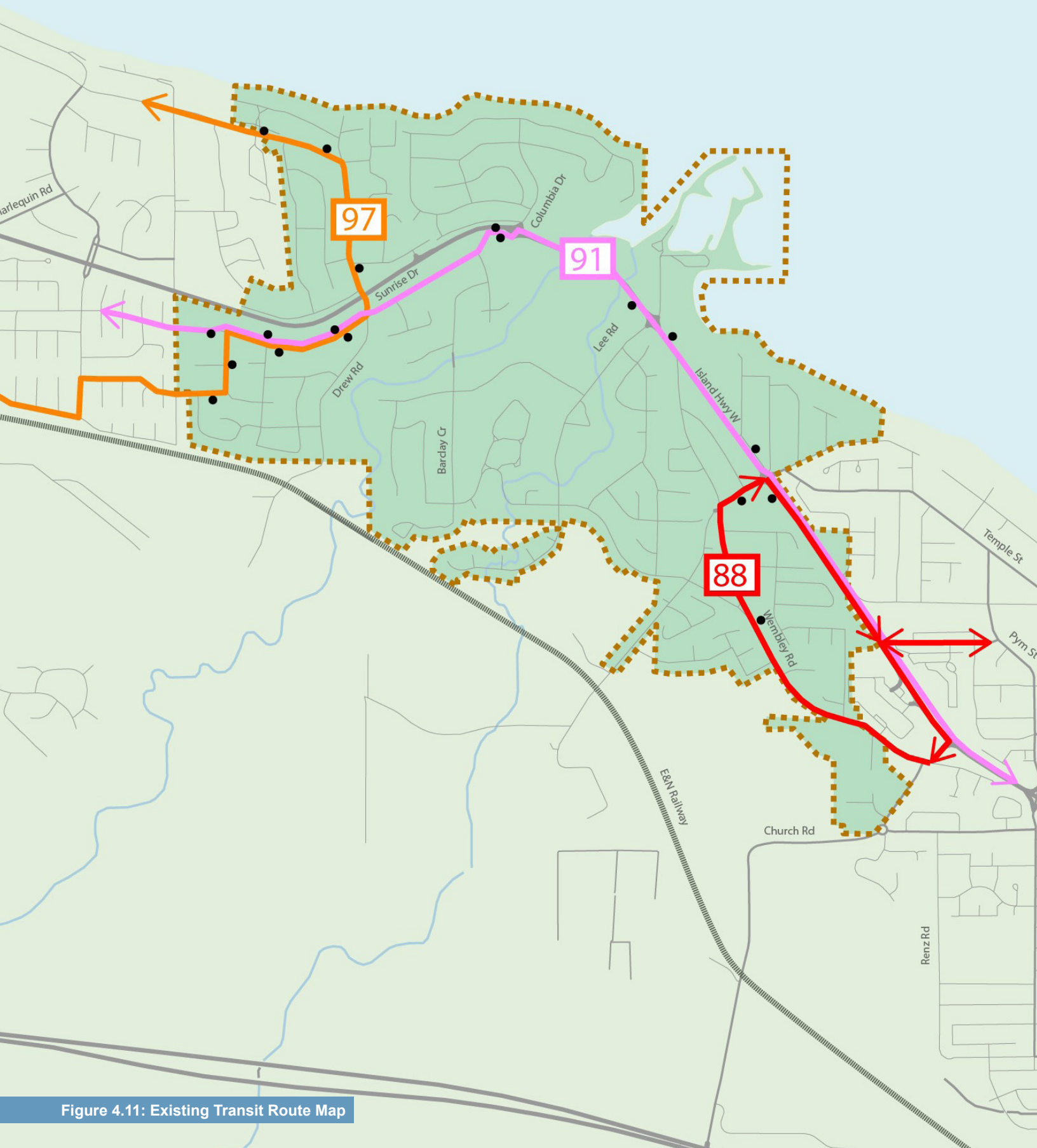


Figure 4.11: Existing Transit Route Map

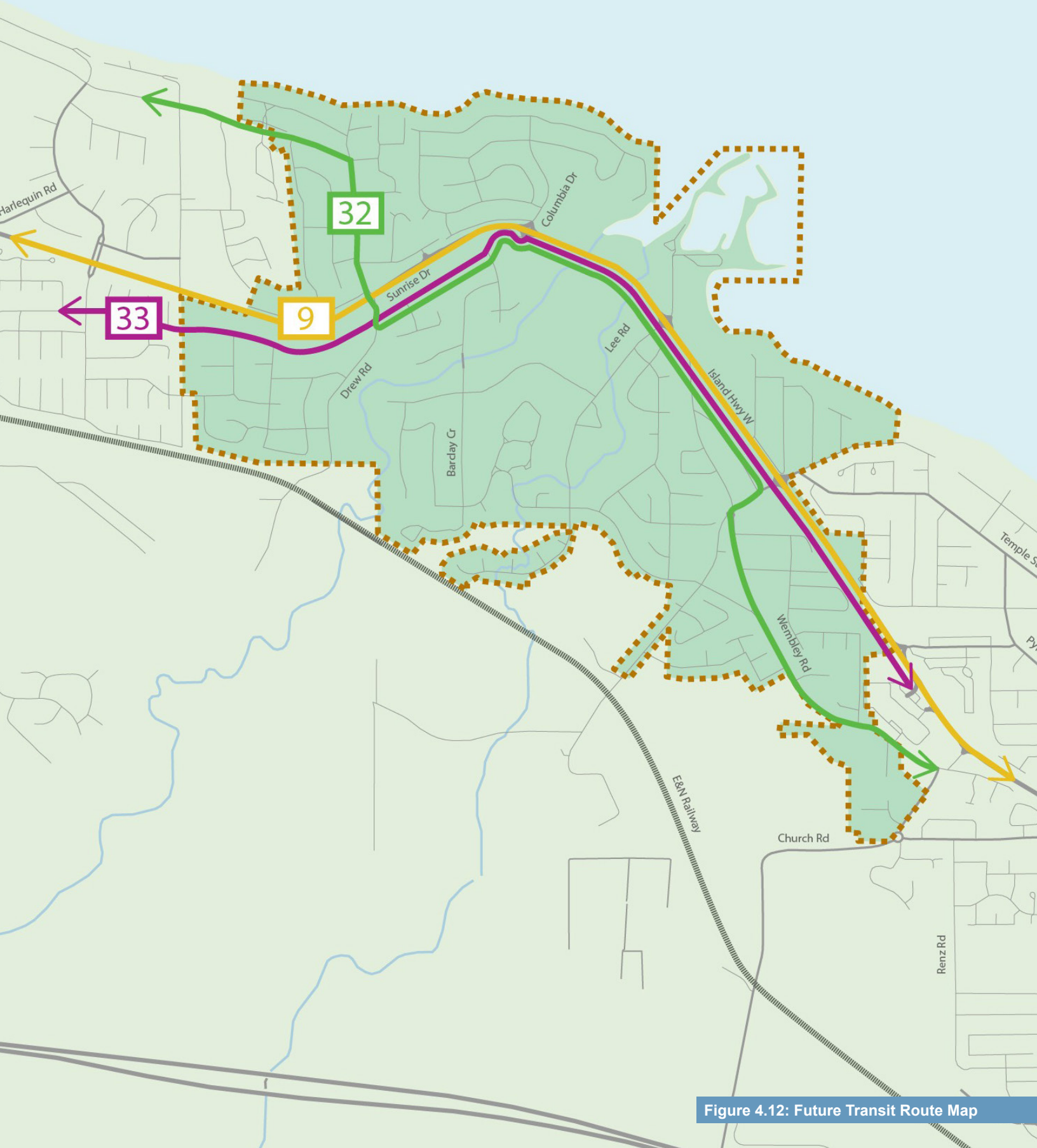


Figure 4.12: Future Transit Route Map



5. CHALLENGES AND OPPORTUNITIES

The challenges and opportunities are based on a review of existing conditions, feedback received through public engagement, and discussion with the BC Ministry of Transportation and Infrastructure. Three primary challenges were identified: a lack of active transportation infrastructure, project funding, and implementation.

5.1 LACK OF ACTIVE TRANSPORTATION INFRASTRUCTURE

Infrastructure is of course the most important element of enabling people to travel by active modes, and at present the existing transportation network in the study area features very little specific accommodation for active modes.

This creates an opportunity to improve the network by building out the active transportation network with infrastructure appropriate to the volume and speed of motor vehicle traffic.

5.2 PROJECT FUNDING

French Creek does not have any dedicated funds to upgrade active transportation infrastructure. New funding will be reliant on various sources, but even with grant funding, it is likely that the Regional District, and by association the residents of the study area will have to fund a portion of any improvements through Local Service Area Charges. While there is not a substantial amount of development anticipated in the study area, the Regional District should also consider opportunities for developer contributions to the active transportation network or funds in lieu.

5.3 IMPLEMENTATION

Even if funding is resolved, the implementation and constructibility will be a challenge in many locations. It is the Ministry's preference to maintain open ditch drainage rather than underground as it requires less maintenance. It is often simple to add active transportation facilities when they can be located above existing ditches, but to retain the ditches, requires the active transportation facility to be located behind the ditch, preferred to increase separation from traffic, or for the ditch to be relocated.



6.1 VISION

The Regional District of Nanaimo Area G French Creek will provide a safe all ages and abilities active transportation spine through the study area along the Parksville-Qualicum Beach (PQB) Links alignment, and improve access to it via all ages and abilities feeder routes from each neighbourhood enabling more people in the community to travel actively within the community, and outside of the community for regional active transportation trips to the adjacent communities.

6.2 GOALS



Reduce transportation impacts

The French Creek Active Transportation Plan will support many community transportation objectives.

- Objective 1.1: Reduce automobile trips in the community and to neighbouring jurisdictions
- Objective 1.2: Provide people with a viable alternative to the automobile by making other modes more accessible to more people.
- Objective 1.3: Design facilities that are comfortable for a wider cross-section of the community including all ages, all genders, all ethnicities.



Provide facility types for All Ages and Abilities

To balance costs with the need to provide all ages and abilities facility types, the plan proposes a primarily multi-use path network that can accommodate pedestrians, cyclists, and other micro-mobility modes in less space.

- Objective 1.1: Provide a minimum 3.0m pathway on identified routes. Reductions to 2.4m may be acceptable to bypass individual obstructions.
- Objective 1.2: Where there are steeper grades and available right-of-way widen the pathway up to 5.0m to allow space for passing slower modes, and provide additional separation between slower and faster modes.
- Objective 1.3: Maintain open drainage ditches where possible to reduce maintenance requirements.
- Objective 1.4: Pavement markings will be limited to reduce maintenance, but multi-use pathways will feature a solid yellow line along the centre at locations where sight lines may be limited to reduce conflicts from people travelling in opposite directions.
- Objective 1.5: Pathway etiquette will be included on signage along the pathway including 'keep right' and 'pass with care'.
- Objective 1.6: Branding will be provided along the pathway via signage as part of a wayfinding strategy.



Upgrade the PQB Links and access to it

The PQB Links will form the spine of the active transportation network providing a route through French Creek and safely connecting it to the adjacent communities. To improve access to the PQB Links, feeder routes will be provided from each neighbourhood.

- Objective 2.1: The PQB Links will be upgraded to include a multi-use pathway where it forms part of a major through route.
- Objective 2.2: Where it does not form part of a major through route, improved wayfinding and shared roadway may be considered.
- Objective 2.3: Neighbourhood accesses will be of a similar standard to the PQB Links itself in line with Goal 1.



Improve safety at roadway crossings

All roadway crossings will be safe for active modes, or a suitable connection will be provided to a safe crossing.

- Objective 4.1: Each Highway crossing will have a full or half signal to support both active transportation and potentially vehicle access and egress from neighbourhoods.
- Objective 4.2: Where pedestrian push buttons are provided, paved pedestrian areas will be provided to access the push button.
- Objective 4.3: Where a new signalized crossing is not permitted, a safe pathway will be provided to the next available crossing.
- Objective 4.4: Crossings on Local Roads may include marked crosswalks with reflective signage and zebra pavement markings.
- Objective 4.5: On Local Roads, Rapid Rectangular Flashing Beacons (RRFB's) will be considered to improve safety and driver compliance at crosswalks.



Improve active transportation connectivity across French Creek

A safe and comfortable active transportation facility will be provided across French Creek.

- Objective 5.1: Opportunities to upgrade the existing pedestrian components of the French Creek Highway Bridge will be pursued with the Ministry of Transportation and Infrastructure.
- Objective 5.2: Opportunities for a secondary active transportation connection will be provided as part of future development on the east side of French Creek to the Marina.



Improve access to recreational destinations

The network will provide access and wayfinding to recreational destinations in French Creek:

- Objective 6.1: Access and wayfinding will be provided to parks and beaches.
- Objective 6.2: Access and wayfinding will be provided to the E&N Trail if converted to an active transportation corridor.
- Objective 6.3: Parks and trails are recognized as providing useful connections in the community, albeit they do not always provide access for all ages and abilities. Routes and trails outlined in the Community Parks and Trails Strategy and any future parks planning projects shall determine a suitable balance between natural facilities and paved and lit facilities that would better support an active transportation network for all ages and abilities.



New development will provide active transportation frontage improvements

New development in French Creek will provide suitable active transportation facilities along their property frontage, and if applicable, to the active transportation network.

- Objective 7.1: New development will be required to provide an active transportation facility (sidewalk or multi-use pathway at the discretion of the Regional District of Nanaimo) along their frontage, separated from the roadway by a suitable buffer (landscaping/furniture/additional paving).
- Objective 7.2: At the discretion of the Regional District of Nanaimo, new development will be required to provide or contribute to a fund to support ongoing connections on or to the PQB Links.



Support E&N corridor activation

While the E&N rail corridor is outside the Electoral Area 'G' French Creek Growth Containment Boundary, the Regional District of Nanaimo will support the activation of the E&N corridor for active modes. However, this corridor may not be suitable for all ages and abilities due to its rural nature, lack of street lighting, and possible surface materials (i.e., gravel).

- Objective 10.1: In the case of the E&N Corridor's activation for active transportation purposes, the Regional District of Nanaimo will provide connections between the future active transportation network and the E&N Corridor via Lowrys Road, Drew Road, and Yambury Road.



Provide safe routes to school

It will be safe for children to walk or cycle to school within French Creek or to schools in adjacent communities.

- Objective 8.1: Provide safe facilities from adjacent neighbourhoods to schools.
- Objective 8.2: Reduce posted speed on the Highway to 50 km/h where it passes the school.
- Objective 8.3: Reduce the posted speed on local roads to 30 km/h where it passes the school.



Improve regional active transportation connectivity

The Regional District will work with adjacent communities and other stakeholders to improve regional active transportation connectivity.

- Objective 9.1: The Regional District of Nanaimo will work with the City of Parksville and the Town of Qualicum Beach to encourage the continuation of the PQB Links into those communities.
- Objective 9.2: Opportunities for the Ministry of Transportation and Infrastructure to provide active transportation facilities safe for all ages and abilities on Highway 19A will be supported.

Figure 7.1: Typical Multi-Use Pathway Configuration

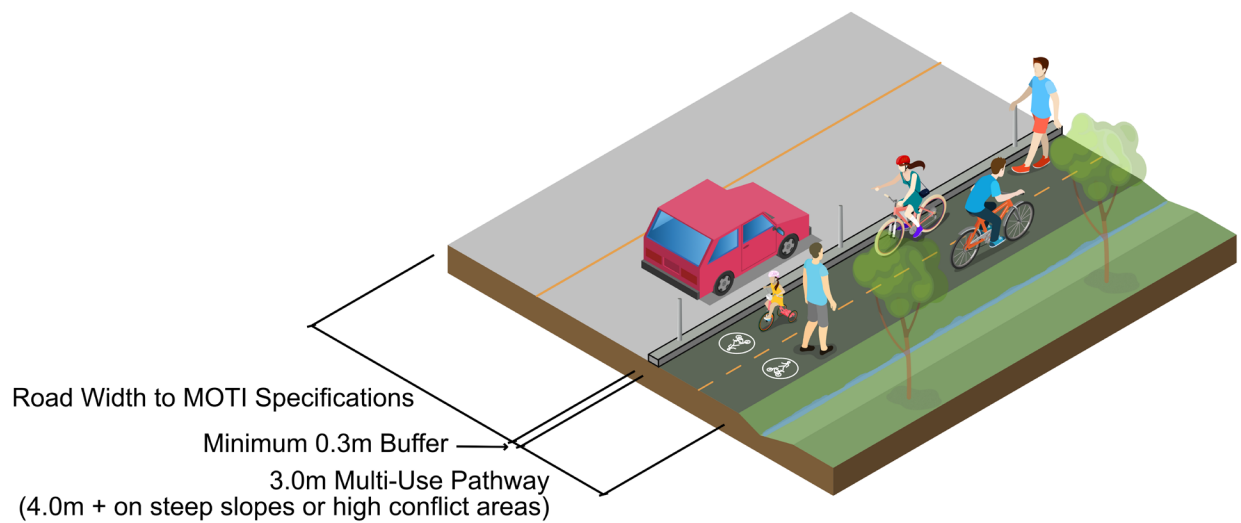
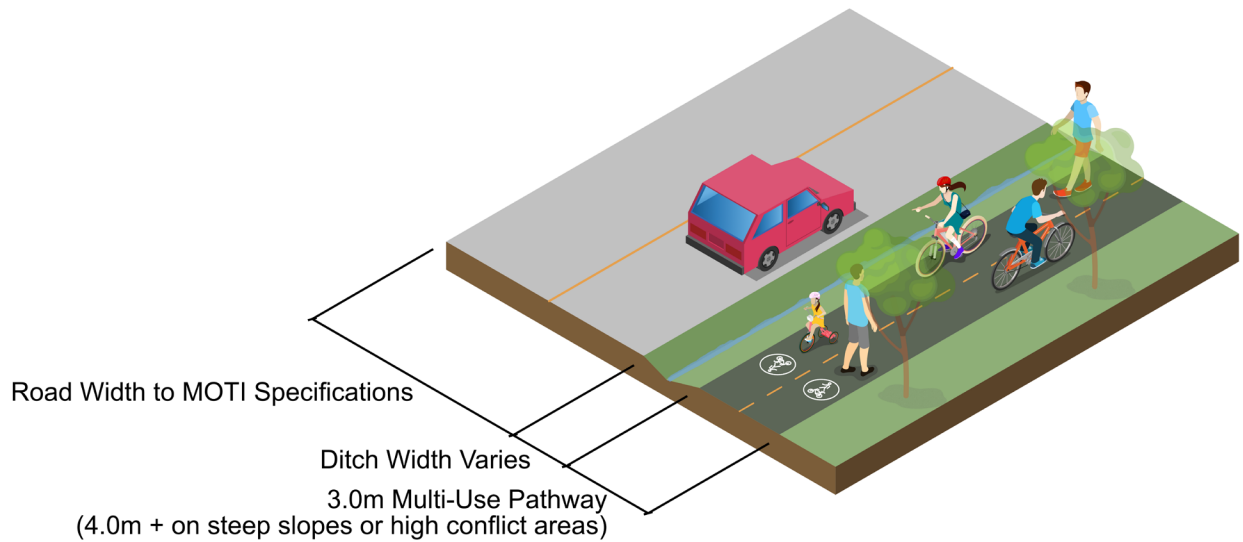


Figure 7.2: Constrained Multi-Use Pathway Configuration

7. ACTIVE TRANSPORTATION OPTIONS

7.1 FACILITY TYPES AND STANDARDS

The BC Ministry of Transportation and Infrastructure (BC MoTI) are responsible for the roadways in the study area. Through discussion, it was determined that the most feasible facility type that would be comfortable for all ages and abilities in a semi-rural community such as French Creek is a multi-use pathway.

This was also considered by the project team to be the most feasible to implement given the limited funding and it's ability to accommodate both people walking, cycling and rolling in the one space, typically on one side of the roadway. Furthermore, as pedestrian and cycling volumes are lower than more densely populated locations, the volumes of people on the pathway network are anticipated to be sufficiently low as to avoid significant conflict between modes.

Nevertheless, people will be mixing and traveling at various speeds, and education will be necessary to promote appropriate pathway etiquette. For example, keep to the right messaging to allow space to pass, and for the faster modes, pass slowly and with care. This can be included on signage, and potentially encouraged through the use of a dashed yellow centre line. While pavement markings can create an additional maintenance item, they can be used selectively where conflicts are high or sightlines limited.

All designs should comply with the BC MoTI Active Transportation Design Guide and BC Transit Infrastructure Design Guidelines; general guidance is provided below.

General Guidance

- Multi-use pathways are the preferred active transportation facility as they accommodate all ages and abilities and all active modes within one facility.
- The pathway width will be 3.0m typically. In constrained locations it may be reduced to 2.7m, or at the discretion of the approving engineering 2.4m. On steep slopes or locations where there is expected to be greater conflicts, the pathway width will be increased up to 5.0m.
- Open drainage is preferred to reduce maintenance burden. Care should be taken to grade the multi-use pathway to drain to the ditch, and where barrier curb is provided, provide suitable breaks or drainage channels to allow stormwater to access the ditch.
- Ideally, the drainage ditch will be located between the pathway and roadway to increase separation between active modes and motor vehicles and increase safety and comfort. As necessary, when the pathway is separated with a buffer, paving should be extended to the roadway to allow access between the roadway and the multi-use pathway at locations such as intersections or driveways.
- In constrained locations, the pathway may be located immediately next to the roadway with a minimum 0.3m buffer between the vehicle lanes and pathway. Within the buffer, safety may be improved by use of flex-posts, concrete or asphalt curbs.
- Etiquette signage will be provided at regular intervals along the pathway to encourage 'keep right' positioning and 'pass slow and with care' to reduce the likelihood of conflicts between active modes.

Note: the facility types proposed provide a balance between separation from motor vehicles and lower construction costs, respecting the limited funding available, and the lack of existing active transportation network. Separate facilities for active modes, i.e., sidewalks and protected bike lanes, have not been pursued due to the considerable additional cost this would add to the plan. Unseparated facilities, i.e. painted bike lanes or shoulders, have also not been pursued because they are not suitable for all ages and abilities and do not enable more people to walk or cycle more.

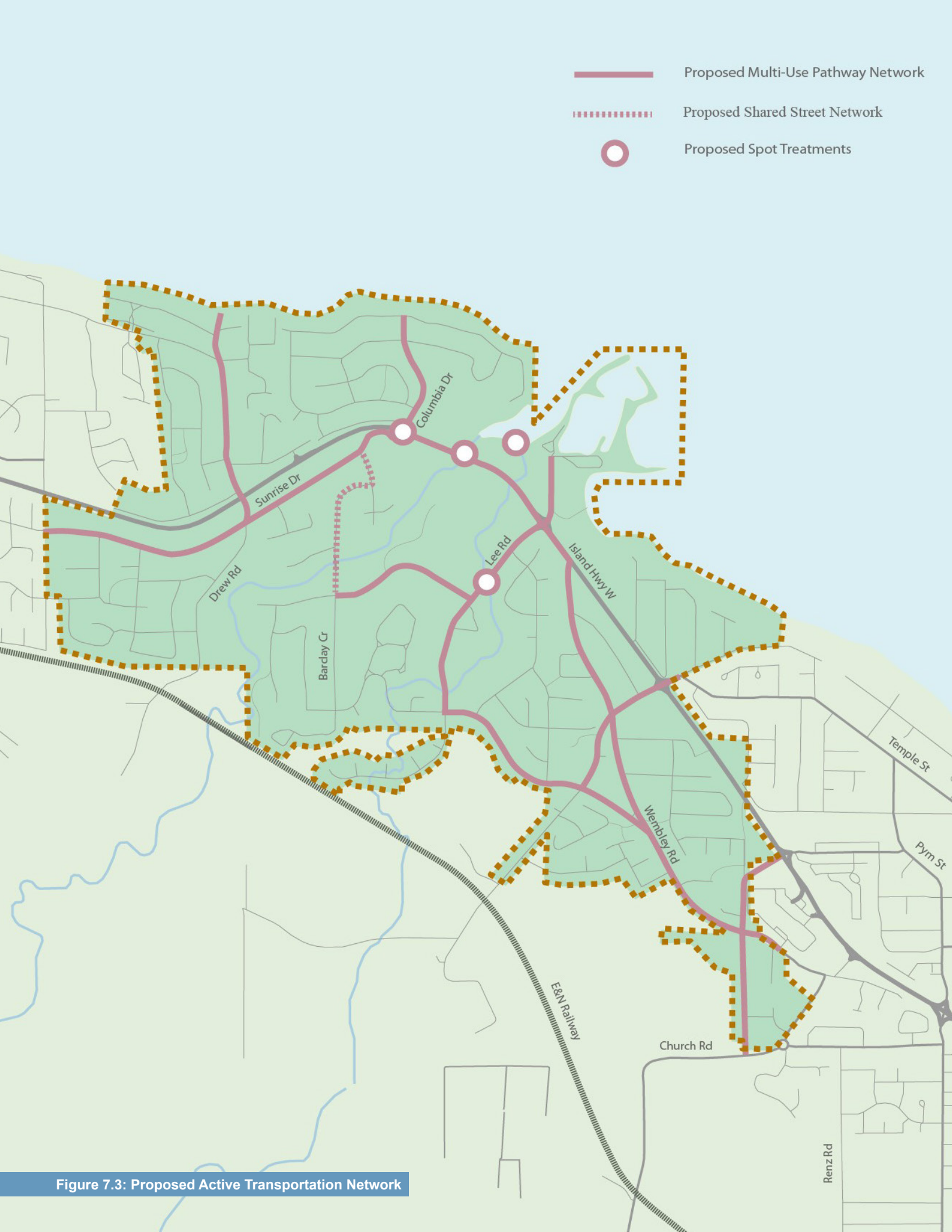


Figure 7.3: Proposed Active Transportation Network

7.2 PROPOSED ACTIVE TRANSPORTATION NETWORK \ PARKSVILLE QUALICUM BEACH (PQB) LINKS

The proposed active transportation network builds on the PQB Links as the spine of the proposed active transportation network.

All sections identified with a solid line are anticipated to be a multi-use pathway built to an appropriate standard and within the constraints of each segment.

The section shown with a dashed line is the Barclay Crescent cul-de-sac with no through traffic, thus it is reasonable to consider these routes have suitably low motor vehicle speeds and volumes to allow most people to safely share the roadway. It could feasibly be upgraded to a multi-use pathway, but would be the lowest priority along the PQB Links.

Highway Crossings

As the PQB Links runs approximately parallel to the highway but to the south, the neighbourhoods north of the highway need safe access across the highway and to the PQB Links. With relatively few highway crossings, the motor vehicle volumes and speeds on these connections are higher than most other Local Roads and require a facility separate from traffic to be safe for all ages and abilities. It is proposed these would also be multi-use pathways.

With respect to the Wembley Road intersection with Island Highway, it is recognized that the proximity to Lee Road makes a traffic signal at this location less desirable, thus it is proposed that a multi-use pathway be provided between Lee road and Wembley Road on the south side of the highway to provide safe access to a signalized crossing.

To improve access between Columbia Drive and the elementary school, the connection section of highway provides a valuable local connection and allows people travelling by active modes to avoid the more circuitous route of the PQB Links. Rather than a specific Regional District of Nanaimo initiative, this would be best pursued by the BC Ministry of Transportation and Infrastructure as a part of any project to improve active transportation facilities across the French Creek bridge.

Parks and Trails

In addition to the defined active transportation network, parks and trails provide valuable access between neighbourhoods and where paved and lit, they can be accessible to most. If unlit some people may feel less safe on such trails if there are few eyes on the trail. If unpaved, they may be less accessible for those with mobility challenges and surface conditions may be impacted by weather.

Spot Treatments

Spot Treatments are proposed at several key locations where there are specific issues or opportunities. Spot treatments include:

- **French Creek Bridge:** The existing active transportation elements are very narrow and should be widened to 3m on either side.
- **Lee Road:** Lee Road connects the PQB Links to the Marina. Where it crosses the creek, the roadway is too narrow to accommodate a multi-use pathway and two vehicle lanes. To provide a safe connection for all modes, this narrow section could be designed with a narrower roadway and Single Lane Alternating Traffic (SLAT) via a yield condition for one direction.
- **Columbia Drive Intersection:** This intersection is difficult to cross by active modes due to limited gaps in traffic, but also to turn left or cross in a motor vehicle. It is recommended that a signalised option be pursued at this intersection to improve safety for all road users.
- **Admiral Tyron Boulevard/Marina Connection:** A crossing of French Creek north of the existing bridge would be provided as a part of new development of the adjacent lands.

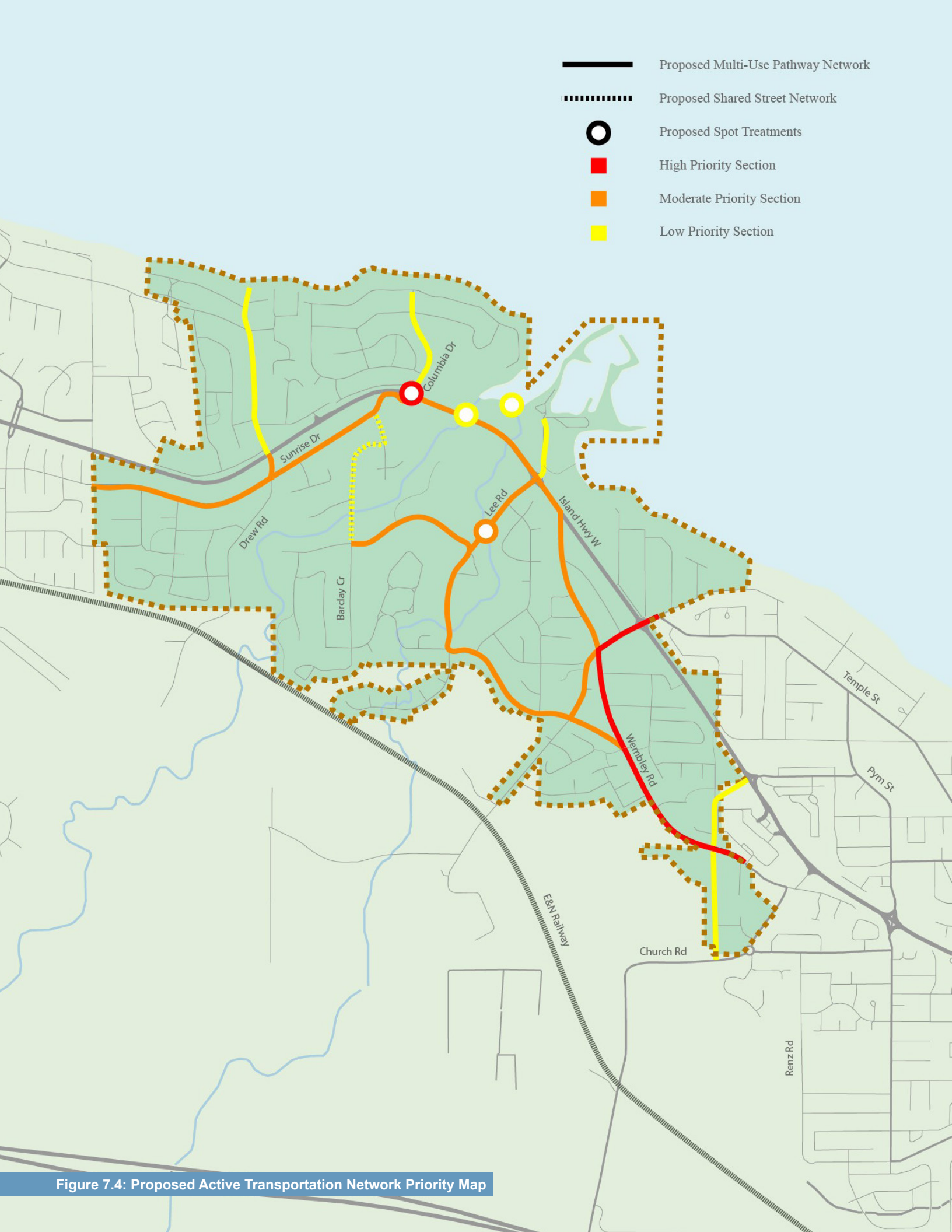


Figure 7.4: Proposed Active Transportation Network Priority Map

7.3 PRIORITIES

High Priority

Priorities were based on two factors, the risk from traffic based on the volume and speeds of traffic and/or the presence of higher volumes of vulnerable road users, for example, adjacent to schools. They include:

- Columbia Drive intersection
- Wembley Road (Church Street to Wright Road)
- Wright Road adjacent to Oceanside Elementary

Moderate Priority

The moderate priority segments were those that had moderate vehicle volume and speeds, likely those providing access to and from the highway. They include:

- Island Highway (19A) between Wembley Road and Columbia Drive
- Wembley Road between Island Highway and Wright Road
- Lee Road between Barclay Crescent and Island Highway
- Morningstar Road between Lee Road and Robertson Boulevard
- Sunrise Drive between Study boundary and Island Highway
- Drew Road between Sunrise Drive and Island Highway
- Robertson Boulevard between Morningstar Drive and Wembley Road
- Lowrys Road between Wembley Road and Robertson Boulevard
- Lee Road alternating traffic solution over creek

Low Priority

Low priority was assigned to those connections that have lower volumes, typically those that form a cul-de-sac. They include:

- Island Highway bridge over French Creek
- Future French Creek active transportation crossing adjacent Marina
- Johnstone Road north of Island Highway
- Columbia Drive north of Island Highway
- Lee Road north of Island Highway
- Ackerman Road between Island Highway and Wembley Road
- Imperial Drive and Barclay Crescent between Sunrise Drive and Lee Road

7.4 COST ESTIMATES

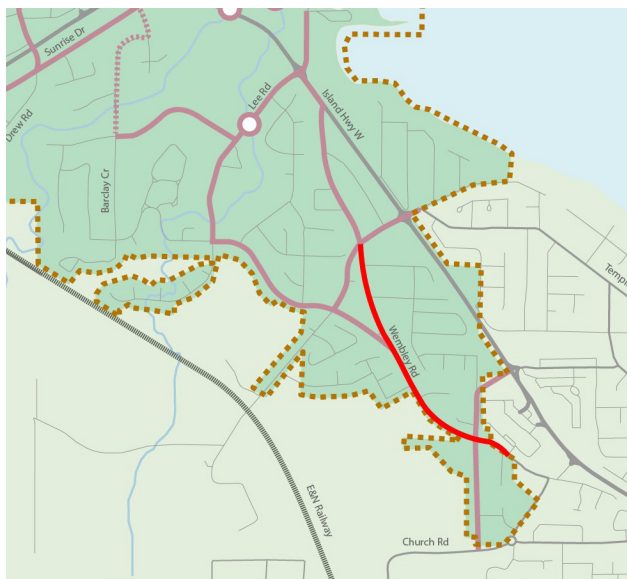
The cost estimates provided are Class D estimates and assume a contingency of 50% per the Engineers and Geoscientists British Columbia (EGBC) cost estimating guide. They are a preliminary estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects.

Given the project primarily includes only multi-use pathways, simple costs per kilometre are provide for low, medium and high complexity pathways based on other similar projects in British Columbia and are broadly defined as follows:

- Very low complexity MUP: \$500K per km
 - » Can utilize existing infrastructure or pavement
 - » Lane narrowing
- Low complexity MUP: \$1.5M per km
 - » Simple grading and drainage
 - » Limited to no utility conflicts
 - » Asphalt widening (raised or at grade)
 - » Concrete or asphalt curb
- Medium complexity MUP: \$4M per km
 - » Moderate grading or drainage challenges
 - » Some utility conflicts
 - » Asphalt widening
 - » Larger buffer/boulevard
- High complexity MUP: \$5M per km
 - » Steep grades
 - » Significant grading or drainage challenges
 - » Need for retaining structures
 - » Frequent utility conflicts
 - » Asphalt widening
 - » Larger buffer/boulevard

These costs are applied to the proposed network on the following pages with brief rationale for the selection of complexity.

Overall, the proposed active transportation network will comprise approximately 10km of new multi-use pathways and cost approximately \$21 Million to construct in 2022 dollars including the 50% contingency.



Wembley Road High Priority

Church Road to Wright Road - 1.50km

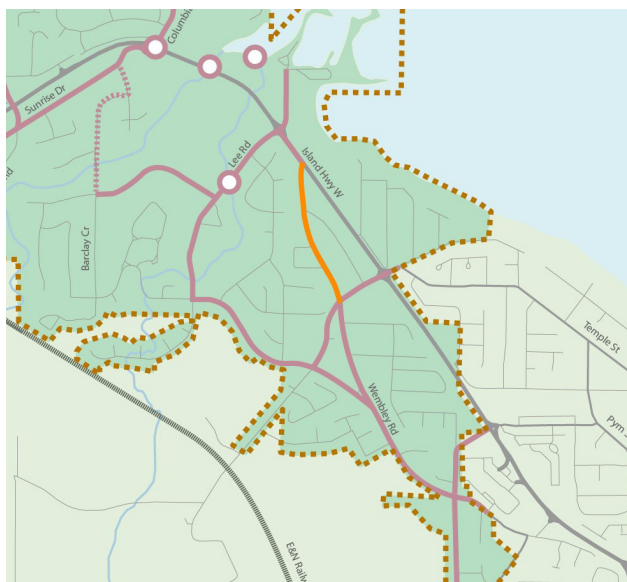
Medium complexity

- Can utilize existing bike lane dimensions
- Possible power pole relocates
- Minor sections of ditch undergrounding
- Little opportunity for lane narrowing
- Includes intersection improvements at Wright Road

Cost per km: \$4M, Segment cost: \$6M

Potential segments and costs

- Robertson Boulevard to Study Extents
 - » 1.0km
 - » \$4M
- Robertson Boulevard to Wright Road
 - » 0.50km
 - » \$2M



Wembley Road Moderate Priority

Wright Road to Island Highway - 0.70km

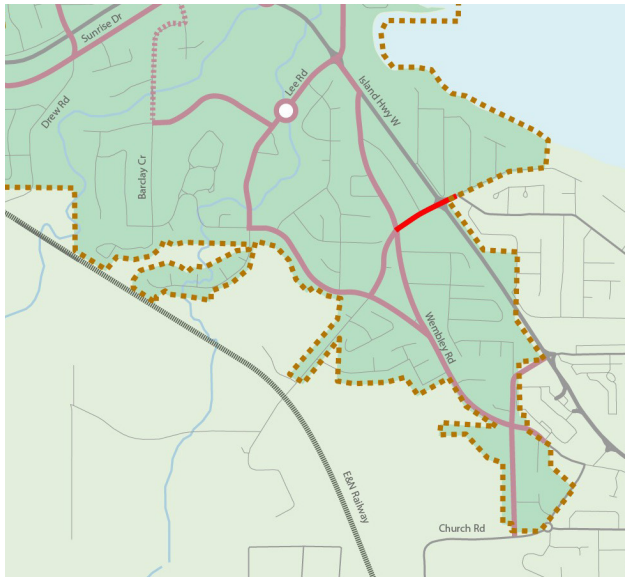
Low to high complexity

- Deep, well used ditching
- Constrained roadway
- Simple asphalt widening required in most sections

Cost per km: \$1.5-5M, Segment cost: \$1.6M

Potential segments and costs

- Wright Road to Tara Crescent North
 - » .30km
 - » \$450K
- Tara Crescent North to Reid Road
 - » 0.15km
 - » \$750K
- Reid Road to Island Highway
 - » 0.25km
 - » \$375K



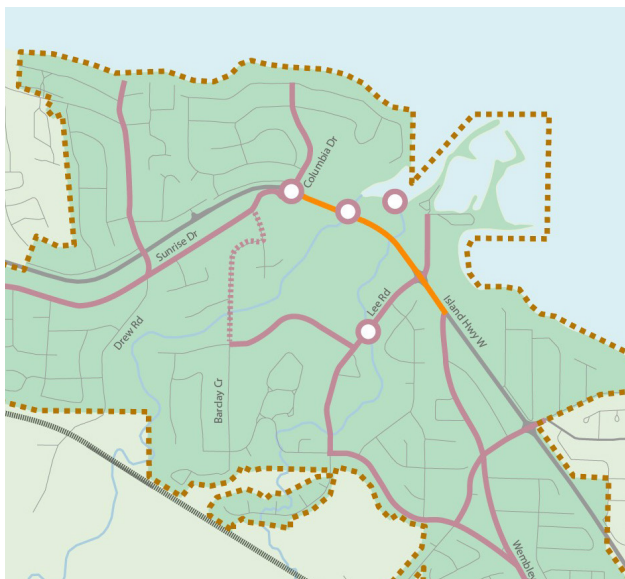
Wright Road High Priority

Island Highway to Wembley Road - 0.25km

Low complexity

- Wide existing shoulders
- Possible centreline adjustment
- Asphalt widening
- Design of future facility to consider conflicts between active modes and parked vehicles

Cost per km: \$1.5M, Segment cost: \$375K



Island Highway Medium Priority

Wembley Road to Columbia Drive - 0.88km

Moderate complexity

- Can utilize existing paved shoulder dimensions
- Asphalt widening
- Arterial highway necessitates physical barrier between modes
- Possibility of stormwater undergrounding

Segment cost attributable to the Ministry of Transportation and Infrastructure



Lee Road Medium Priority

Island Highway to Barclay Crescent - 1.10km

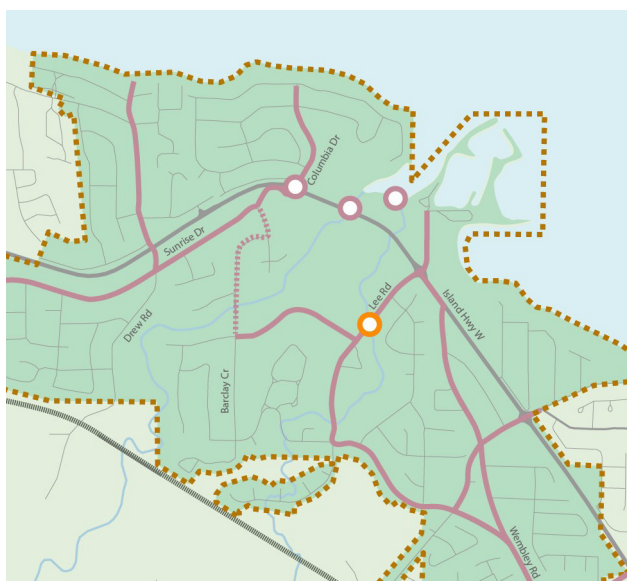
Medium to high complexity

- Ditch undergirding may be required
- Steep section of roadway with adjacent slopes
- Possible retaining wall required in steep section

Cost per km: \$1.5-5M, Segment cost: \$3.3M

Potential segments and costs

- Island Highway to Morningstar Drive
 - » 0.45km
 - » \$675K
- Morningstar Drive to Barclay Crescent
 - » 0.65km
 - » \$2.6M



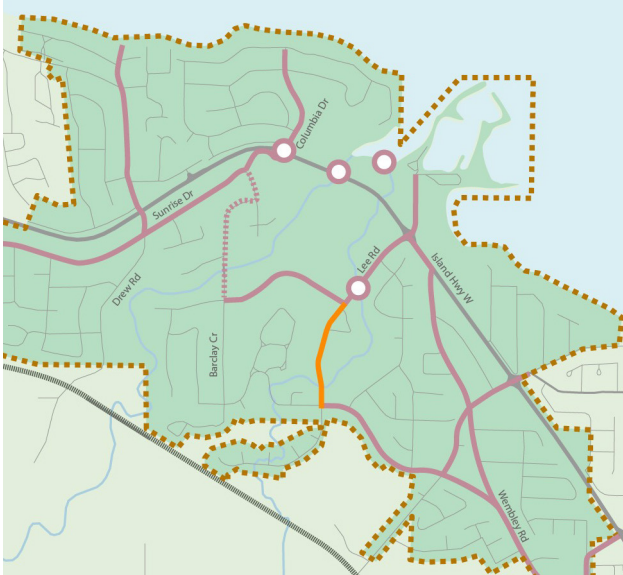
Lee Road Spot Treatment Medium Priority

Constrained roadway at bridge - 0.20km

High complexity

- Narrow existing pedestrian infrastructure
- Little opportunity for lane narrowing
- High bridge

Spot treatment cost: \$200k



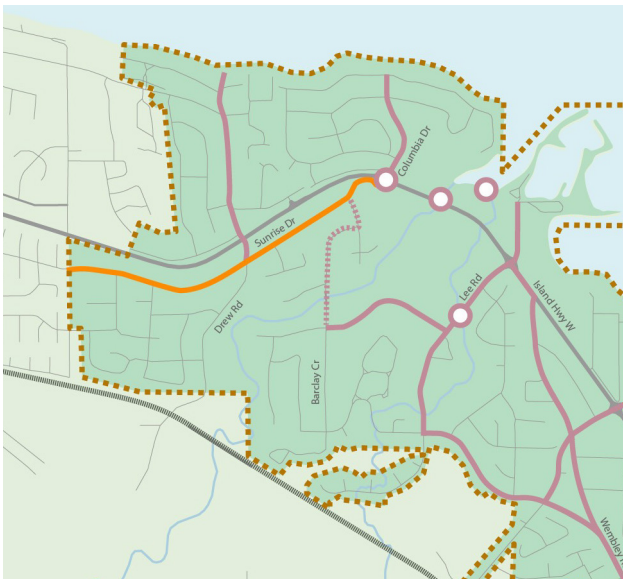
Morningstar Drive Medium Priority

Lee Road to Robertson Boulevard - 0.50km

Low complexity

- Minor ditch reprofiling
- Can utilize existing shoulder dimensions
- Some tree removal necessary

Cost per km: \$1.5M, Segment cost: \$750K



Sunrise Drive Medium Priority

Study limits to Island Highway - 1.65km

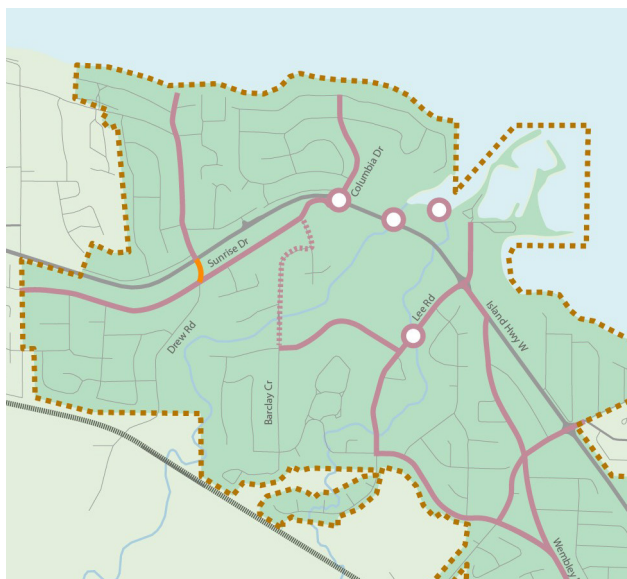
Low complexity

- Ditch reprofiling required
- Possible powerpole conflicts
- At-grade asphalt widening

Cost per km: \$1.5M, Segment cost: \$2.5M

Potential segments and costs

- Island Highway to Imperial Drive
 - » 0.2km
 - » \$300K
- Imperial Drive to Drew Road
 - » 0.55km
 - » \$825K
- Drew Road to Study Limit
 - » 0.9km
 - » \$1.35M



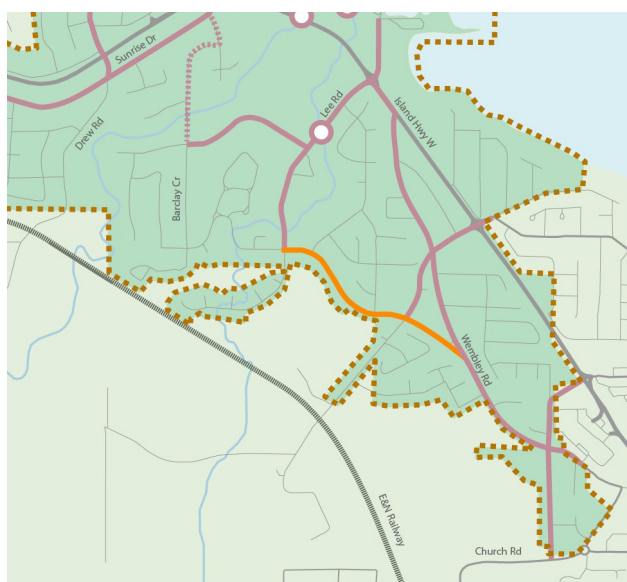
Drew Road Medium Priority

Sunrise Drive to Island Highway - 0.12km

Low complexity

- Minor ditch reprofiling
- Good opportunity for lane narrowing

Cost per km: \$1.5M, Segment cost: \$180K



Robertson Boulevard Medium Priority

Morningstar Drive to Wembley Road - 1.05km

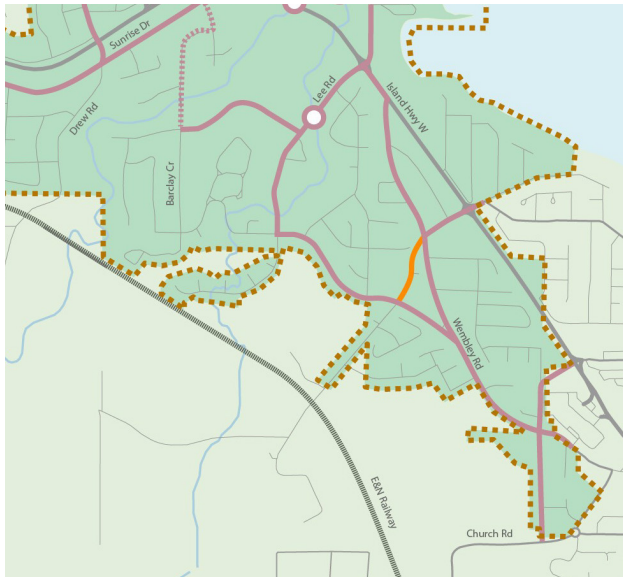
Very low complexity

- Opportunity for lane narrowing
- Can utilize existing bike lane dimensions
- Can utilize existing pavement

Cost per km: \$500K, Segment cost: \$525K

Potential segments and costs

- Morningstar Drive to Lowrys Road
 - » 0.7km
 - » \$350K
- Lowrys Road to Wembley Road
 - » 0.35km
 - » \$175K



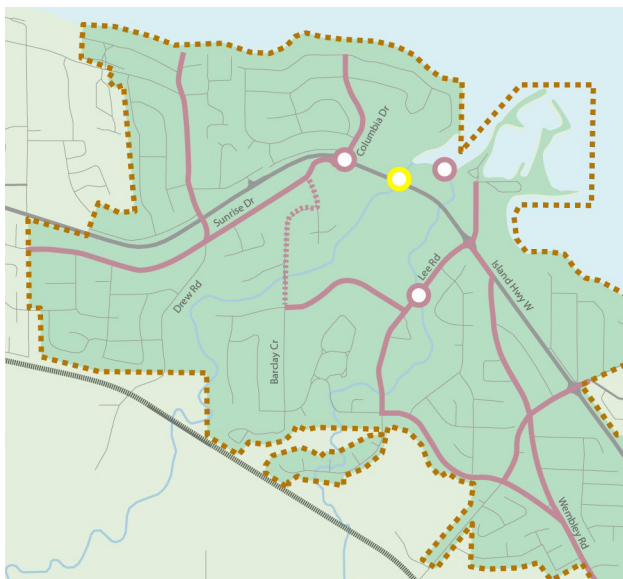
Lowrys Road Medium Priority

Wembley Road to Robertson Boulevard - 0.35km

Low complexity

- Possible lighting conflicts
- Minor stormwater undergrounding may be necessary
- Good opportunity to narrow lanes
- Design of future facility to minimize conflicts between active users and parked vehicles

Cost per km: \$1.5M, Segment cost: \$525K



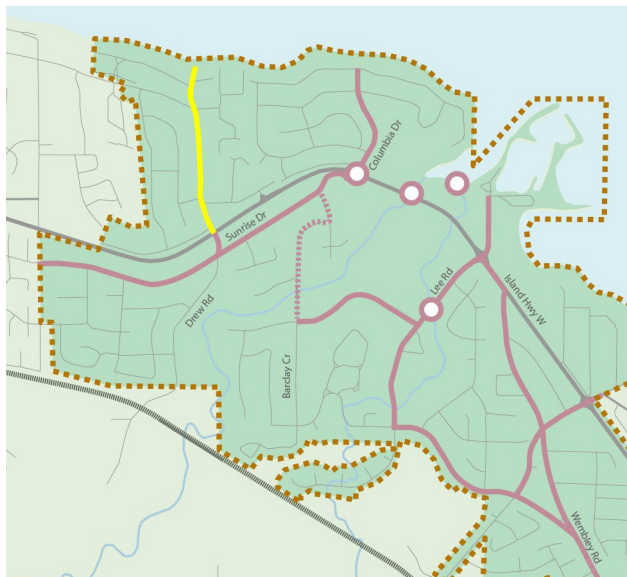
Island Highway Improvement Low Priority

Bridge over French Creek - 0.10km

High complexity

- Narrow existing pedestrian structure
- Necessitates structural intervention
- Widening on the south side to accommodate a multi-use pathway

Segment cost attributable to the Ministry of Transportation and Infrastructure



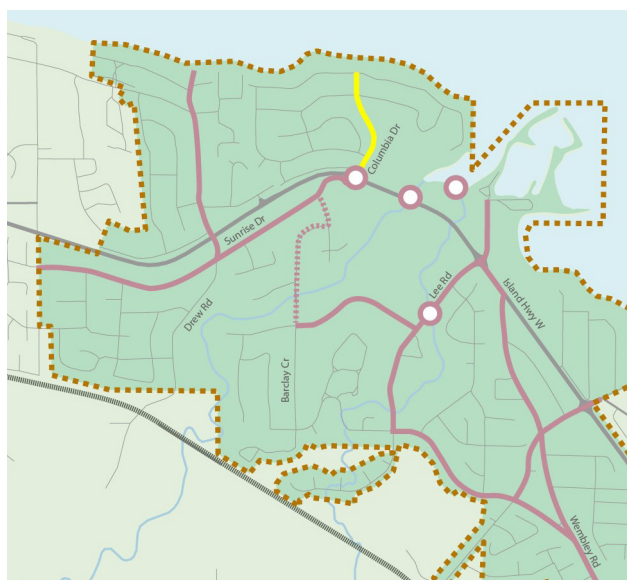
Johnstone Road Low Priority

North of Island Highway - 0.80km

Low complexity

- Asphalt widening
- Little to no utility relocates
- Can utilize existing shoulder dimensions

Cost per km: \$1.5M, Segment cost: \$1.2M



Columbia Drive Low Priority

Admiral Tryon Boulevard to Island Highway - 0.52km

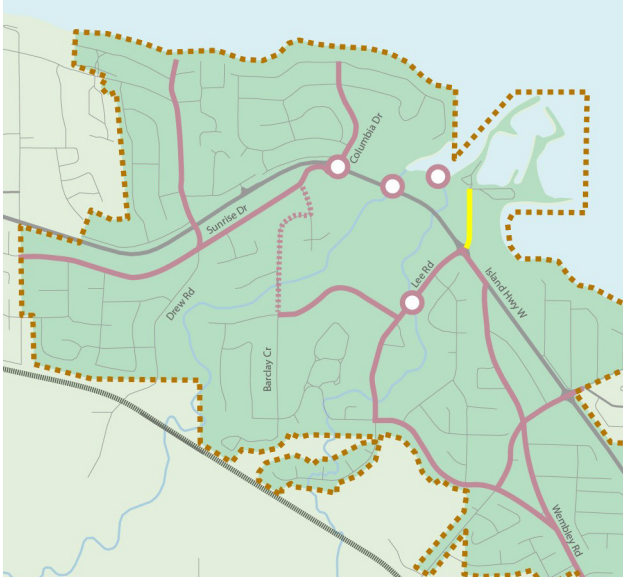
Low to moderate complexity

- Minor ditch reprofiling
- Little to no utility relocates
- Import fill for proposed MUP
- Can utilize existing shoulder for several sections

Cost per km: \$1.5-4M, Segment cost: \$1.8M

Potential segments and costs

- Island Highway to Viking Way
 - » 0.42km
 - » \$1.68M
- Viking Way to Admiral Tryon Boulevard
 - » 0.1km
 - » \$150K



Lee Road Low Priority

North of Island Highway - 0.30km

Low complexity

- Minor ditch reprofiling
- Can utilize existing shoulder
- Necessitates some tree removal

Cost per km: \$1.5M, Segment cost: \$450K



Ackerman Road Low Priority

Wembley Road to Island Highway - 1.00km

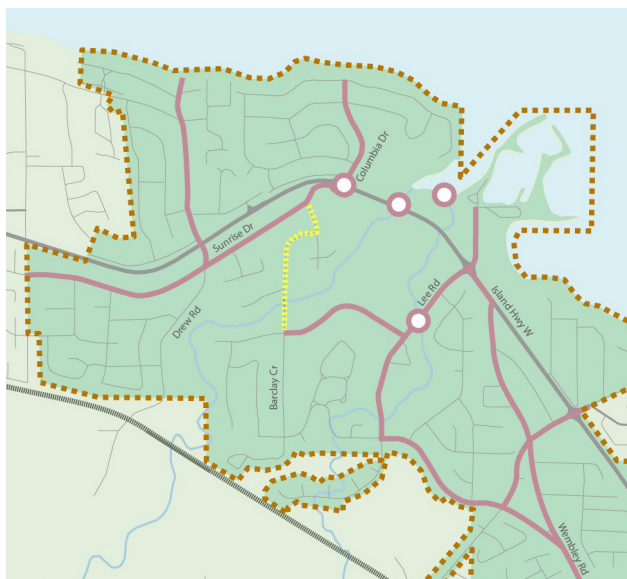
Low complexity

- Possible powerpole relocates
- Can utilize existing shoulder dimensions
- Pathway improvements necessary
- Asphalt widening

Cost per km: \$1.5M, Segment cost: \$675K

Potential segments and costs

- Church Road to Wembley Road
 - » 0.55km
 - » Development Funded
- Wembley Road to Trail
 - » 0.30km
 - » \$450K
- Trail to Island Highway
 - » 0.15km
 - » \$225K



Imperial Drive & Barclay Crescent Low Priority

Lee Rd to Sunrise Drive - 0.50km

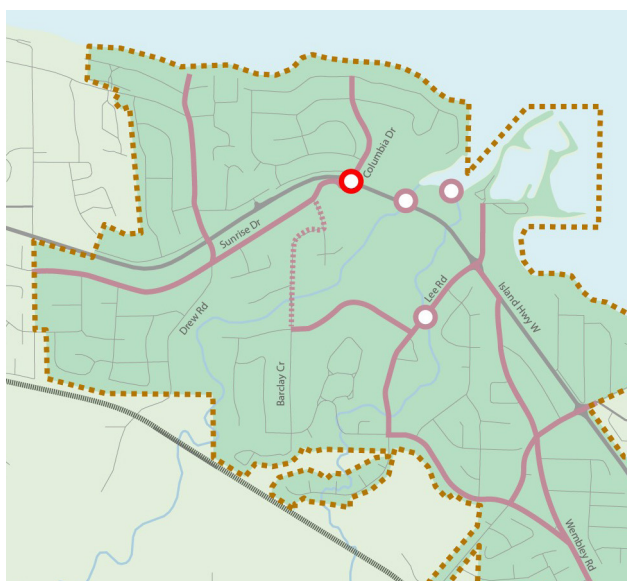
Low complexity

- Proposed shared street network
- Asphalt widening
- Repaving due to poor asphalt conditions

Cost per km: \$1.5M, Segment cost: \$750K

Potential segments and costs

- Sunrise Drive to Barclay Crescent North
 - » 0.15km
 - » \$225K
- Barclay Crescent North to Millenium Bridge
 - » 0.25km
 - » \$375K
- Millenium Bridge to Barclay Crescent South
 - » 0.10km
 - » \$150K



Columbia Drive Intersection Spot Treatment High Priority

At Island Highway

Moderate complexity

- Signal improvements and optimization
- Pedestrian and cyclist crossing infrastructure
- Improved concrete islands

Segment cost attributable to the Ministry of Transportation and Infrastructure



Future Marina Bridge Spot Treatment Low Priority

Adjacent to marina

High complexity

- Environmental concerns
- Bridge structure required
- New connecting pathways

Segment cost attributable to developer

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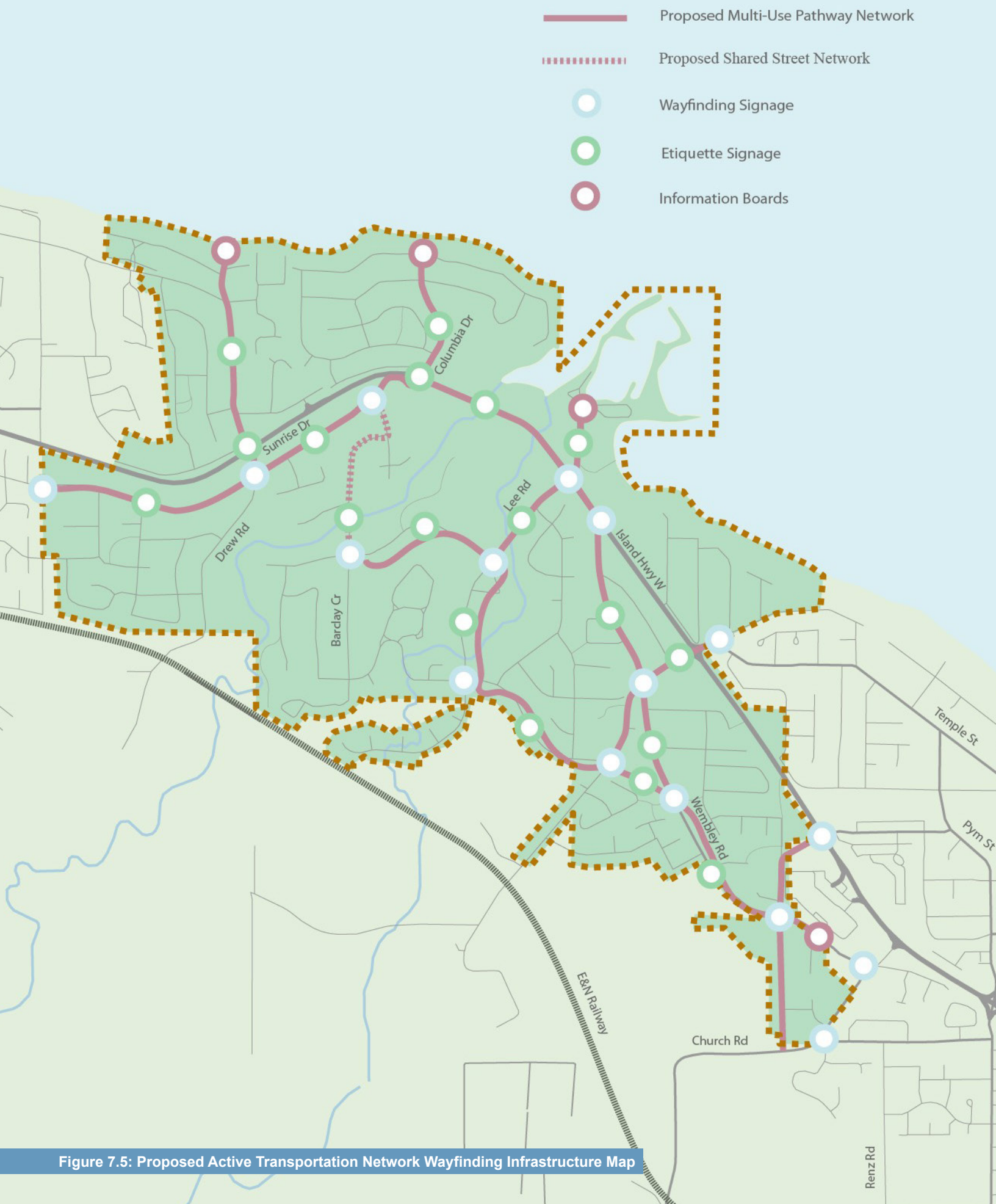


Figure 7.5: Proposed Active Transportation Network Wayfinding Infrastructure Map

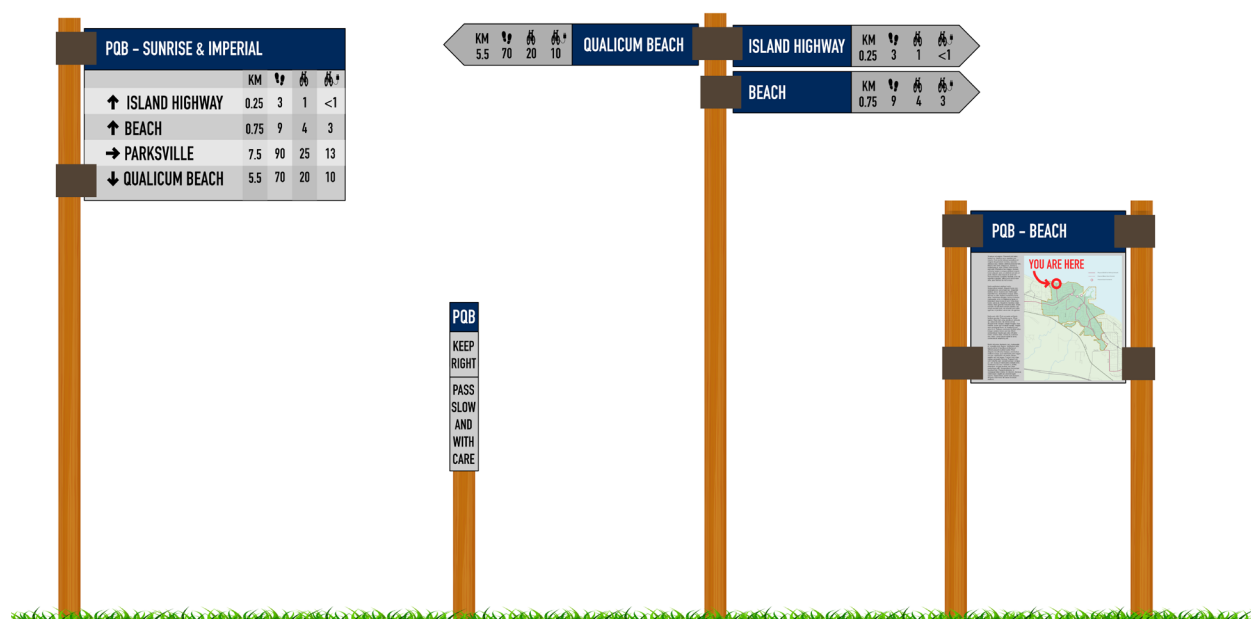
7.5 WAYFINDING

Wayfinding serves several purposes and is an important part of active transportation network design. Some considerations as part of a wayfinding strategy include:

- **Wayfinding:** First and foremost a wayfinding strategy is about pointing people in the right direction. This requires signage along the route and especially at key decision points in the network. It should include key destinations within the study area such as beaches, the marina, schools, Oceanside Place, and neighbouring communities.
- **Information:** Whether you're walking or rolling, it's very useful to know where you are and how far you have to your destination. This includes both distance confirmation and typical trip times. This can be provided for people walking and cycling, and with today's evolving micro-mobility adoption, could include trip times for powered modes also. This can be somewhat of a selling feature when you see how quick trips can become by electric bicycle.
- **Branding Elements:** Compared with standard roadway signage, branding can help improve the public perception of the active transportation network, it's cohesiveness and quality.

The physical signage and branding can take many forms, examples of typical wayfinding elements are provided below and would be finalized as part of a formal wayfinding strategy. It includes wayfinding information including distance, and trip times on foot, by bicycle and by electric bicycle. Etiquette signage reaffirms that the person is on the PQB links route and provides suggestion to 'keep right' and 'pass slow and with care'. The general information board can provide more information and 'you are here' information. The map left indicates key decision points in the network and an example of typical information that might be included.

Figure 7.6: Example of Typical Wayfinding, Etiquette, and Information Signage



7.6 SUPPORTING POLICIES

Think Active Transportation in French Creek outlines a primarily infrastructure based strategy to enable more people to travel actively on safe and comfortable facilities between key destinations in the community. The infrastructure improvements can be supported with complimentary policies. Some of the most effective policies to support active transportation are provided below for consideration.

Local Road Speed Limit Reductions

Several communities are implementing reduced speed limits on Local Roads. Most guidance notes that when vehicle speeds are reduced to 30 km/h people can more safely share the road with motor vehicles as the likelihood and severity of a collision is greatly reduced. While there can often be objection from the driving public to such measures, it's important to note that most motor vehicle trips are not made on Local Roads and it is typically only the start and end of trips that are likely to occur on such roads, meaning the change improves safety and comfort for people walking, cycling and rolling, and has minimal impact on motor vehicle travel times.

Further to simply adjusting posted speed limits, traffic calming is an effective measure to improve road safety for all road users, including those utilising active modes. Traffic calming elements may be especially effective at promoting road safety for active users as an interim condition prior to the construction of the future active transportation network described in this report. Specific traffic calming interventions may include vertical and horizontal deflections, modal filters, and speed limit reductions. Moreover, traffic calming initiatives would benefit from consideration of intersection control changes, such as reversing two-way stop intersections to favour the active transportation route or converting two-way stop intersections to four-way stop intersections to slow down all traffic on their approach. Further studies should be undertaken to determine the need for traffic calming and identify appropriate solutions.

New Development Bicycle Parking Requirements

While the study area is predominantly single family homes with sufficient options for storage, new multi-family

developments often overlook bicycle parking requirements. If the objective is to enable everybody to ride a bicycle, everybody needs a safe secure place to store their bicycle at home. Land Use and Subdivision Bylaw No. 500, 1987 could be updated to include recommended bicycle parking requirements.

Commercial Bicycle Parking

With safe space to store a bicycle at home, it is important to ensure similar safe commercial bike parking. What this looks like varies depending on the use:

- **Short-Term:** Short-term bicycle parking will be used where the business function requires shorter duration visits such as outside of a grocery store or shopping centre. Short-term bicycle parking can include typical bike racks which should be located in highly visible locations close to the entrance of the business.
- **Long-Term:** Long-term bicycle parking will be used by people who visit a business for longer durations. This is typically for employee parking and could be provided for office workers, but equally employee's of the grocery store or shopping centre.

Educational Initiatives

Educational initiatives can help to improve the safety and comfort of active transportation facilities. For example, alternate signage indicating the safe passing of people travelling by active modes (e.g., change lanes to pass on shared roadways) can promote greater comfort for people travelling by active modes. Moreover, educational outreach programs can help all roadway users understand how to best use new or unfamiliar roadway infrastructure. If there are particular 'hot spots', targeted enforcement by the RCMP can also help encourage compliance with traffic laws (i.e., drivers rolling through stop signs.)

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8.1 IMPLEMENTATION STRATEGY

The plan as shown is estimated to cost approximately \$21 Million and one possible implementation strategy is shown on the following pages indicating a capital investment plan that assumes a budget of \$1 Million per annum for active transportation. It is anticipated that this could be funded in part by grant funding and developer contributions. The implementation strategy, however, assumes that at least 50% of the funding would have to be borne by the Regional District of Nanaimo and its residents, for example via a tax increase for an existing function such as Parks, or a new local service area active transportation tax.

8.2 MAINTENANCE

Due to the long-term vision and implementation period of the plan, there is a need for the BC Ministry of Transportation and Infrastructure to appropriately maintain existing infrastructure in the interim. This includes maintenance tasks such as the sweeping of roadway shoulders, the re-application of worn pavement markings, and trimming of vegetation impeding vehicle sightlines. The Regional District of Nanaimo should work with the Ministry with respect to maintenance of existing infrastructure but will be responsible for the maintenance of the future active transportation network.

8.3 BEYOND THE PLAN

Think Active Transportation in French Creek provides a strategy to improve the safety and comfort of people in French Creek traveling to key destinations by active modes. Funding assumptions are made in the plan to set out one potential path of how the proposed active transportation network could be implemented, but the implementation plan is intended to be flexible and adapt to local priorities.

Think Active Transportation in French Creek provides guidance with respect to improving conditions for French Creek within the Growth Containment Boundary. The Recommendations in this report require inclusion in other planning documents, including the Official Community Plan and Land Use and Subdivision Bylaws. Appendix A and B provide recommended text for these documents, respectively, but must be carefully incorporated given those documents are relevant to the entire Electoral Area G or Regional District of Nanaimo.

Table 8.1 Initial Implementation Strategy

| Segment | Year Cost \$M | 1 2023 | 2 2024 | 3 2025 | 4 2026 | 5 2027 | 6 2028 | 7 2029 | 8 2030 |
|--|------------------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|-------------|
| Wembley Road - Robertson Boulevard to Study Extents | 4 | 1 | 1 | 1 | 1 | | | | |
| Wembley Road - Robertson Boulevard to Wright Road | 2 | | | | | 1 | 1 | | |
| Wembley Road - Wright road to Tara Crescent North | 0.45 | | | | | | | 0.45 | |
| Wembley Road - Tara Crescent North to Reid Road | 0.75 | | | | | | | | 0.75 |
| Wembley Road - Reid Road to Island Highway | 0.375 | | | | | | | 0.375 | |
| Wright Road - Island Highway to Wembley Road | 0.375 | | | | | | | | |
| Lee Road - Island Highway to Morningstar Drive | 0.675 | | | | | | | | |
| Lee Road - Morningstar Drive to Barclay Crescent | 2.6 | | | | | | | | |
| Lee Road Spot Treatement at Narrow Bridge | 0.2 | | | | | | | | |
| Morningstar Drive | 0.75 | | | | | | | | |
| Sunrise Drive - Island Highway to Imperial Drive | 0.3 | | | | | | | | |
| Sunrise Drive - Imperial Drive to Drew Road | 0.825 | | | | | | | | |
| Sunrise Drive - Drew Road to Study Limits | 1.35 | | | | | | | | |
| Drew Road | 0.18 | | | | | | | 0.18 | |
| Robertson Boulevard - Morningstar Drive to Lowrys Road | 0.35 | | | | | | | | |
| Robertson Boulevard - Lowrys Road to Wembley Road | 0.175 | | | | | | | | |
| Lowrys Road | 0.525 | | | | | | | | |
| Johnstone Road | 1.2 | | | | | | | | |
| Columbia Drive - Island Highway to Viking Way | 1.68 | | | | | | | | |
| Columbia Drive - Viking Way to Admiral Tryon Boulevard | 0.15 | | | | | | | | |
| Lee Road (north of highway) | 0.45 | | | | | | | | |
| Ackerman Road - Wembley Road to Trail | 0.45 | | | | | | | | |
| Ackerman Road - Trail to Highway | 0.225 | | | | | | | | |
| Imperial Drive - Sunrise Drive to Millenium Bridge | 0.225 | | | | | | | | |
| Barclay Crescent - Millenium Bridge to Lee Road | 0.375 | | | | | | | | |
| Wayfinding | 0.5 | | | | | | | | 0.1 |
| Total | 21.855 | | | | | | | | |
| Total per annum | | 1 | 1 | 1 | 1 | 1 | 1 | 1.005 | 0.85 |

| 9 2031 | 10 2032 | 11 2033 | 12 2034 | 13 2035 | 14 2036 | 15 2037 | 16 2038 | 17 2039 | 18 2040 | 19 2041 | 20 2042 | 21 2043 | 22 2044 | 23 2045 |
|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| 0.375 | | | | | | | | | | | | | | |
| | 0.675 | | | | | | | | | | | | | |
| | | 1 | 1 | 0.6 | | | | | | | | | | |
| 0.2 | | | | | | | | | | | | | | |
| | | | | | 0.75 | | | | | | | | | |
| | 0.3 | | | | | | | | | | | | | |
| | | | | | | 0.825 | | | | | | | | |
| | | | | | | | 1 | 0.35 | | | | | | |
| | | | | | | | | | | | | | | |
| 0.35 | | | | | | | | | | | | | | |
| | 0.175 | | | | | | | | | | | | | |
| | | | | | | | | 0.525 | | | | | | |
| | | | | | | | | | 1 | 0.2 | | | | |
| | | | | | | | | | | 0.68 | 1 | | | |
| | | | | | 0.15 | | | | | | | | | |
| | | | | | | | | | | | | | 0.45 | |
| | | | | | | | | | | | | | 0.45 | |
| | | | | | | | | | | | | | | 0.225 |
| | | | | | | | | | | | | | | 0.225 |
| | | | | | | | | | | | | | | 0.375 |
| | 0.1 | | | | | 0.1 | | | 0.1 | | | | | 0.1 |
| | | | | | | | | | | | | | | |
| 0.925 | 1.02 | 0.95 | 1 | 1 | 0.75 | 0.75 | 0.925 | 1 | 0.875 | 1 | 0.98 | 1 | 0.9 | 0.925 |

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8.4 MONITORING

Monitoring of active transportation trends can help confirm project successes and inform any adaptations or corrections that may be necessary on past or future projects. Examples of potential monitoring strategies are identified below:

Readily Available Data

This includes census travel to work metrics which are updated every five years. An increasing trend towards active modes can highlight the success of the plan and it's implementation. However, it should be noted that other factors can affect mode share such as gas prices.

Project Specific Counts

These counts which may be manual or automatic using various technologies, count the number of people walking, cycling, or moving along the corridor by various means. Often done before and after a project to understand if it increases usage, care must be taken to count on similar days, similar time of the year, with similar weather, and it's important to understand that counts on one improved corridor may be simply attracting trips from other corridors rather than creating new trips. This can be better understood by undertaking screenline surveys.

Intercept or Interview Surveys

Intercept surveys provide a valuable source of user opinion and can be undertaken directly on a corridor or in a neutral location, potentially before and after project implementation for a specific project. Examples of information that cannot be collected by simple counts include the feeling of safety or happiness using a new facility and previous condition.

Interview surveys or panels surveys are another tool that can be scheduled annually to gauge the state of public opinion about topics in the community including active transportation, and over time can build a picture of changing trends.

Observational Surveys

These surveys require a suitably experienced person to observe the corridor either before or after improvements to gauge how people are using it, if there are conflicts between user groups, and to help identify if specific interventions will be appropriate, or if after implementation, if they are working as intended. Examples include conflicts on multi-use pathways or at crosswalks.

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APPENDIX A: ELECTORAL AREA 'G' OCP AMENDMENT RECOMMENDED TEXT

OCP SECTION 9.4 - ACTIVE TRANSPORTATION NETWORK

As the British Columbia Active Transportation Design Guide describes, “active transportation most commonly refers to people walking or cycling, but can also include people rolling, using winter-based modes, or using water-based modes.”

Active transportation can promote a more sustainable transportation network by providing safe and comfortable facilities for residents and visitors to use. In turn, the designation and construction of such facilities has implications for economic stability, community health, and greenhouse gas emissions associated with local transportation.

The purpose of this amendment is to provide those travelling within Electoral Area ‘G’ French Creek with enhanced provisions for future active transportation facilities throughout the community. To this effect, recommendations for appropriate objectives, policies, and implementation actions of the OCP Amendment are provided below.

| Policy | |
|-----------------|--|
| Section 9.4 | Objective / Policy |
| Objective 9.4.1 | Provide active transportation facilities that are safe for all ages and abilities between French Creek neighbourhoods and community features. |
| Policy 9.4.1 | The Regional District of Nanaimo will pursue opportunities with the BC Ministry of Transportation and Infrastructure to provide safe and comfortable active transportation facilities adjacent to public roadways along proposed active transportation routes as illustrated on Figure 7.3 of the French Creek Active Transportation Plan and other community trail connections identified by RDN Parks. |
| Policy 9.4.2 | Active transportation routes will be prioritized to link neighbourhoods with parks, schools, waterfront areas, community focal features, neighbourhood centres, and mixed use areas as per Figure 7.3 of the French Creek Active Transportation Plan or other community trail network. |
| Policy 9.4.3 | Development proposals are to include provisions for active transportation facilities along their frontage and community trail connections. Those omitting the provision for or construction of active transportation infrastructure are not supported. |
| Policy 9.4.4 | The Regional District of Nanaimo will pursue opportunities with the BC Ministry of Transportation and Infrastructure to provide safe crossings for active modes along proposed active transportation routes as illustrated on Figure 7.3 of the French Creek Active Transportation Plan. |
| Policy 9.4.5 | Facilities for active transportation should consider the goals, objectives, and design guidance of the French Creek Active Transportation Plan, as well as the BC Ministry of Transportation and Infrastructure Active Transportation Design Guide. |

Implementation

| Timing | Actions |
|------------|--|
| Ongoing | The Regional District of Nanaimo will explore funding mechanisms for the construction and maintenance of the proposed active transportation network provided in Figure 7.3 of the French Creek Active Transportation Plan and other trail connections. |
| Immediate | The Regional District of Nanaimo will pursue opportunities with the BC Ministry of Transportation and Infrastructure to reduce the posted speed limits on Island Highway W to 50km/hr where it passes adjacent to schools. |
| Immediate | The Regional District of Nanaimo will pursue opportunities with the BC Ministry of Transportation and Infrastructure to reduce posted speed limits on local roads to 30km/hr where they pass adjacent to schools. |
| Short Term | The Regional District of Nanaimo will pursue infrastructure improvements with the BC Ministry of Transportation and Infrastructure that align with the goals, objectives, and design guidance of the French Creek Active Transportation Plan, as well as the BC Ministry of Transportation and Infrastructure Active Transportation Design Guide. |
| Short Term | The Regional District of Nanaimo will amend Land Use and Subdivision Bylaw No. 500, 1987 to include provisions for rights of way dedications for active transportation facilities throughout Electoral Area 'G' French Creek where development occurs adjacent to the proposed active transportation network illustrated in Figure 7.3 of the French Creek Active Transportation Plan or other community trail connection to the network. |
| Short Term | The Regional District of Nanaimo will amend Land Use and Subdivision Bylaw No. 500, 1987 to reflect revised development permit area guidelines for residential, industrial, and commercial form and character in Electoral Area 'G' French Creek. In particular, revised guidelines are to reflect the responsibility of development to provide future active transportation facilities indicated within Figure 7.3 of the French Creek Active Transportation Plan or other community trail connection to the network. |
| Long Term | The Regional District of Nanaimo will amend Land Use and Subdivision Bylaw No. 500 to establish road and trail standards that in part prescribe safe and comfortable active transportation facilities within Electoral Area 'G' French Creek. |

Policy

| Section 9.4 | Objective / Policy |
|-----------------|---|
| Objective 9.4.2 | Ensure linkage to active transportation networks in the City of Parksville and the Town of Qualicum Beach. |
| Policy 9.4.6 | Prioritize the installation of active transportation infrastructure along the Parksville-Qualicum Beach Links. |
| Policy 9.4.7 | The Regional District of Nanaimo will work in conjunction with the City of Parksville and the Town of Qualicum Beach to ensure that bicycle routes and trails are linked with the trails and bikeways in adjoining urban areas and are constructed to compatible standards. |
| Policy 9.4.8 | The Regional District of Nanaimo will encourage the City of Parksville and the Town of Qualicum Beach to continue active transportation facilities along the Parksville-Qualicum Beach Links in those communities. |

Implementation

| Timing | Actions |
|---------|--|
| Ongoing | The Regional District of Nanaimo will explore funding mechanisms for constructing the proposed active transportation network illustrated in Figure 7.3 of the French Creek Active Transportation Plan and other community trail connections, including grant funding and local service area charges. |

Policy

| Section 9.4 | Objective / Policy |
|-----------------|--|
| Objective 9.4.3 | Provide suitable and safe trail crossings of French Creek, Englishman River, and Little Qualicum River. |
| Policy 9.4.9 | The Regional District of Nanaimo will pursue opportunities with the BC Ministry of Transportation and Infrastructure to upgrade the existing French Creek bridge pedestrian crossing to a safe and comfortable active transportation crossing. |
| Policy 9.4.10 | Development occurring adjacent to French Creek, Englishman River, and Little Qualicum River will be subject to consideration for provisions of additional active transportation connections across these waterways. |

Implementation

| Timing | Actions |
|------------|---|
| Short Term | Opportunities to upgrade the existing pedestrian components of the French Creek Bridge will be pursued with the BC Ministry of Transportation and Infrastructure. |

Policy

| Section 9.4 | Objective / Policy |
|-----------------|---|
| Objective 9.4.4 | Build the active transportation network with infrastructure improving user experience. |
| Policy 9.4.11 | Wayfinding is to be provided throughout Electoral Area 'G' French Creek in alignment with Figure 7.5 of the French Creek Active Transportation Plan. |
| Policy 9.4.12 | The establishment of active transportation infrastructure adjacent to proposed routes indicated in Figure 7.3 of the French Creek Active Transportation Plan, including but not limited to bicycle stands, secured bicycle parking, electric bicycle chargers, and public seating is supported. |

Implementation

| Timing | Actions |
|---------|---|
| Ongoing | The Regional District of Nanaimo will explore funding mechanisms for constructing the proposed active transportation network illustrated in Figure 7.3 of the French Creek Active Transportation Plan and other community trail connections to the network, including grant funding and local service area charges. |

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APPENDIX B: LAND USE AND SUBDIVISION BYLAW AMENDMENT RECOMMENDED TEXT

LAND USE AND SUBDIVISION BYLAW NO. 500, 1987

The Official Community Plan (OCP) Amendment provided as an appendix to this document recommends several future changes to Land Use and Subdivision Bylaw No. 500, 1987. As a result of these recommendations, proposed policy changes are provided below.

Land Use and Subdivision Bylaw No. 500, 1987 - Part 4: Subdivision Regulations

| Action | Section 4.6 | Policy |
|--------|--------------|---|
| Retain | Policy 4.6.2 | Additional dedicated rights of way of up to 6.0 m may be required for bus stop areas near key intersections. |
| Add | Policy 4.6.4 | Development proposals for property fronting active transportation routes identified within the French Creek Active Transportation Plan and other community trail connections to the network are to include provisions for active transportation facilities along their frontage. The active transportation facility shall be a multi-use pathway separated from vehicle traffic via a physical barrier or drainage ditch and of a minimum width of 3.0 metres, unless otherwise agreed with the Regional District of Nanaimo. |

Land Use and Subdivision Bylaw No. 500, 1987 - Part 5: Development Permit Areas (Multi Residential, Intensive Residential, Industrial and Commercial Form and Character Development Permit Area)

| Action | Guideline # | Guideline |
|---------|-------------|--|
| Replace | 43 | Active transportation facilities such as pedestrian sidewalks, bicycle pathways, or multi-use facilities shall be provided both connecting building entrances to and through parking areas, as well as within road rights-of-way of the adjacent streets. |
| Replace | 44 | All internal pedestrian walkways and multi-use pathways shall provide a clearly delineated pathway separated from driving surfaces. Durable, low maintenance surface materials such as pavers, bricks, or concrete to enhance pedestrian safety and comfort, as well as the attractiveness of the walkways, shall be provided. |
| Retain | 45 | Bicycle parking facilities should be provided at grade near the primary building entrances. |

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