TOWN OF VIEW ROYAL

Active Transportation Network Plan

Baseline Conditions Report

August 2022

VIEW ROYAL

WATT Consulting Group

TOWN OF VIEW ROYAL ACTIVE TRANSPORTATION NETWORK PLAN

Baseline Conditions Report – Rev 2

Prepared For: Town of View Royal
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Town of View Royal
Active Transportation
Network Plan

LAND ACKNOWLEDGEMENT

The Town of View Royal acknowledges with respect that it is within the unceded traditional territories of the Lekwungen peoples, known today as the Esquimalt and Songhees Nations, and that their historic connections to these lands continue to this day.

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1.0 OVERVIEW

The Town of View Royal is a vibrant and growing community located on southern Vancouver Island. The Town acts as a gateway between Victoria's urban core and the West Shore municipalities. View Royal's dynamic community has managed growth while retaining traditional neighbourhoods that are attractive, walkable, and safe with use of green space corridors and pedestrian/cyclist-friendly streets. Further, the Town has excellent proximity to regional trails and access to transit. That said, View Royal is still stuck in shifting its mode share from single occupancy vehicle to more sustainable modes. The community has all the right pieces in place and the surrounding transportation context is conducive for advancing its sustainable transportation options while promoting development and supporting a growing community.

The Town has requested an Active Transportation Network Plan (ATNP) to further enhance active transportation networks that are safe, accessible, and convenient for all ages and abilities to support active, healthy lifestyles and reduce greenhouse gas (GHG) emissions. The purpose of this plan is to [a] document and review existing network and infrastructure conditions and identify gaps and deficiencies within the active transportation network, [b] support implementation of the Community Climate Action Strategy goals, [c] develop a set of visions and goals to counter these gaps and deficiencies within the network, [d] create an implementation strategy which will guide critical project needs, policies, and educational initiatives for the short-term (5-year horizon) and a longer-term (10-year+ horizon) which will meet the Town's goals in regard to mode share, inclusivity, linking major transportation and environmental systems, and meeting GHG emission targets as identified in the Official Community Plan and the Community Climate Action Strategy.

1.1 Background

The View Royal Active Transportation Network Plan is being developed in a five-phase process, as shown below:

- **Phase 1 – Network Summary & Baseline Conditions Assessment** involves reviewing relevant Town policies, existing data, collecting data where gaps exist, assessing existing active transportation conditions, and development of materials that will be utilized throughout the project.
- **Phase 2 – Initial Stakeholder and Public Engagement** involves online and in-person engagement to understand current active transportation strengths, challenges, and opportunities, while informing and educating the public to shape the overall network vision, direction, and goals.

- **Phase 3 – Network Analysis & Preliminary Strategies and Solutions** involves identifying potential improvements and detailing the future network and design recommendations.
- **Phase 4 – Draft Plan** will be developed after receiving feedback from the public, staff, and Council on the draft network options.
- **Phase 5 – Plan Finalization** will occur and the Final ATNP will be presented to Town Council.

This report summarizes the work completed for **Phase 1 – Network Summary & Baseline Conditions Assessment**. It includes:

- A community profile with a detailed summary of existing transportation mode share, land uses, and key destinations.
- A summary of local and regional planning documents and technical studies that have implications for active transportation.
- Analysis of the transportation conditions for pedestrian, cycling, transit, and street infrastructure including trail systems and traffic flow.

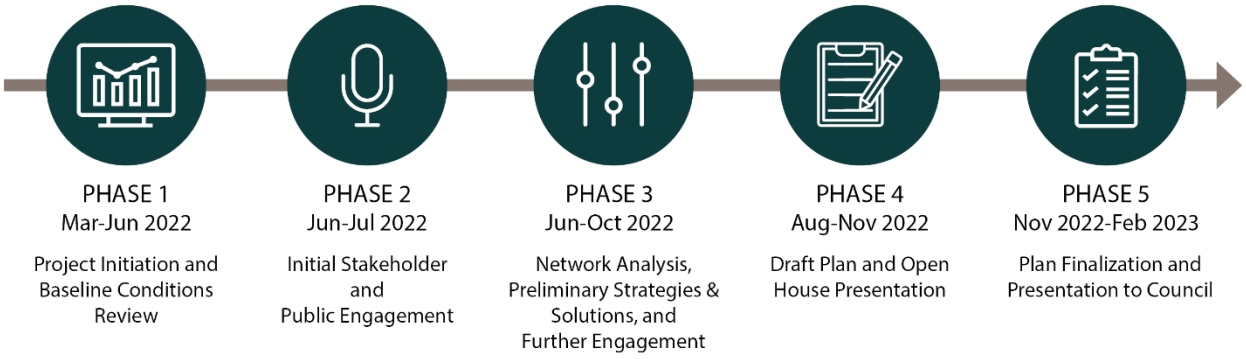


Figure 1 – ATNP Project Phases and Timeline

2.0 COMMUNITY PROFILE

2.1 Location

The Town of View Royal is situated on the traditional territory of the Lekwungen speaking people and is located on the unceded territory of the Esquimalt and Songhees Nations. Nestled between several other jurisdictions such as Esquimalt, Saanich, Langford, Colwood, Highlands, and the Esquimalt and Songhees First Nations; View Royal is a dynamic and inclusive community covering 14.36km^2 of land area.[1]

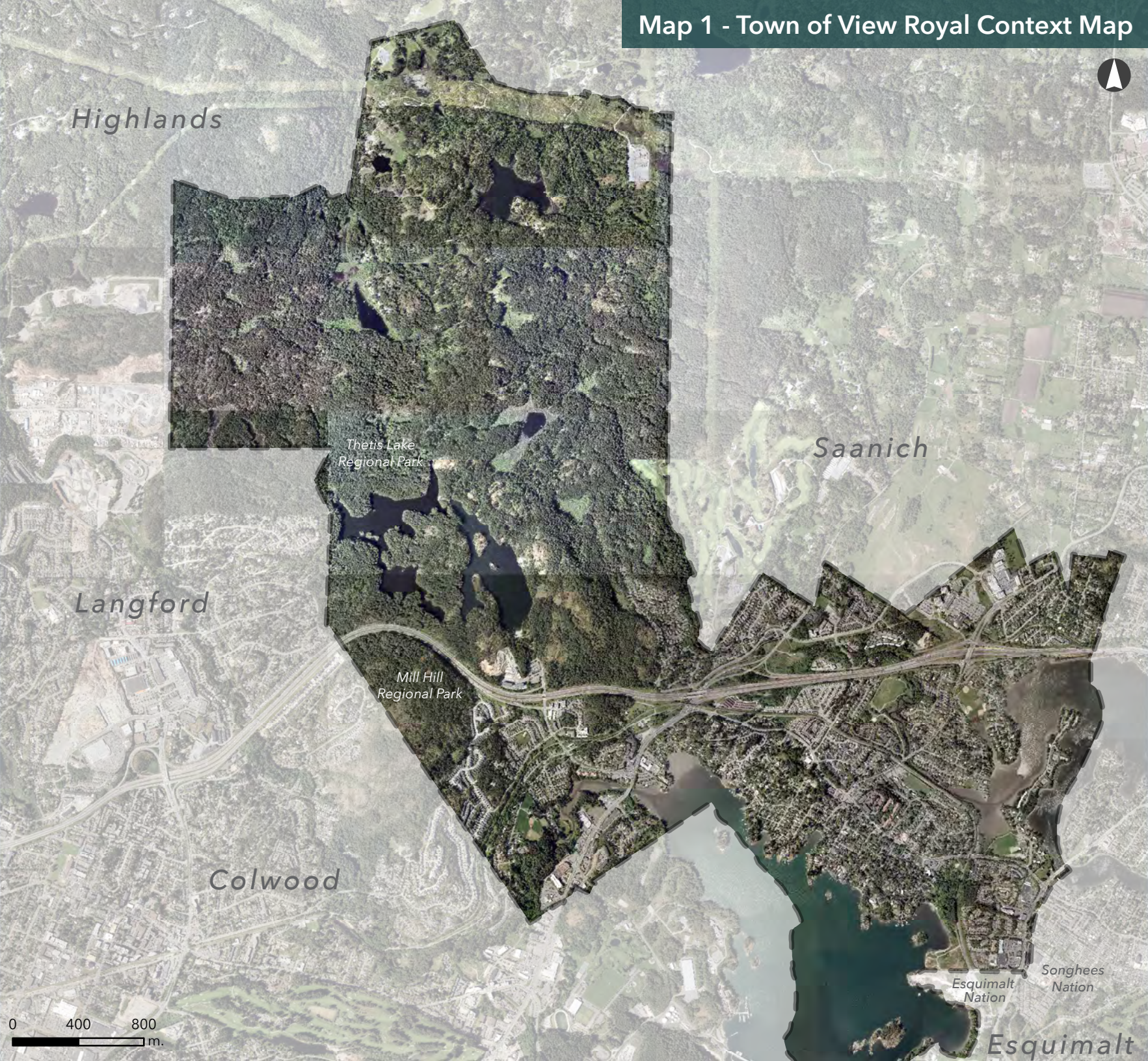
The Town benefits from access to nature, parks, and many natural amenities. Its land use and urban planning have and continue to be centered around the three major transportation corridors – Highway 1 (Trans-Canada), the Island Highway, and the E&N (Esquimalt and Nanaimo) rail corridor. All three corridors contribute to View Royal's importance in the regional transportation system and with two major regional trails traversing the Town, it is a popular destination for active transportation.

A large portion of View Royal belongs to Thetis Lake Park area, while the remaining is primarily residential. Even though there are some commercial hubs and larger employers like Island Health (Victoria General Hospital), most residents (over 80 percent of the population) currently commute to other municipalities for employment.[2]

Map 1 illustrates the geographic boundaries of the Town.

[1] Statistics Canada. (2016). *Census Profile, View Royal*. Available online at: https://tinyurl.com/4s7ybtth
[2] Capital Regional District. (2017). *Origin Destination Household Travel Survey*. Available online at: https://tinyurl.com/33s9naaj

Map 1 - Town of View Royal Context Map

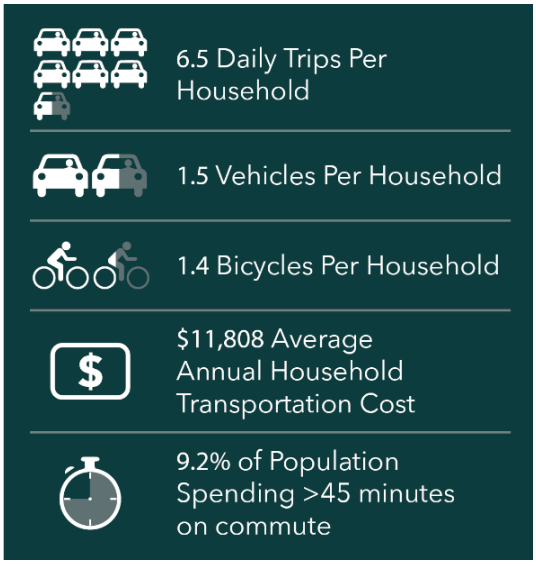


2.2 Demographic Highlights

As of the 2021 Statistics Canada Census, the Town had a population of 11,575 citizens.[3] This represents a population increase of 11% from the 2016 census, suggesting that the community continues to grow. This population increase is slightly higher than what was recorded across the Capital Regional District, which grew by 8% over this time.

The Town's median age is 44.8 years old, which is similar to the median age in the CRD (45.5 years old). Approximately 67% of the population is between the age of 15 to 64 years old, which is the age group that is most expected to use high-quality active transportation facilities and will have the easiest time shifting away from single occupancy vehicles. Of that 67%, 30% are under the age of 30, which is the most likely age group to rely on active transportation.

2.3 How We Move Around Today

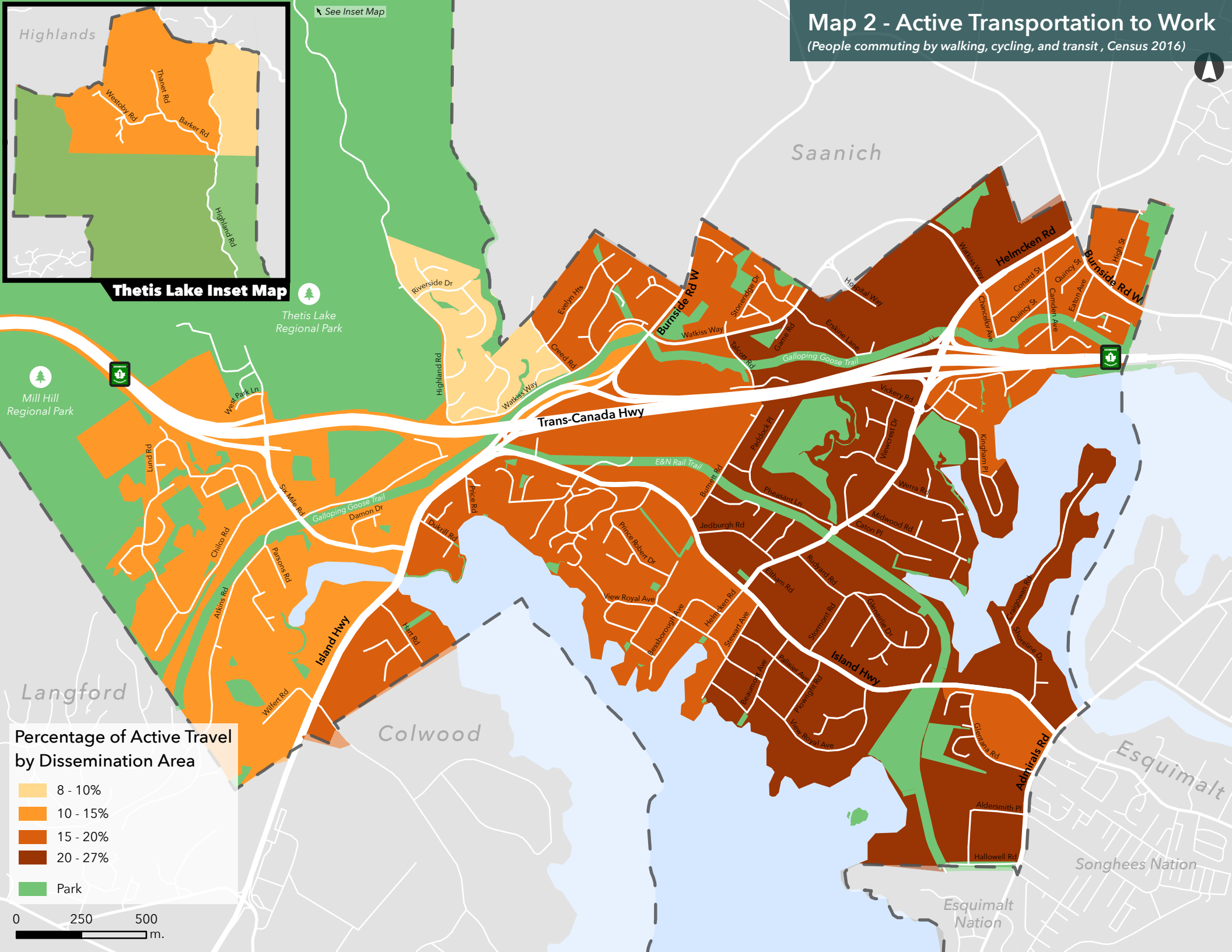


According to Statistics Canada journey to work data, as of 2016, most residents used a vehicle to commute to work, either as driver or passenger (79%), leaving active transportation modes (i.e., cycling, walking, transit) with a combined 19% and 2% for other modes (i.e., school bus, HandyDART, taxi, scooter etc.). Public transit (9%) was second highest in journey to work mode share followed by cycling (5%) and walking (5%). As discussed, only 14% of employed residents work within the Town, while the remaining 86% work outside of View Royal. This indicates that active transportation network planning cannot be done in isolation—the Town must work with neighbouring municipalities to ensure there are safe and direct connections. **Map 2** below illustrates active transportation journey to work by dissemination area. This includes those who commuted by walking, cycling, and transit.

[3] Statistics Canada. (2022). (table). *Census Profile. 2021 Census of Population.* Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released April 27, 2022. Available online at: https://tinyurl.com/3524c24s

Map 2 - Active Transportation to Work

(People commuting by walking, cycling, and transit , Census 2016)



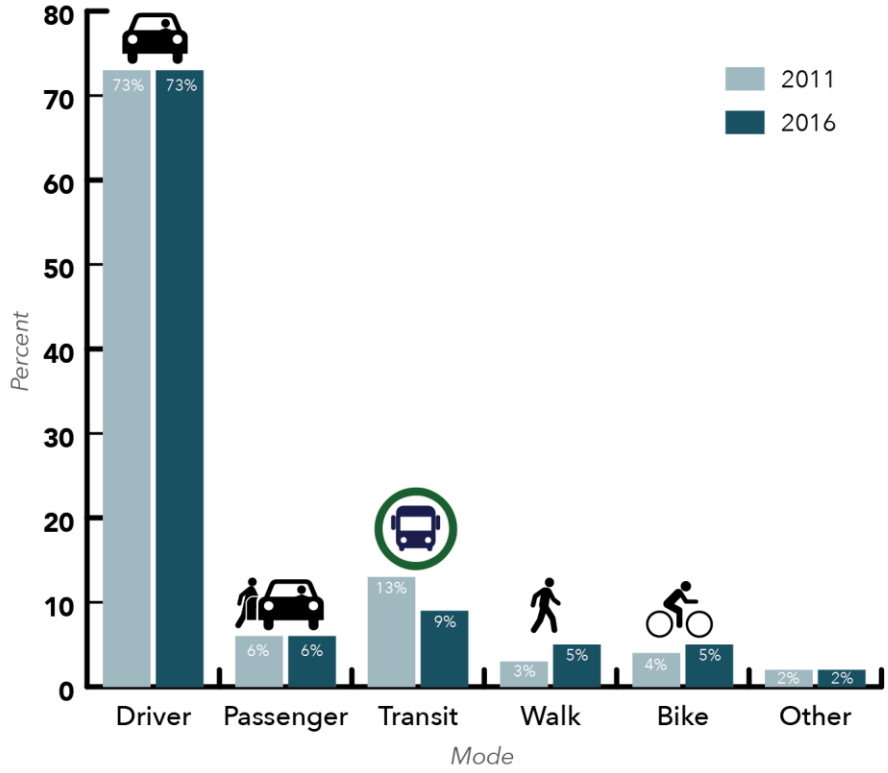


Figure 2 – View Royal Journey to Work Mode Share, 2011 vs. 2016

The 2017 CRD Origin-Destination Household Travel Survey provides data on resident travel patterns throughout the Capital Regional District. The survey reported that approximately 53,100 trips are made within View Royal per day. Of those trips only approximately 5,770 (or 11%) are made internally within the Town, while the remaining trips are going to or coming from other Districts. **Figure 3** provides a summary of the mode split for all trips taken to, from, and within View Royal.

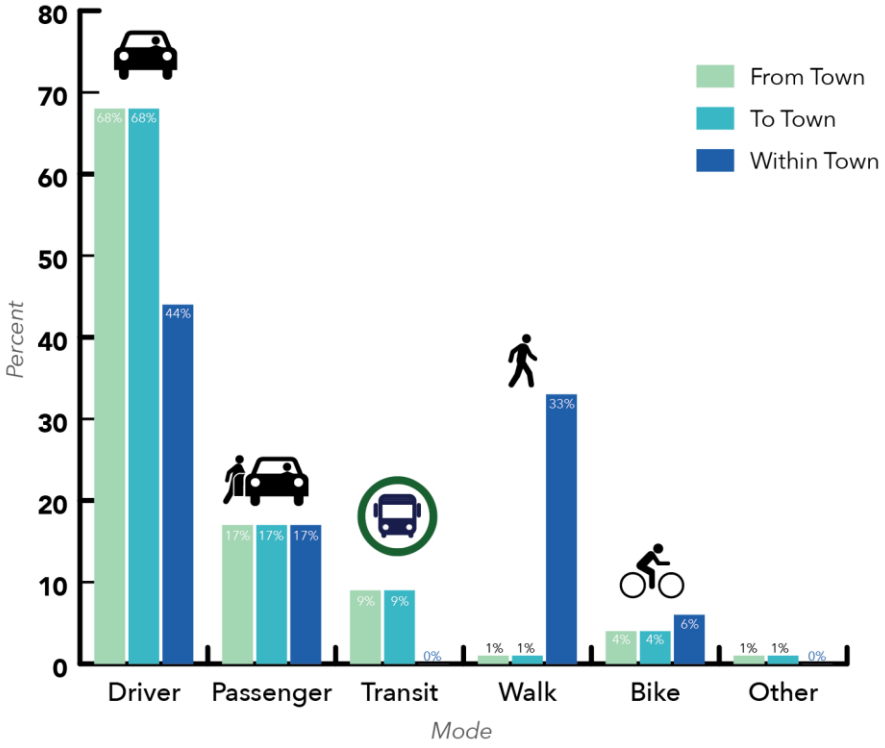


Figure 3 – Mode Split by Travel Mode (2017)

A summary of View Royal's mode share trends from the CRD O-D Household Travel Survey are as follows:

- Vehicle mode share is the highest among all modes but is significantly lower for trips within the Town.
- Transit mode share is less than 1% within the Town but is around 9% for trips to and from View Royal.
- Bicycle mode share is between 4%-6% for all travel destinations.
- 33% of users walk for trips within the Town, which is the second highest mode share for trips within the Town (after auto driver).
- Overall, use of active transportation is highest within the Town (39%); however, there is only a small subset of people that travel within the Town (5,770 trips out of 53,100 trips total).

Table 1 below summarizes View Royal's overall trip distribution for trips to, from, and within the community.

Table 1 – Trips by Travel Mode from, to, and within Town[4]

24 Hours	From Town	To Town	Within Town
Auto Driver	15,960 (68%)	16,040 (68%)	2,560 (44%)
Auto Passenger	4,120 (17%)	4,4040 (17%)	1,000 (17%)
Transit	2,010 (9%)	2,060 (9%)	10 (0%)
Bicycle	1,020 (4%)	1,010 (4%)	320 (6%)
Walk	330 (1%)	330 (1%)	1,880 (33%)
Other	210 (1%)	210 (1%)	- (0%)
Total	**23,650**	**23,680**	**5,770**

As shown above, on a typical day, there are approximately 53,100 trips from, to, and within the Town. Most of the trips leaving View Royal are destined for Saanich West, Saanich East, and downtown Victoria. Most trips entering the Town originate from Saanich East, Saanich North, and Langford. Vehicle trips (auto driver) represent most trips both from and to the Town. However, within the Town, a significantly lower percentage of trips are from vehicles with a higher percentage from walking.

A 2020 Housing and Transportation Cost Estimate Study[5] conducted by the CRD found that the average household in View Royal spends $11,808 on transportation per year, which is one of the highest among Core municipalities (Esquimalt, Oak Bay, Saanich, Victoria, View Royal). However, average household transportation costs in View Royal are still lower than many of the other municipalities within the West Shore and Saanich Peninsula (see **Table 2**).

As concluded in the CRD study, higher transportation costs are largely a product of vehicle ownership and costs are lower in geographies where a broader choice of transportation options are available. The data show that the number of vehicles

[4] This table has been modified from the 2017 CRD Origin-Destination Household Travel Survey (pg. 109)), available online at: https://tinyurl.com/2p94fmv8

owned has a proportionate impact on transportation costs. Even though there does not appear to be a correlation between household bicycle ownership and transportation costs, developing a robust active transportation network with safe routes can make it easier for residents to be less reliant on their vehicles.[6]

Table 2 – Household Transportation Profiles

Jurisdiction	Vehicles per Household	Bicycles Per Household	Avg. Annual Household Transportation Cost
Victoria	1.08	1.13	$7,921
Esquimalt	1.20	1.14	$8,730
View Royal	1.54	1.35	$11,808
Oak Bay	1.60	1.54	$12,115
Saanich	1.67	1.48	$12,294
Average (Core)	1.44	1.33	$10,573
Average (Saanich Peninsula)	1.97	1.54	$14,953
Average (Westshore)	2.12	1.55	$16,375

Overall, between 2011 to 2017, active transportation trips increased in the Town. Whether its trips to, from, or within the Town, the data indicate that active transportation mode share increased by 5-6% (see **Table 3**).

[6] Capital Regional District. (2020). 2020 Housing and Transportation Cost Estimate Study. Available online at: https://tinyurl.com/yckbbk8a

Table 3 – Active Transportation Trips 2011 vs 2017[7]

Year	Active Transportation Mode Share (from Town)	Active Transportation Mode Share (to Town)	Active Transportation Mode Share (within Town)
2011	9%	10%	34%
2017	15%	15%	39%

With this change the number of vehicles per household has decreased from 2011 to 2017 from 1.7 to 1.5. The following is a summary of mode split trends for View Royal compared to other municipalities within the Core, for trips that take place within each municipality:

- View Royal's automobile mode share is similar to that of Esquimalt and Oak Bay with 61% of users travelling by car.
- Transit use within View Royal is the lowest in comparison to all other 'Core' communities.
- View Royal has the second highest mode split for bicycle use (6%) with Victoria having the highest bicycle mode split of 9%.
- The walking mode split is similar to Esquimalt and Oak Bay with 33% of users travelling by foot.

[7] Note: this data is derived from the 2017 CRD Origin-Destination Household Travel Survey. It is showing trips over a 24 hour period. Active transportation includes walking, cycling and transit.

2.4 Land Use + Key Destinations

As a compact community, most residents live within a short distance to key destinations. Key destinations are shown in **Map 3** and summarized below.

Commercial Hubs

Most of the commercial land uses are found on Admirals Road (Admirals Walk) or Island Highway west of Burnside Road. There is also higher commercial density in Eagle Creek Village, where amenities include a grocery store, bank, medical clinic, and several retail stores, cafes, or restaurants. The existing active transportation network provides some connections to most of the commercial hubs / amenities in the community. However, the facilities that are available do not meet all ages and abilities and more must be done to ensure that all commercial destinations are connected by a safe and comfortable active transportation network.

The Town does not currently have a town centre; however, the OCP has identified a future Town Centre, centered around Fort Victoria, which is intended to be connected by greenspace, trails, and multi-modal streets.

Employment Hubs

Employment hubs are also a major trip generator. While most View Royal residents do not work within the Town, major employment hubs see hundreds of commuters from around the region with some using active modes as their main mode for commuting. Employment hubs include Victoria General Hospital, Eagle Creek Village, and the various commercial and retail uses around the community. The Town has designated several "Neighbourhood Centres", which are local-serving mixed-use centres. They include Lakeside Village, Six Mile, Hospital, and Thetis Cove. Neighbourhood centres also offer small pockets of shops to give residents employment opportunities close to where they live. Lastly, "Community Corridors" are much like "Neighbourhood Centres" with the main difference being that they are developed along major transportation corridors and have more of a linear area. They include Western Gateway Community Corridor, Northern Gateway Community Corridor, Helmcken-Harbour Corridor, Eastern Gateway Community Corridor.

Education / Child Care

Schools and educational / childcare facilities generate a significant number of trips and should be prioritized in the active transportation network. If these routes are not safe and accessible for all ages and abilities and do not have connections to transit, parents will continue to use their vehicles for picking up and dropping off their children. The list of primary schools is included below along with the larger childcare facilities:

- View Royal Elementary
- View Royal Preschool
- Island Kids Academy
- Eagle View Elementary
- Shoreline Community Middle School

Culture[8]

There are several venues which may host cultural events within View Royal. These venues include the following:

- View Royal Community Centre
- View Royal Reading Centre
- View Royal Town Hall
- View Royal Public Safety Building
- Craigflower Community Centre
- Elements Casino

View Royal is within unceded traditional territories of Lekwungen Peoples, which have a vast historical culture and connection to the land to this day.

Recreation

View Royal residents are active due in part to the diverse recreational opportunities available to them. There are several major parks and recreational facilities within the Town's border. Some of these recreational facilities include:

- Thetis Park
- Portage Park
- View Royal Park
- Helmcken Centennial Park
- Several beaches such as Midwood Beach and Stewart Beach

Further, while the Galloping Goose Trail and E&N Trail are excellent commuter trails, they also provide safe recreational use for many people who enjoy cycling, rolling, or

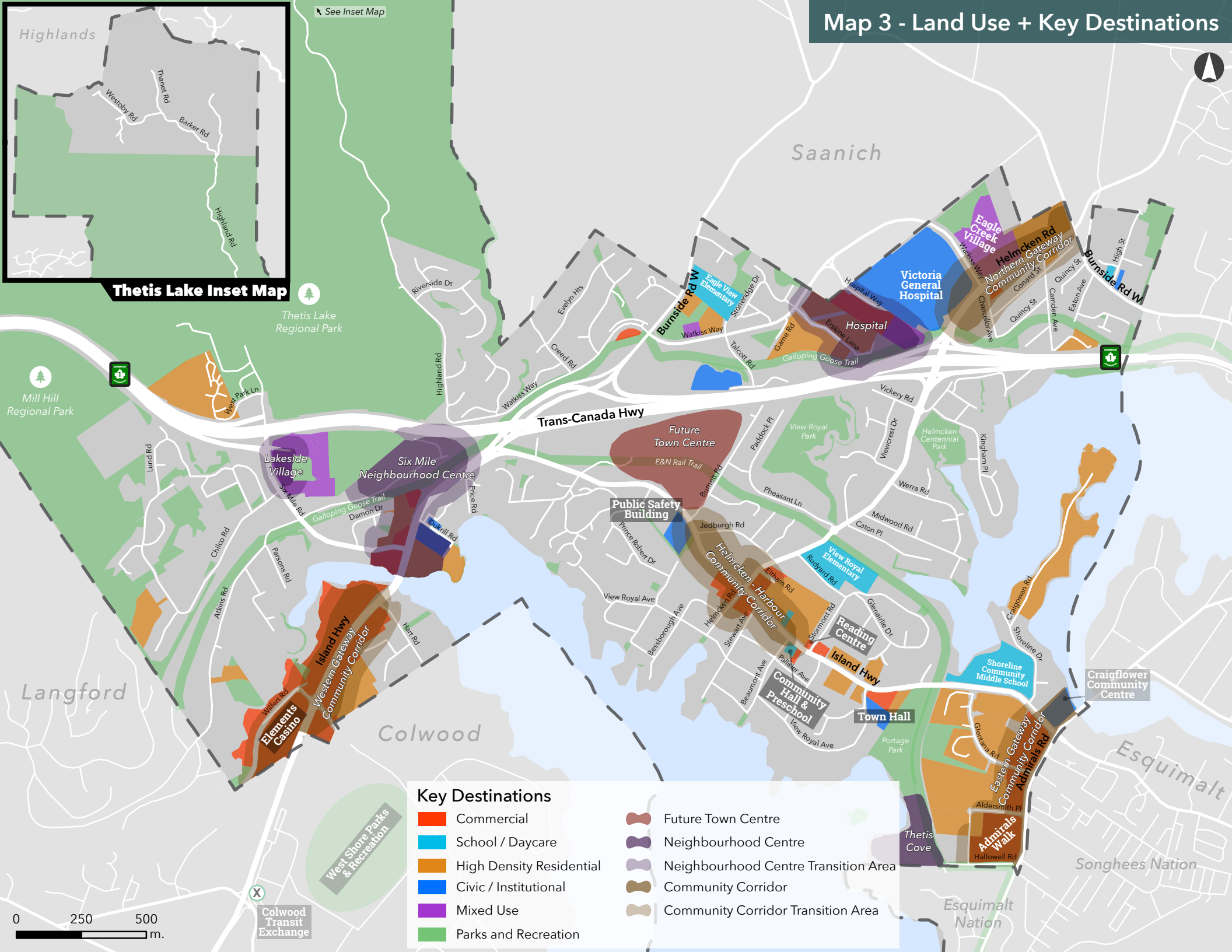
[8] Town of View Royal. Community Profile. Available online at: https://tinyurl.com/ye24kwu7

walking. Many of the Town's parks are in proximity to the regional trails and have potential to play a vital role in active connections for recreational purpose. Notably, View Royal is also member of the West Shore Parks & Recreation, a 44-hectare site offering a wide variety of fitness, recreation health and wellness programs.

Higher Residential Density Areas

Even though the Town has commercial uses, it is predominantly residential. The View Royal OCP update has identified "Neighbourhood Centres", which are areas where additional growth is anticipated. The Town would like to see more diverse and higher density housing within these nodes, which promote walkability and connection to mixed-use development. These pockets of higher density residential and mixed-use areas will be vital active transportation connections for the community.

Map 3 - Land Use + Key Destinations



Key Destinations

- Commercial
- School / Daycare
- High Density Residential
- Civic / Institutional
- Mixed Use
- Parks and Recreation
- Future Town Centre
- Neighbourhood Centre
- Neighbourhood Centre Transition Area
- Community Corridor
- Community Corridor Transition Area

2.5 Equity

Over the last 10 years, equity has become a more prominent part of active transportation planning in North America. The BC Active Transportation Design includes equity as one of the key guiding principles for inclusive mobility.[9] It provides the following definition:

WHAT IS EQUITY?

Equity as it relates to transportation refers to the distribution of impacts (benefits and costs) and whether the distribution of impacts is considered fair and appropriate.

-BC Active Transportation Design Guide

Equity as it relates to transportation refers to the distribution of impacts (benefits and costs) and whether the distribution of impacts is considered fair and appropriate. Equity impacts can include the quality of available transportation choices, indirect and external costs, transportation expenditures, and public resource allocation, among others. Well designed and maintained facilities make access to transportation more equitable by allowing active modes to travel safely and comfortably.

Even though equity is becoming more commonplace in active transportation planning, Canadian municipalities are still trailing their US counterparts. In the US, several publications and guidelines have been produced on the topic of active transportation and equity including a 2015 report called "At the Intersection of Active Transportation and Equity", which outlines how various US cities are addressing equity challenges within their transportation networks.[10]

In Canadian municipalities such as View Royal, there is an opportunity to better integrate equity considerations in active transportation planning. This means ensuring that equity-seeking[11] populations (which could include First Nations, lower-income

[9] Government of BC. (2019). BC Active Transportation Design Guide. Chapter B: Setting the Context. Available online at: https://tinyurl.com/4ctfxh7e

[10] Safe Routes to School National Partnership. (2015). At the Intersection of Active Transportation and Equity. Available online at: https://tinyurl.com/3w255r7h

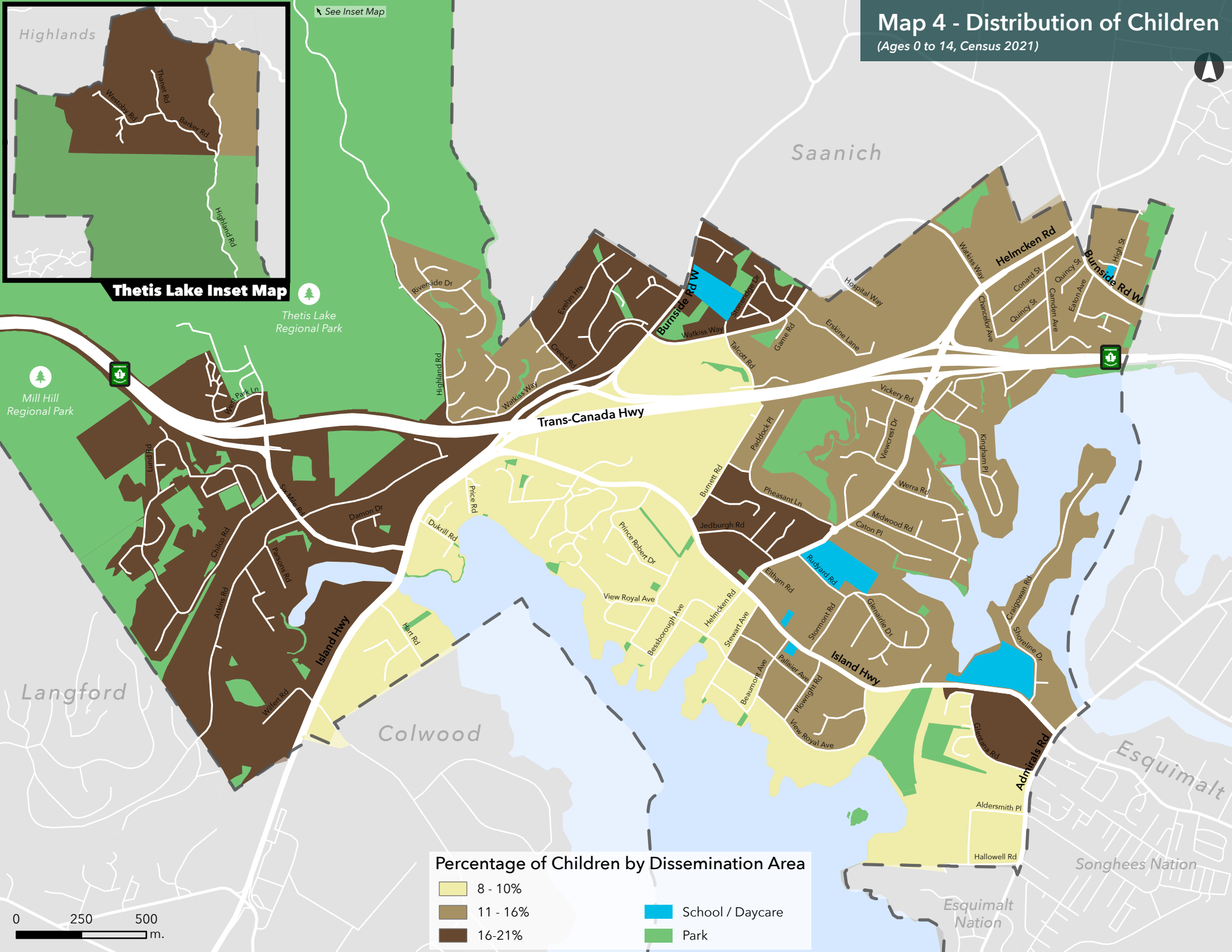
[11] According to the Canada Council for the Arts, "equity-seeking groups" are defined as "Equity-seeking groups are communities that face significant collective challenges in participating in society. This marginalization could be created by attitudinal, historic, social and environmental barriers based on age, ethnicity, disability, economic status, gender, nationality, race, sexual orientation and transgender status, etc. Equity-seeking groups are those that identify barriers to equal access, opportunities and resources due to disadvantage and discrimination and actively seek social justice and reparation." More information is available online at: https://tinyurl.com/4jvfx7wz

populations, single-parent families)—who may be less likely to own a vehicle—have access to high-quality active transportation facilities. There are several indicators that provide insight on transportation equity, as follows:

- Median household income
- The distribution of children (ages 0-14) in the community
- The distribution of older adults (aged 65+) in the community
- The number of single parent households

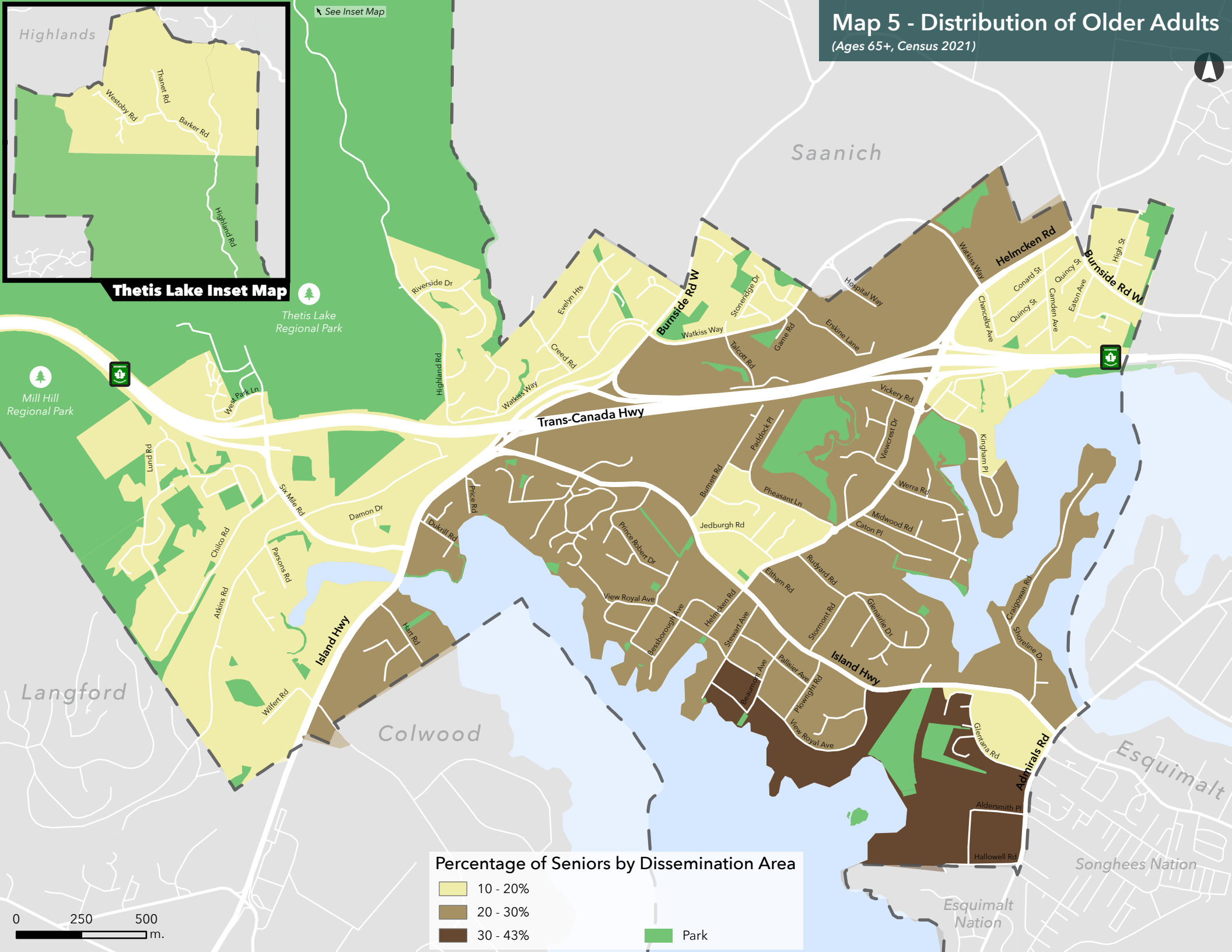
Map 4-6 illustrate these equity indicators. Key findings from the maps, per the 2016 census, include:

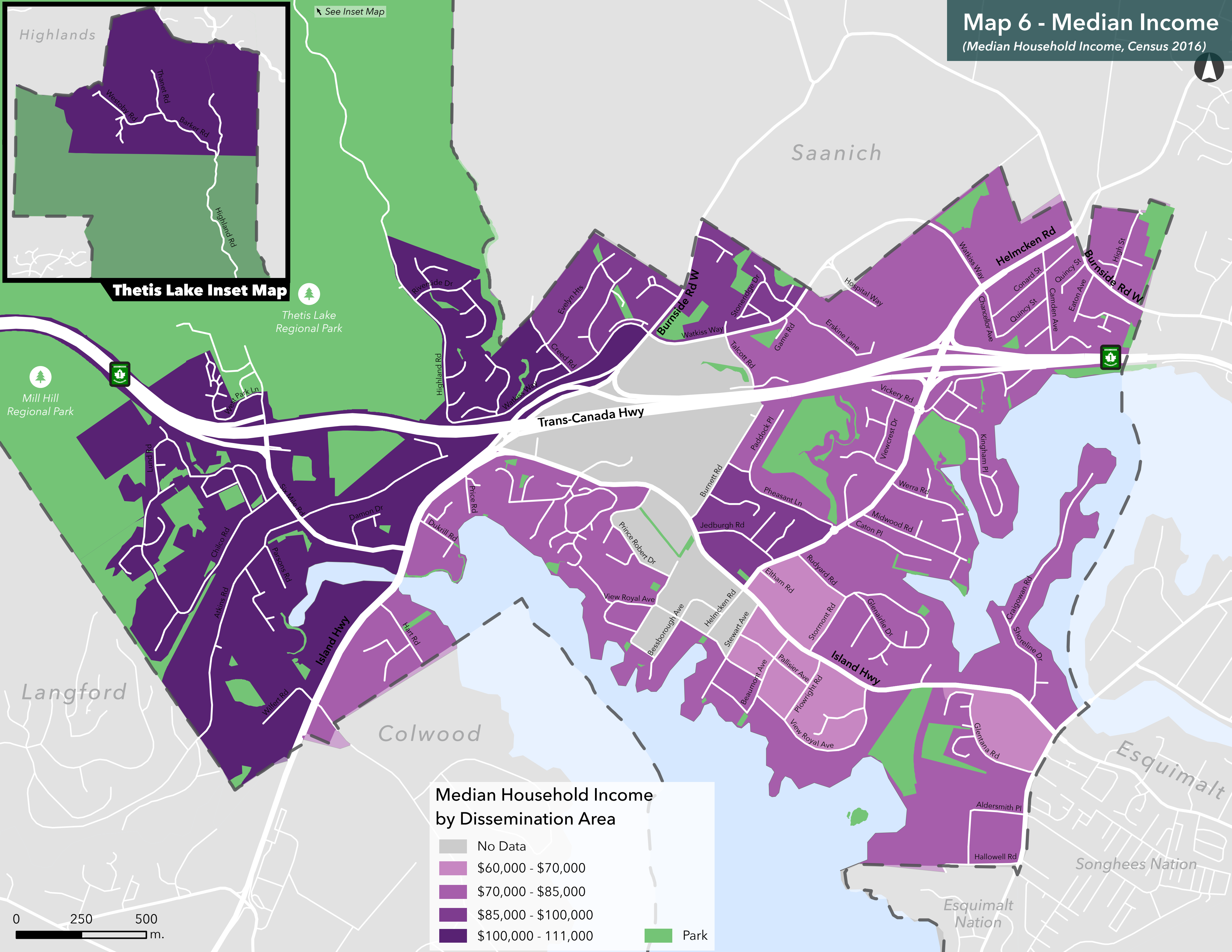
- Households on the lower side of the median income scale are more concentrated in proximity to Island Highway between Helmcken Road and Admirals Road. As discussed in **Section 6.4** and **7.5**, there are several barriers in the active transportation network within these areas, which makes it harder for people who may not have access to a vehicle to use active transportation.
- The dissemination areas with the highest percentage of children are located far away from schools and childcare facilities. This may be resulting in parents relying on their vehicles for drop-off and pick-up activity.
- The dissemination areas with the highest percentage of older adults are located along Admirals Road and south of Island Highway. Both areas have poor active transportation facilities as discussed in **Section 6.4** and **7.5**, which make it harder for older adults to walk, roll, or cycle to key destinations.
- Lastly, even though the Esquimalt and Songhees First Nations have easy access to the E&N Rail Trail, the overall active transportation conditions of Admirals Road are poor and unsafe for people walking and cycling.


Map 4 - Distribution of Children
(Ages 0 to 14, Census 2021)
Thetis Lake Inset Map
See Inset Map
Highlands
Westoby Rd
Thorne Rd
Barker Rd
Highland Rd
Thetis Lake Regional Park
Mill Hill Regional Park
Saanich
Langford
Colwood
Esquimalt
Songhees Nation
Esquimalt Nation
Trans-Canada Hwy
Island Hwy
Helmcken Rd
Burnside Rd W
Admirals Rd
Percentage of Children by Dissemination Area
8 - 10%
11 - 16%
16-21%
School / Daycare
Park
0
250
500
m.

Map 5 - Distribution of Older Adults

(Ages 65+, Census 2021)




Map 6 - Median Income
(Median Household Income, Census 2016)
Median Household Income by Dissemination Area
No Data
$60,000 - $70,000
$70,000 - $85,000
$85,000 - $100,000
$100,000 - 111,000
Park
0
250
500
m.
Thetis Lake Inset Map
See Inset Map
Highlands
Saanich
Langford
Colwood
Esquimalt
Songhees Nation
Esquimalt Nation
Thetis Lake Regional Park
Mill Hill Regional Park
Trans-Canada Hwy
Island Hwy
Helmcken Rd
Burnside Rd W
Westoby Rd
Thanet Rd
Barker Rd
Highland Rd
Riverside Dr
Evelyn Hts
Creed Rd
Watkiss Way
Stoneridge Dr
Hospital Way
Erskine Lane
Talcott Rd
Game Rd
Chancellor Ave
Conard St
Quincy St
Camden Ave
Eaton Ave
High St
West Park Ln
Lund Rd
Six Mile Rd
Damon Dr
Chilco Rd
Atkins Rd
Parsons Rd
Willert Rd
Hart Rd
Price Rd
Dukrill Rd
Prince Robert Dr
View Royal Ave
Bessborough Ave
Stewart Ave
Burnett Rd
Jedburgh Rd
Paddock Pl
Pheasant Ln
Vickery Rd
Viewcrest Dr
Kingham Pl
Werra Rd
Midwood Rd
Caton Pl
Eltham Rd
Rudyard Rd
Stormont Rd
Glenairlie Dr
Beaumont Ave
Pallisier Ave
Plowright Rd
Craigowan Rd
Shoreline Dr
Glentana Rd
Aldersmith Pl
Hallowell Rd

3.0 POLICY & PLANNING CONTEXT

The Town has several planning and policy documents that have direct relevance to active transportation. A summary of those plans is provided below. Then, a summary of relevant policy direction from neighbouring municipalities is included.

3.1 Town Documents

The following Town documents that were reviewed and have significant relevance to the development of this plan are as follows:

- Strategic Plan (2019-2022)
- Official Community Plan Update
- Transportation Master Plan
- Traffic Calming Policy
- Community Climate Action Strategy
- Parks Master Plan

RELEVANCE TO ATNP

Sets a target of achieving 25% of all trips to work and school by walking, cycling, and transit.

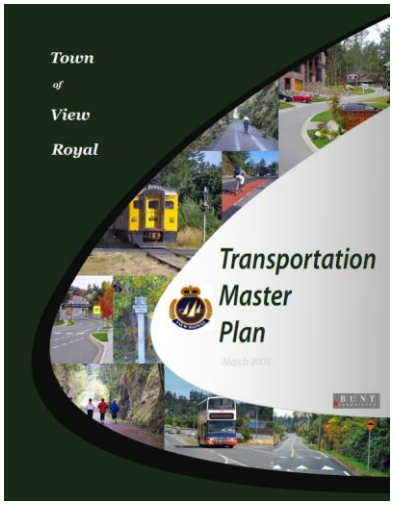
Strategic Plan (2019-2022)

The Strategic Plan identifies six strategic priorities that lay the groundwork for View Royal's ten to twenty-year (and beyond) vision. Two strategic priorities are pertinent to the ATNP:

1. **Enhance Livability in View Royal.** Goal 1 is to "Shift primary transport mode within View Royal away from vehicles to walking, cycling, and transit with a target of "25% of trips to work and school made by transit / walking / cycling (Census Data)".
2. **Environmental Stewardship**. Goal 1: Respond to the declared climate action emergency by reducing greenhouse gas emissions in our community. Goal 2: Support climate change mitigation and adaptation measures with an emphasis on transportation systems and energy efficient buildings. The target is to decrease per capita GHG emissions for buildings and transportation by 2030 based on 2012 Community Energy and Emissions Inventory Report. Goal 3: Accelerate a transition to low carbon transportation modes within the Town.

RELEVANCE TO ATNP

Builds on the Strategic Plan and highlights the need to create policies that promote walking, cycling, and transit.



RELEVANCE TO ATNP

Contains several recommended actions for the pedestrian and cycling networks that have not yet been implemented. These actions will be revisited in the ATNP.

Official Community Plan (currently being updated)

The Town last updated its Official Community Plan (OCP) in 2011, providing a long-term vision for the community and guidance on future planning and development. The Town is currently in the process of updating the OCP and one of the topic areas is "Moving Around". The OCP update has identified several key actions that will be reflected in the ATNP:

- Take a targeted approach to achieving our goal of 25% of all trips to work and school being made by transit / walking / cycling.
- Plan for both shorter term and long-term sidewalk and bike path construction and upgrades
- Improve existing infrastructure for safer routes to school
- Advocate for a future commuter ferry to Colwood/Victoria

Transportation Master Plan (2008)

The Town of View Royal adopted its Transportation Master Plan (TMP) in 2008. The TMP is focused on directing the Town to provide additional capacity for alternative modes of transportation while making the existing road infrastructure work more effectively. The TMP contains several objectives, one of which is directly relevant to the ATNP:

"The transportation system should enhance the quality of life of the community by providing a network of interconnected and safe bicycle paths, routes, trails, and pedestrian facilities."

Section 6.1 of the TMP identifies several recommended improvements for walking and cycling. Due to the fact that the TMP was drafted over 14 years ago, all the relevant recommended improvements will be revisited as part of developing the ATNP.

Traffic Calming Policy (2014)

The Town's Traffic Calming Policy describes its approach to neighbourhood traffic calming. It presents the process, potential mitigation measures, monitoring, and funding for traffic calming. The Traffic Calming Policy states that all Arterial and Collector Roads, including Island Hwy, Atkins Rd, Helmcken Rd, Burnside Rd, are ineligible for traffic calming measures. It also identifies that Six Mile Rd and Watkiss Way as being ineligible. The policy permits measures only on Local Roads and reiterates that the universal speed limit on local streets is 50 km/hr.

RELEVANCE TO ATNP

The policy supports the use of several traffic calming measures that could support the cycling network.

Community Climate Action Strategy (2022)

The Town's Community Climate Action Strategy outlines a path towards a low carbon future: a future where residents experience the benefits of a connected, healthy, and economically prosperous community while taking action on climate change and adapting to climate impacts.

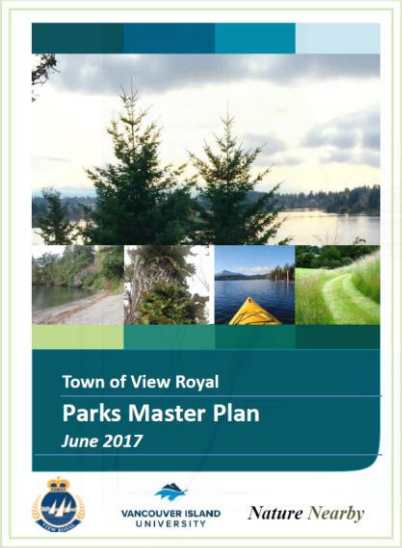
Passenger vehicles are responsible for 45% of the greenhouse gas emissions generated from residents and businesses in View Royal. One of the big moves in the strategy is to "Shift Beyond the Car". This includes four distinct objectives:

1. More accessible active transportation, transit, and shifts in land use patterns result in each resident making 75 fewer trips in their personal vehicle each year.
2. Streets have been reimagined to prioritize active, public, and low carbon transportation options.
3. New neighbourhoods are designed to maximize car-free options, and are fully connected via bike paths and transit options.

RELEVANCE TO ATNP

The strategy identifies the significant impact of the transportation sector on GHG emissions. It envisions a zero-emission transportation system that connects View Royal with the region and aligns with provincial mode share targets. It calls for streets to be redesigned prioritize the needs of people walking, biking and rolling more….

4. Appropriate facilities for bike storage and e-bike charging are located in strategic hubs to support emission-free commuting.



RELEVANCE TO ATNP

It identifies the most frequented parks in View Royal. Includes actions for the pedestrian and cycling networks that have not yet been implemented and will be considered in the ATNP process.

Parks Master Plan (2017)

The Town's Parks Master Plan identifies opportunities to connect people to nature and recreation to maintain a high quality of life in View Royal. There are eight goals that have been introduced for View Royal to achieve its vision and to support and enhance the health of the community for residents, wildlife, and ecosystems. Goal Six "Improve Access to Parks", relates directly to the development of this ATNP, with two specific objectives that will be taken into consideration:

1. Increase the connectivity of transit and bike paths to the parks system
    a. Park proximity to a transit stop on well-serviced routes
    b. Improvements to the Old Island Hwy including cycling lanes and sidewalks along the entire length of the roadway
    c. Identify potential pedestrian crossings at safe locations to accommodate pedestrian traffic
    d. Enhance gateways at key connection points between the E&N Rail Trail and the Town
    e. Improve trail connections / quality to Thetis Lake & Mill Hill Regional Parks
2. Increase the accessibility of parks for all users

3.2 Neighbouring Jurisdictions

View Royal is surrounded by five municipalities and two First Nations in the Capital Region. Two of those municipalities—the District of Saanich and Township of Esquimalt—have adopted active transportation plans in the last 5 years. This section provides a brief description of those plans and their relevance to the View Royal ATNP, as well as the documents available from the other jurisdictions.

3.2.1 District of Saanich

District of Saanich Active Transportation Plan (2018)

The District of Saanich released its Active Transportation Plan (Moving Saanich Forward) in 2018.[12] The District's Plan identifies where Saanich needs to invest in active transportation over the next 30 years. There are opportunities to coordinate with Saanich to ensure that the pedestrian and cycling network is well connected and allows for connections between View Royal and Saanich.

Saanich's long-term pedestrian and bicycle network priorities for the south-west area of the municipality include:

- **Pedestrian Improvements and Cycling Infrastructure** on Burnside Road West and Watkiss Way, both of which connect to the Town.
- **All Ages and Abilities Cycling Infrastructure** on Admirals Road crossing the bridge and connecting to View Royal and Esquimalt.

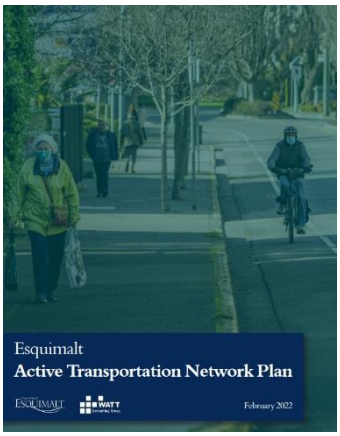
The District of Saanich and Town of View Royal collaborated on the Craigflower Bridge Replacement Project. The bridge includes an all ages and abilities multi-use pathway, which represents a significant improvement in the pedestrian and cycling conditions. There are painted bike lanes on Admirals Road south of the bridge that terminate at the Admirals Road / Craigflower Road intersection. The ATP recommends an AAA facility, which could include upgrading of the painted bike lanes to protected bikes lanes.

Lastly, the ATP identifies Saanich's commitment to support initiatives by the Capital Regional District to widen or improve the system of regional trails.

[12] District of Saanich. (2018). Moving Saanich Forward: Active Transportation Plan. Available online at: https://tinyurl.com/yckntm56

The Craigflower Bridge includes a AAA multi-use pathway on the east side. The lack of cycling infrastructure on Admirals Road south of Craigflower Road presents a major gap in the network and will require attention in the ATNP. Image credit: Herold Engineering

3.2.2 Township of Esquimalt



Township of Esquimalt Active Transportation Network Plan (2022)

The Township of Esquimalt developed its first Active Transportation Network Plan in 2022.[13] It provides a path to elevate active transportation in Esquimalt and help in achieving the community's broader strategic priorities including a healthy, livable, diverse community over the next 15 years.

[13] WATT Consulting Group & Township of Esquimalt. (2022). Esquimalt Active Transportation Network Plan. Available online at: https://tinyurl.com/bdzfvxae

The ultimate cycling network in the Esquimalt ATNP identifies several critical connections to View Royal including:

- Improve the E&N Rail Trail at several crossings with Major Roads
- Protected bike facilities are recommended for the entire Admirals Road corridor, linking south and north Esquimalt and connecting with View Royal and Saanich
- Protected bike facilities are recommended for the entire Craigflower Road corridor, linking Esquimalt, Saanich, and Victoria to View Royal.
- The Esquimalt ATNP calls for reducing posted speed limits to improve safety as speeds are a major factor in creating pedestrian and bike friendly environment. All Major Roads, including Craigflower and Admirals, should be posted at 40 km/hr. All Residential Collectors and Local Roads should be posted at 30 km/hr.

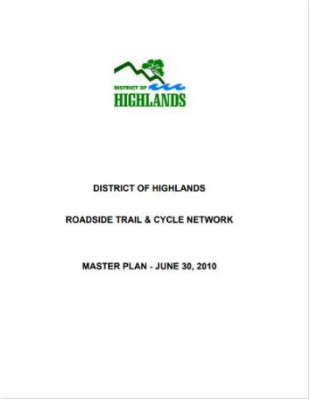
3.2.3 City of Colwood

The City of Colwood is currently developing its first Active Transportation Network Plan and it is expected to be finalized in the summer 2022. The recommendations from that plan will be taken into consideration when developing View Royal's active transportation network to ensure coordinated and consistent planning for both municipalities.

3.2.4 City of Langford

The City of Langford does not currently have an active transportation plan, however it does provide painted bike lanes on some major roads and sidewalks on most.

3.2.5 District of Highlands

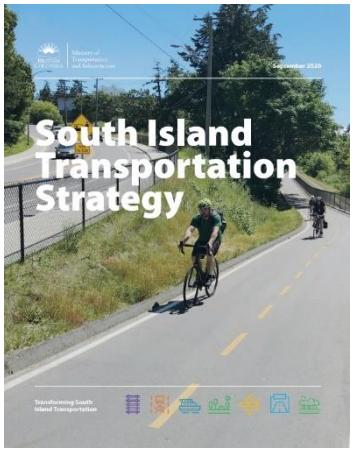


District of Highlands Roadside Trail & Cycle Network (2010)

The District does not have currently a Master Transportation or Active Transportation Plan. This plan focuses on municipal road rights-of-way, provides a planning framework, an assessment of resident opinions, an evaluation of trail standards, routes, and costs, and implementation recommendations. The plan recommends trails along Millstream Road, Millstream Lake Road south of Munn Road, most of Munn Road, and Woodridge Place. These streets have low relevance to the ATNP as they do not connect directly to View Royal.[14]

3.3 Regional Documents

There are several planning documents and studies at the regional level that have relevance to the ATNP. The most relevant regional documents are shown below.



Ministry of Transportation and Infrastructure (MoTI) South Island Transportation Strategy

The South Island Transportation Strategy[15] is an integrated approach to support and encourage travel choices that recommends focused investments on transportation infrastructure that builds connections and capacity and improves safety and choices for sustainable travel.

[14] District of Highlands. (2010). Roadside Trail & Cycle Network. Available online at: https://tinyurl.com/37spkef9
[15] Urban Systems. (2020). South Island Transportation Strategy. Technical Report no.2. Available online at: tinyurl.com/2p9yuv66

As a high-level strategy document, it does not provide detailed recommendations at the municipal level; however, there are two improvement opportunities relevant for View Royal:

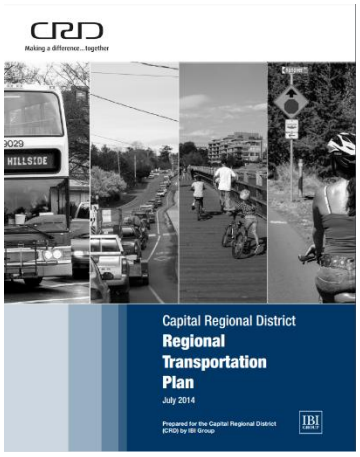
1. Overall improvements to the Galloping Goose Regional Trail including potential trail widening and user / grade separation on select segments.
2. A Park and Ride facility at Six Mile where Highway 1, Old Island Highway and Burnside Road meet and where the Galloping Goose and E&N Trails converge. A Park and Ride would facilitate cycling and vehicle trips to access public transportation and carpooling, as well as appeal to commuters that rely on the well-used Helmcken Road P&R facility.

BC Transit Esquimalt-View Royal Local Area Transit Plan (2021)

This plan builds upon the 25-year vision for development of the Victoria Regional Transit System identified in the 2011 Transit Future Plan.[16] It provides specific transit network modifications, service level changes and infrastructure improvements to support the development of the transit network within the Township of Esquimalt, the Songhees Nation, the Esquimalt Nation, and the Town of View Royal.

While the plan is focused on transit related improvements, it recognizes the important connection between transit and active transportation. The plan indicates that all active transportation infrastructure recommendations need to consider the potential impacts on transit service delivery.

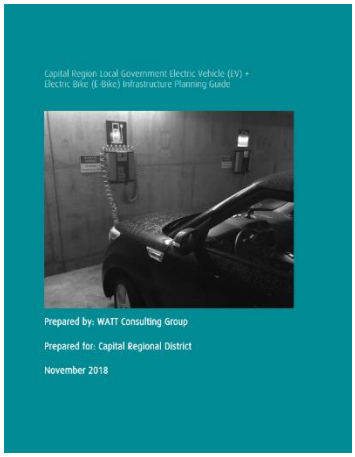
[16] BC Transit. (2021). *Victoria Regional Transit System. Esquimalt-View Royal Local Area Transit Plan*. Available online at: https://tinyurl.com/yavtdrtt



CRD Regional Transportation Plan (2014)

The Regional Transportation Plan (RTP) guides any transportation planning and development in the Capital Region for a 25-year span.[17] The RTP identifies immediate priorities and long-term strategies to guide planning and development of a regional multi-modal transportation system that meets future growth demands and is focused on sustainability.

Regional Outcome Statement 2 of the RTP directs the CRD to work with municipalities to establish 'mobility hubs', which are locations of regional activity and regional destinations where transportation modes will integrate seamlessly and efficiently, and where both the traveler environment and urban form will encourage transit, active transportation and other alternatives to driving alone. A mobility hub is identified in the 'View Royal Town Centre'.



CRD EV & E-bike Infrastructure Planning Guide (2018)

The Capital Regional District Electric Vehicle + Electric Bike Infrastructure Planning Guide[18] contains strategies for local governments and electoral areas, as well as private development, to expand EV and E-Bike charging infrastructure in the Capital Region. It provides detailed direction on several topics including e-bike parking design guidelines for new developments. Even though the Town's Zoning Bylaw contains requirements for energizing Class 1 bicycle parking spaces, it does not provide direction on parking design guidelines for non-standard bicycles such as electric bikes.

[17] IBI Group. (2014). *Capital Regional District Regional Transportation Plan*. Available online at: https://tinyurl.com/483kj5vc

[18] WATT Consulting Group. (2018). *Capital Region Local Government Electric Vehicle + Electric Bike Infrastructure Planning Guide*. Available online at: https://tinyurl.com/mtt6s6xx

4.0 STREETS & TRAFFIC

4.1 Street Classification

The Town of View Royal is a highly interconnected community that is well served by transportation infrastructure. There are approximately 52.6 kilometres of roads that are within the Town's jurisdiction, which excludes provincial and strata owned roads. The Town's street network comprises three types of road classification as follows:

- Arterial Road
- Collector Road
- Local Road

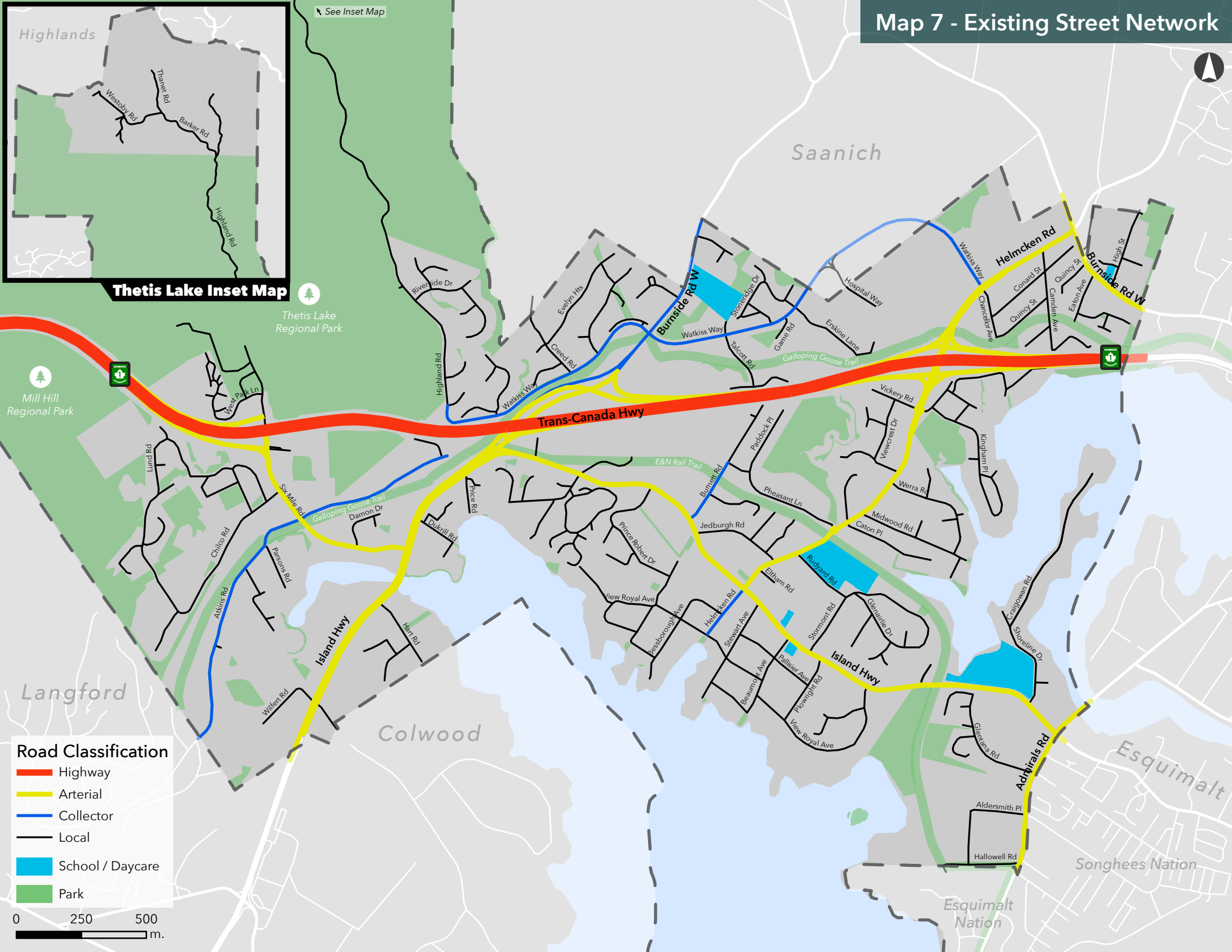
There is also the provincial highway—Trans-Canada Highway (Highway 1)—which runs through the community. **Map 7** shows the street classifications. Each road classification will require different treatments to accommodate all ages and abilities. Local roads typically have a lower posted speed and volume, while arterial roads have higher posted speeds and vehicle volumes. People walking and cycling should be accommodated on all collector and arterial roads, but greater protection is required. Collector roads work to connect local roads to arterial roads and will be vital to ensure that they are accessible for active users. **Table 4** presents the street classifications based on overall length in kilometers.

Table 4 – Existing Street Network Inventory

Road Classification	Length (km)	Percentage
Highway	9.7	11%
Arterial Roads	21.6	25%
Collector Roads	3.2	4%
Local Roads	51.8	60%
Total	**86.3**	**100%**

Overall, the existing street network will provide a useful baseline on the types of streets within the Town, which will help guide the implementation and integration of various active transportation facilities through the ATNP process.

Map 7 - Existing Street Network



4.2 Traffic Volumes

For the purposes of the ATNP, traffic volume data was collected from CRD count stations and organized by WATT Consulting Group. The data is expressed as the average daily two-way traffic (AADT) volumes for a weekday period. **Map 8** presents a summary of the 2022 traffic volume data. Data from 2018 to 2022 were utilized for corridors that did not have 2022 data. For data that were not collected in 2022, a growth factor of 1.5% per year was applied, which is consistent with the growth rate that was used in the Town's 2008 Master Transportation Plan.

Island Highway is one of the busiest vehicle corridors in View Royal. This is an example of a section where people cycling must share the road with vehicles, which is not suitable for all ages and abilities.

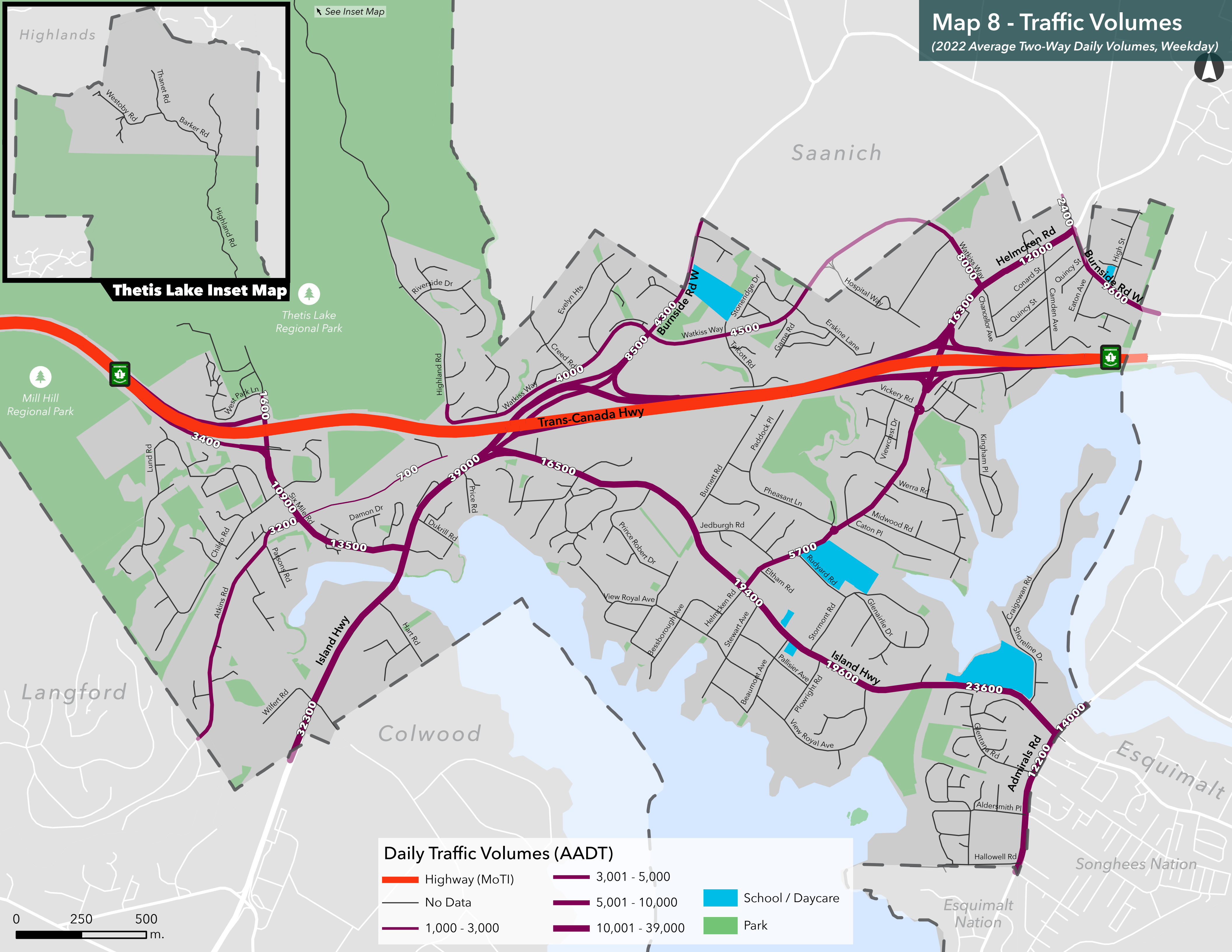
As shown in **Map 8**, arterial roads have the highest traffic volumes. A summary of the traffic volumes data is provided below.

- The road with the highest traffic volumes is **Island Highway**, with its corridor ranging from 16,500 to 39,000 vehicles per day. Island Highway, which is an arterial road,[19] plays a regional role as an alternate route to Highway 1 and a key link to the West Shore and Esquimalt. The portion heading to Colwood (which sees the highest volumes) is home to commercial and employment related uses, whereas the segment closer to Esquimalt runs by the Shoreline Community Middle School, key destinations such as the Community Hall, Public Safety Building, Reading Centre, and the Town Hall.
- **Helmcken Road**, north of Highway 1, also has high traffic volumes with up to 16,300 vehicles per day. A significant portion of this traffic is attributed to the Victoria General Hospital, commercial and employment related uses at Eagle Creek Village, and higher residential density along the corridor. South of Highway 1, traffic volumes drop significantly with approximately 5,700 vehicles per day. Although the View Royal Elementary School is situated in that stretch the remainder of that corridor is consisted with lower density residential.

[19] For the purposes of the traffic volumes analysis and mapping, Island Highway has been classified as an 'Arterial Road'. The Town's Subdivision and Development Servicing Bylaw classifies Island Highway as a "Major Road".

- **Admirals Road** is another busy corridor with volumes ranging from 12,200 to 14,000 vehicles per day. A significant portion of this traffic is attributed to employees working at the Canadian Forces Base and the Shipyards / Graving Dock in Esquimalt.
- **Watkiss Way**, between Burnside Road West and Helmcken Road, has 8,000 vehicles per day. Those volumes predominantly are affiliated with the Victoria General Hospital, commercial and employment related uses at Eagle Creek Village.
- **Burnside Road West** is long street that is cut by the District of Saanich in two segments. The west portion, north of Highway 1, sees approximately 8,500 vehicles per day, significantly lower number than Island Highway just south of Highway 1. The east portion of Burnside Road West is split by Helmcken Road; the northern part of the street sees 2,400 vehicles per day compared to 9,600 vehicles per day south of Helmcken Road.
- **Six Mile Road** is a busy corridor with volumes ranging from 10,900 to 13,500 vehicles per day. A significant portion of this traffic is attributed to residents / visitors visiting Thetis Lake along with those accessing or existing the Trans-Canada Highway.

There are no AADT data available for local roads. Traffic volume data are helping for active transportation network planning for two reasons: (1) to determine the type of active transportation facility that is considered appropriate, and (2) to inform the prioritization of the network as roads with higher vehicle volumes should be candidates for AAA cycling facilities.


Map 8 - Traffic Volumes
(2022 Average Two-Way Daily Volumes, Weekday)
Daily Traffic Volumes (AADT)
Highway (MoTI)
No Data
1,000 - 3,000
3,001 - 5,000
5,001 - 10,000
10,001 - 39,000
School / Daycare
Park
0
250
500
m.
Thetis Lake Inset Map
See Inset Map
Highlands
Westoby Rd
Thanet Rd
Barker Rd
Highland Rd
Thetis Lake Regional Park
Mill Hill Regional Park
Saanich
Langford
Colwood
Esquimalt
Songhees Nation
Esquimalt Nation
Trans-Canada Hwy
Island Hwy
Burnside Rd W
Helmcken Rd
Admirals Rd
39000
32300
16500
19400
19600
23600
14000
12200
13500
10900
3400
3200
1600
700
4000
8500
4300
4500
5700
16300
8000
12000
2400
9600
Riverside Dr
Evelyn Hts
Creed Rd
Watkiss Way
Highland Rd
West Park Ln
Lund Rd
Six Mile Rd
Damon Dr
Price Rd
Dukrill Rd
Chilco Rd
Parsons Rd
Atkins Rd
Wilfert Rd
Hart Rd
Stonehenge Dr
Talcott Rd
Game Rd
Erskine Lane
Hospital Way
Chancellor Ave
Conard St
Quincy St
Camden Ave
Eaton Ave
High St
Vickery Rd
Viewcrest Dr
Kingham Pl
Paddock Pl
Burnett Rd
Pheasant Ln
Werra Rd
Midwood Rd
Caton Pl
Jedburgh Rd
Prince Robert Dr
View Royal Ave
Bessborough Ave
Helmcken Rd
Eltham Rd
Rudyard Rd
Stewart Ave
Stormont Rd
Glenairlie Dr
Pallisier Ave
Beaumont Ave
Plowright Rd
Craigowan Rd
Shoreline Dr
Glentana Rd
Aldersmith Pl
Hallowell Rd

4.3 Vehicle Speed Limits

Vehicle speed limits are important to understand as they impact the overall comfortability of active users. While higher speeds do not necessarily *cause* collisions to occur, higher speeds do result in more severe collisions particularly for vulnerable road users. By contrast, lower speeds can give road users more time and greater control, which improve road safety and lower the overall impact if a collision does occur.[20] Therefore, understanding posted speed limits—and where they differ in the street network—can help inform the types of activity transportation facilities that could be considered.

To work towards "Vision Zero", several municipalities across Canada including Edmonton, Toronto, and the District of Saanich are committing to lowering posted speed limits to address road safety issues. The District of Saanich is currently undertaking a Road Safety Action Plan. As part of that plan, the District will be looking at lowering speed limits with the intention of eventually adopting a Council Speed Limit Establishment Policy.[21] The policy would work within the existing statutory powers of the BC Motor Vehicle Act and be modelled partially on the NACTO guide (City Limits: Setting Safe Speed Limits on Urban Streets).[22]

WHAT IS VISION ZERO?

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries while increasing safe, health, equitable mobility for all. Vision Zero moves away from the traditional approach of assessing safety to one where traffic safety is guiding by the following:

1. People will sometimes make mistakes. As such, the road system and supporting policies should be designed to ensure those mistakes do not result in severe injuries or fatalities.
2. Vision Zero relies on a multidisciplinary approach relying on the expertise of traffic planners and engineers, policymakers, and public health professionals. Several factors contribute to safe mobility including roadway design, speeds, behaviors, technology, and policies.

More information about Vision Zero is available here: https://visionzeronetwork.org/about/what-is-vision-zero/

[20] MoTI. (2018). *BC Community Road Safety Toolkit. Module 2: Safe Roadway Designs to Protect All Road Users*. Available online at: https://tinyurl.com/3azj757x
[21] More information about Saanich's plans to lower speed limits is available online at: https://tinyurl.com/cr8554zv
[22] NACTO. (2020). City Limits: Setting Safe Speed Limits on Urban Streets. Available online at: https://tinyurl.com/4fvfshn9

Ultimately, the purpose of the policy is to outline a process to identify and implement progressive speed limit changes.

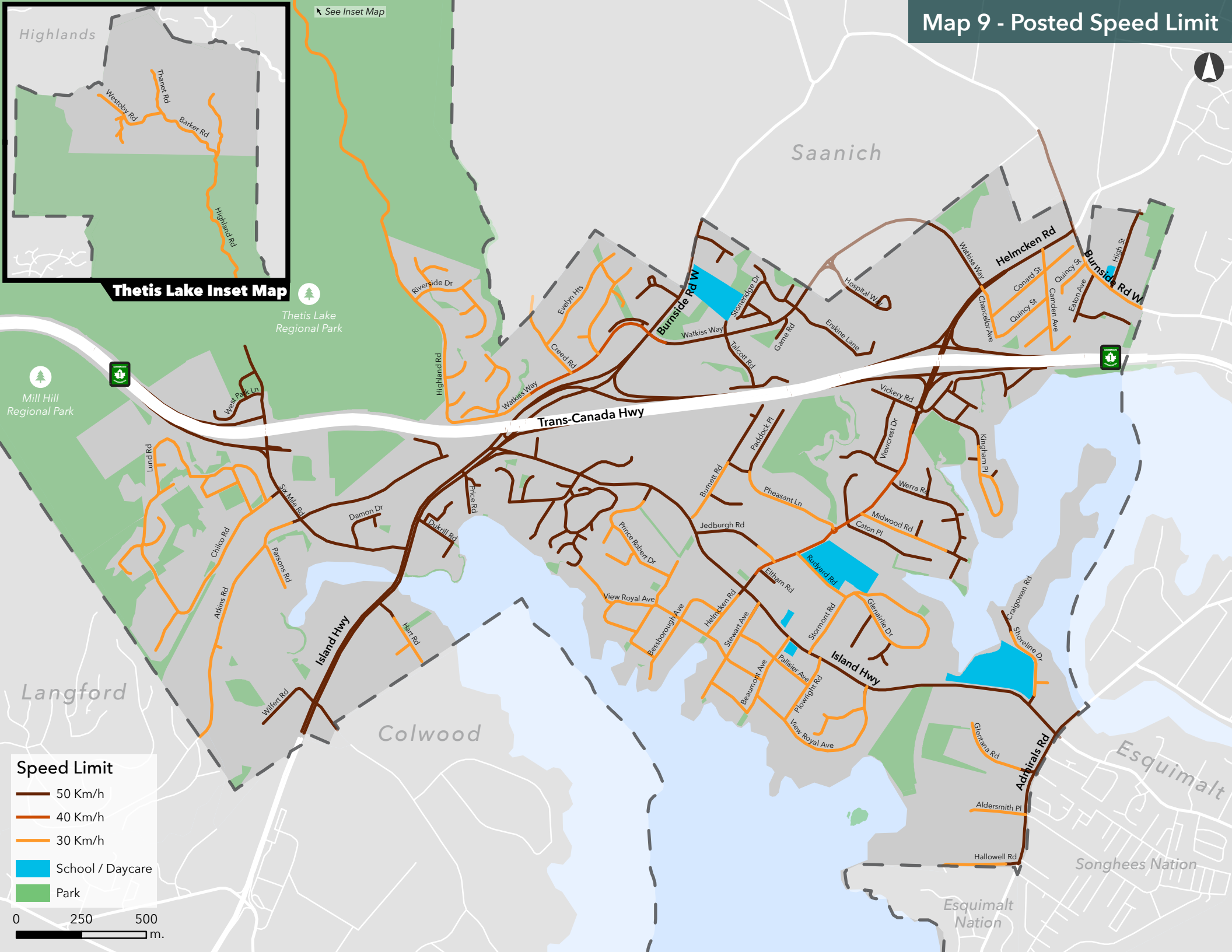
Further, previous studies such as in London, England have shown a 42% reduction in road casualties due to a 30 km/h speed limit reduction. Other than lowering the posted speed limit, physical speed reduction countermeasures (e.g., traffic calming) can be implemented to lower speed limits and increase safety for all road users.[23]

The BC Active Transportation Guide indicates that **vehicle speed** and **volumes** are the most important considerations in selecting the appropriate facilities type for people cycling. Similarly, vehicle speed impacts the experience of people walking such as when crossing a high-speed roadway or causing discomfort walking along a roadway with little or no buffer separating the sidewalk from the road.

Map 9 identifies the posted speed limits across View Royal. Most roads in View Royal have a posted limit of 50 km/h, some local roads have a limit of 30 km/h, and portions of Helmcken Road and Watkiss Way have posted limit of 40 km/h. The ATNP process will explore opportunities to both reduce posted speed limits and introduce design interventions that can prioritize active transportation movements over motor vehicle traffic.

[23] MoTI. (2018). *BC Community Road Safety Toolkit. Module 2: Safe Roadway Designs to Protect All Road Users*. Available online at: https://tinyurl.com/3azj757x


MAXIMUM
30
km/h


Map 9 - Posted Speed Limit
See Inset Map
Highlands
Thanet Rd
Westoby Rd
Barker Rd
Highland Rd
Thetis Lake Inset Map
Thetis Lake Regional Park
Mill Hill Regional Park
Saanich
Langford
Colwood
Esquimalt
Songhees Nation
Esquimalt Nation
Trans-Canada Hwy
Island Hwy
Burnside Rd W
Helmcken Rd
Riverside Dr
Highland Rd
Creed Rd
Evelyn Hts
Watkiss Way
Stonebridge Dr
Hospital Way
Talcott Rd
Game Rd
Eskine Lane
Chancellor Ave
Conard St
Quincy St
Camden Ave
Eaton Ave
High St
Vickery Rd
Viewcrest Dr
Kingham Pl
Werra Rd
Midwood Rd
Caton Pl
Rudyard Rd
Eltham Rd
Stormont Rd
Glenairlie Dr
Craigowan Rd
Shoreline Dr
Admirals Rd
Glentana Rd
Aldersmith Pl
Hallowell Rd
Pallisier Ave
Plowright Rd
View Royal Ave
Beaumont Ave
Stewart Ave
Bessborough Ave
Helmcken Rd
Prince Robert Dr
Jedburgh Rd
Burnett Rd
Paddock Pl
Pheasant Ln
Dukrill Rd
Price Rd
Damon Dr
Six Mile Rd
Parsons Rd
Chilco Rd
Atkins Rd
Wilfert Rd
Hart Rd
Lund Rd
West Park Ln
Speed Limit
50 Km/h
40 Km/h
30 Km/h
School / Daycare
Park
0
250
500
m.

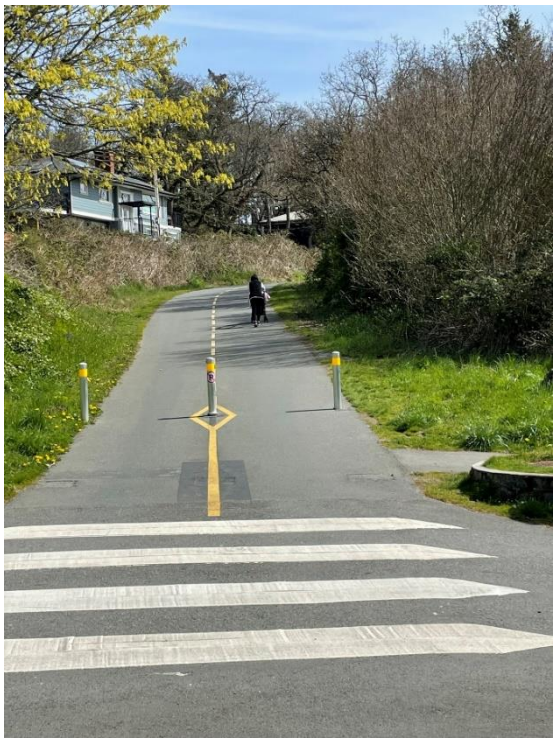
5.0 TRAILS NETWORK

5.1 Overview

With close to 17 kilometres of trails, View Royal has the greatest access to regional trails / multi-use pathways among CRD municipalities based on the total length of these facilities that traverse the Town. Residents have access to both the E&N Rail Trail and the Galloping Goose Regional Trail—both trails function not only as recreational facilities but act as the region's active transportation highways. They connect the West Shore and Peninsula communities with downtown Victoria and provide connectivity to several key employment destinations in the region. See **Map 10** for the trail network.

> ***TRAILS VS MULTI-USE PATHWAY***
>
> For the purposes of the View Royal ATNP, 'regional trails' and 'multi-use pathways' are interchangeable terms. They refer to pathways that are physically separated from motor vehicle traffic and can be used by any non-motorized user.

Both trails also provide access to local destinations including several local and regional parks, schools, shopping centres, and village centres.

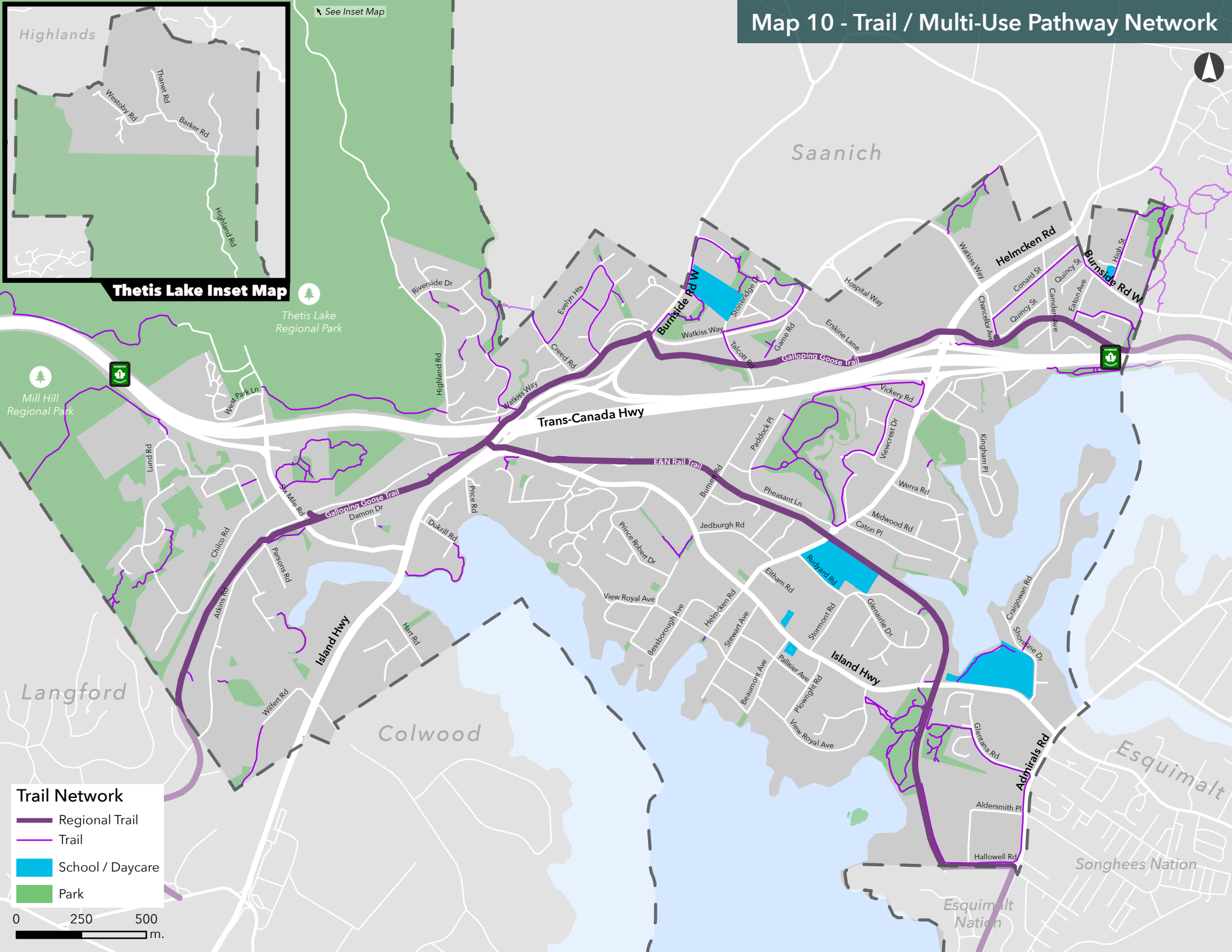


E&N Rail Trail (left) and Galloping Goose Regional Trail (right).

Within View Royal, both trails are separated from traffic, are generally flat, and are wide enough for single file cycling traffic. However, they are too narrow for either side-by-side riding or comfortable sharing with people walking or jogging. Crossing of major roads either feature overpasses or are at controlled intersections.

Beyond the regional trails, View Royal residents also have access to dozens of local recreational trails in their community. As shown in **Map 10**, these trails are in different parts of the community. Most are unpaved and used for recreational purposes including hiking, walking, jogging, running, and dog walking.

Map 10 - Trail / Multi-Use Pathway Network



5.2 Trail Facility & Safety Review

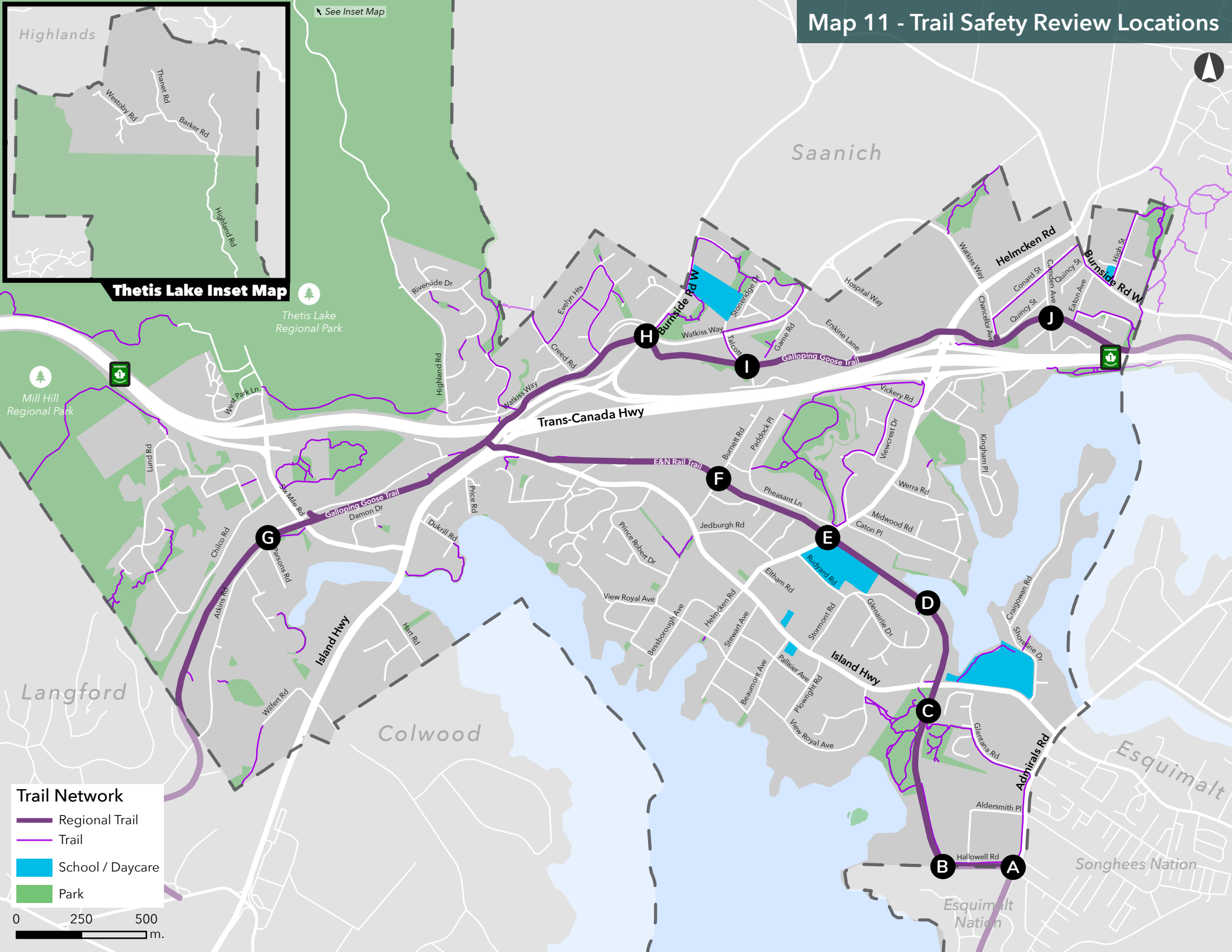
An assessment of the major trail access points within View Royal for both the E&N and Galloping Goose was undertaken. The purpose of the assessment was to catalog and describe each access in terms of its current condition and opportunities for improvement.

Several factors were observed and recorded in the assessment including [a] accessibility for all users, [b] safety elements of the access, and [c] general user experience. Brief definitions for each criterion are shown below:

- **Accessibility |** measures the overall slope of the ramps, the width of the trail facility, and whether there are crossings present.
- **Safety |** measures both "perceived" and "actual" safety. The perceived safety was determined by answering the question: "would an 8 year old be able to safely and comfortably use the crossing themselves?" Safety also included sightlines, warning and advanced warning signs for vehicles, and whether there was lighting at the access point.
- **User Experience |** the overall user experience is more subjective in nature. It includes the overall maneuverability of getting on and off the trail, wayfinding / signage and other amenities (e.g., benches, bike station, trail network map), bicycle / pedestrian conflicts, and proximity to residential areas.

Map 11 illustrates all of the locations that were part of the trail facility and safety review.

Map 11 - Trail Safety Review Locations



5.3 Trail Facility & Safety Review – Access Results

5.3.1 E&N Rail Trail @ Hallowell Road / Admirals Road (Location A)

This is a trail access at a major street connection. Admiral's Walk is one of the commercial / retail hubs in View Royal in proximity to the trail. However, crossing Hallowell Road at the signal is cumbersome and access to Admiral's Walk is unaccommodating to trail users.

Ramp access to E&N Rail Trail (looking north on Admirals Rd)

General Observations

- The recently completed trail section (Maplebank Road to Hallowell Road) generally meets the design guidelines in the BC Active Transportation Design Guide including design speed, longitudinal grade, cross slope, and sight distance

Areas for Improvement

- The overall access from the E&N Rail Trail to Admiral's Walk requires improvement. There is no crossing facility on Hallowell Road to connect the E&N Rail Trail with Admiral's Walk
- A truck apron should not be used as waiting area for bikes / pedestrians waiting to cross Hallowell Road
- Additional markings / signage should be considered

5.3.2 E&N Rail Trail @ Hallowell Road / Rail Crossing (Location B)

This location shows a minor street crossing in a remote section of trail that crosses over the abandoned rail line. According to the CRD's Regional Cyclist and Pedestrian Count Program, in the month of May (2022), this location saw approximately 1,300 pedestrians / cyclists per day with pedestrians accounting for approximately 38% of the total daily volumes.[24] According to the BC Active Transportation Design Guide, this segment of the E&N Rail Trail should have separation between bicycle users and other pathway users. This is based on the ratios provided in Table E-21 of the Design Guide[25] where separation is recommended on multi-use pathways that are 4.0m in width with 1,400 daily users and 20% of the total users are pedestrians.

Sidewalk crossing (north side) of railway tracks looking east on Hallowell Rd

General Observations

- The at-grade crossing is suitable for all ages and abilities

Areas for Improvement

- Turning angle to cross street is tight and people cycling were observed to "cut the corner" and skip it by entering the street ahead of the official crossing
- Area is remote with limited lighting
- Separate people walking from people biking where possible

[24] Capital Regional District. (No date). Regional Cyclist and Pedestrian Count Program. Available online at: https://data.eco-counter.com/public2/?id=100053578

[25] Government of BC. (2019). BC Active Transportation Design Guide. Chapter E: Multi-Use Facilities. Available online at: https://tinyurl.com/45chrrzd

5.3.3 E&N Rail Trail @ Portage Park / Island Highway Overpass (Location C)

There are two access points – there is a connection to Portage Park and to Island Highway via the park's path system. There is also access to the E&N Rail Trail is just west of the overpass of Island Highway. The trail access at Portage Park has several amenities including a trail map, a water station, solar-powered streetlight, and benches. The connection to the cycling facilities along Island Highway have safety challenges. In general, the park feels safe although the deeper parts of the park feel less safe, especially at night.

The Island Highway Overpass access uses a ~100m ramp to access the westbound Island Highway. The ramp is relatively steep at the top and features an abrupt right-angle connection with a significant final slope onto the E&N Rail Trail.

General Observations

- The trail access at the park has several amenities for people walking and cycling
- There are connections to Island Highway with some safe and seamless and others more problematic
- People cycling eastbound on Island Highway can access Portage Park via the off-street multi-use pathway or via View Royal Avenue

Ramp access to E&N Rail Trail from Island Highway (left) and multi-use pathway at Portage Park (right)

Areas for Improvement

- Island Highway connection:
    - Crossing required to head westbound in bike lanes from park is unpleasant with downhill vehicles from the west and requires crossing 3 vehicle lanes.
    - Street access is not suitable for all ages and abilities
    - Westbound bicycle alternative to crossing Island Highway is to use the Island Highway Overpass connection just north of the Portage Park connection, however there is no signage indicating this option.
    - Signage could be added on Island Highway to direct people to the E&N Rail Trail.
    - Consider adding overhead lighting approaching overpass and at junctions
- People cycling cannot lock their bicycles to the sail sculptures; inverted U racks and other forms of short-term bicycle parking should be considered at this location.

People cycling eastbound on Island Highway can access the E&N Rail Trail via Portage Park as shown above. The tight turning radius makes the transition from the painted bike lane to the pathway less comfortable. Alternatively, people cycling can access the E&N Rail Trail on the north side of the road but have to cross three vehicle travel lanes.

5.3.4 E&N Rail Trail @ Glenairlie Drive (Location D)

A minor street connection to a residential neighbourhood via a small park. The access and area feel safe with many homes close to the access. The ramp slope that connects the street to the trail is a suitable incline.

Trailhead at Glenairle Dr (looking south)

General Observations

- Easy park-based connection

Areas for Improvement

- Bollards can present a hazard for people cycling
- Additional markings / signage should be considered.

5.3.5 E&N Rail Trail @ Helmcken Road (Location E)

This is a major street access at the trail overpass. The access point is at the bottom of a ~70m ramp and is situated in a residential area adjacent to an elementary school. Access onto ramp from Helmcken Road is not comfortable with an offset curb ramp and odd angles. Wayfinding onto and off-of trail is also lacking.

Trailhead at Helmcken Rd

General Observations

- The stairs on the west side create limit access on that side of the street forcing people rolling to have to cross Helmcken twice if trying to head south or west. Someone cycling could also inadvertently ride down the steps if they don't know the area and its dark
- Narrow with sharp turns
- Ramp up to trail on east side is an acceptable slope

Areas for Improvement

- Overhead lighting is lacking at street access and at junctions
- Navigation onto ramp is poor
    - Odd angle of connection

    - Curb ramp offset from ramp
    - Forces bike/pedestrian conflict
- Wayfinding onto and off-street connection
- Northbound bike lane on Helmcken drops without warning prior to the roundabout
- Remove or push back chain link fence (lack of clearance forces people ride in the middle of the path and creates conflicts between users)
- Remove dismount signs and replace with proper control between path users
- Improve path connections/transition from Helmcken in each direction
- Improve access west side of Helmcken

5.3.6 E&N Rail Trail @ Burnett Road (Location F)

A minor dead-end street crossing near a historic park. The trail is surrounded by higher density residential. The crossing is stop-controlled for vehicles and trail users and has speed humps approaching the crossing form the south.

Burnett Rd looking south toward E&N Rail Trail

General Observations

- The at-grade crossing is suitable for all ages and abilities
- Presence of historic fort and cannons make the crossing feel even more safe
- Excellent overhead lighting

Areas for Improvement

- Bollards can present a hazard to people cycling
- Additional markings / signage should be considered

5.3.7 Galloping Goose @ Atkins Road (Location G)

Atkins Rd looking northwest to Galloping Goose

A minor street crossing in a residential area. The crossing is at grade and features a refuge island and warning flashers for vehicles. According to the CRD's Regional Cyclist and Pedestrian Count Program, in the month of May (2022), this location saw approximately 1,360 pedestrians / cyclists per day with pedestrians accounting for approximately 23% of the total daily volumes.[26] According to the BC Active Transportation Design Guide, this segment of the E&N Rail Trail should have separation between bicycle users and other pathway users. This is based on the ratios provided in Table E-21 of the Design Guide[27] where separation is recommended on multi-use pathways that are 4.0m in width with 1,400 daily users and 20% of the total users are pedestrians.

General Observations

- The at-grade crossing helps with accessibility
- Overhead lighting present
- Wayfinding signage is present, which helps direct people to the Galloping Goose trail

Areas for Improvement

- Bollards can present a hazard to people cycling
- Automate flasher activation
- Additional markings / signage should be considered
- Reduce posted speed limit on Atkins Rd
- Separate people walking from people biking where possible
- There could be consideration for a painted bicycle lane on Atkins Rd to improve connectivity from Six Mile Rd to the Galloping Goose

[26] Capital Regional District. (No date). Regional Cyclist and Pedestrian Count Program. Available online at: https://data.eco-counter.com/public2/?id=100053582

[27] Government of BC. (2019). BC Active Transportation Design Guide. Chapter E: Multi-Use Facilities. Available online at: https://tinyurl.com/45chrrzd

5.3.8 Galloping Goose @ Burnside Road West / Watkiss Way (Location H)

Major street crossing with some of the only dedicated cycling traffic signal infrastructure on either of the regional trails, featuring bicycle specific signal heads and "Elephants Feet" crossing markings.

Burnside Rd W / Watkiss Way intersection looking west

General Observations

- The access point has a safe feel, being located near a residential area, with clear views of the surrounding area
- Grade and accessibility are suitable for all ages and abilities

Areas for Improvement

- The trail crossing signal scheme puts trail users in conflict with turning vehicles.
    - Recommend installing no right turn on red signage
    - Recommend installing trail x-ing signage in advance
- The bike signal head at the southwest corner is not obvious to drivers or trail users
- The "Left Turn Yield to Bikes" sign does not provide any actual protection to trail users
- Move pedestrian activation further away from roadway traffic on southeast corner
- Bike stencil signage missing near the detection loops

5.3.9 Galloping Goose @ Talcott Road (Location I)

Talcott Road is a minor street crossing that leads to a correctional facility. Traffic volumes are low. Despite the low volumes, the crossing is in the mid-section of an "S-curve" with poor sightlines. As a result, the crossing feels somewhat unsafe. The crossing itself is semi-raised, which acts a speed control measure, however the signage and pavement markings are out of date. This location also lacks overhead lighting.

Galloping Goose / Talcott Rd looking east

General Observations

- Long crossing uncomfortable for most trail users
- Downhill "S-curve" has safety implications despite low traffic volumes
- Presence of on-street parking near the crossing complicates can obstruct sightlines

Areas for Improvement

- Additional safety measures should be considered for southbound traffic, although they are a low priority due to low traffic volumes
- Recommend installing curb extensions with a raised crossing to improve sightlines, to narrow the crossing, and to traffic calm
- Additional markings / signage should be considered
- Consider installation of overhead streetlight

5.3.10 Galloping Goose @ Camden Avenue (Location J)

Camden Avenue is a minor street crossing in a dense residential area. The southbound leg of crossing leads to a dead-end street. The crossing is in a dip on the trail with either approaching direction having increased speeds due to the elevation change. The area is popular for walking for residents. The combination of trail user speed due to the dip and local walkers presents a minor safety concern. Traffic volumes on Camden Avenue are light and the crossing is stop-controlled for vehicles.

Galloping Goose / Camden Ave looking east

General Observations

- Traffic control works well for trail users
- Bollards can present a hazard to people cycling
- The at-grade crossing helps with accessibility

Areas for Improvement

- Separation / warning of trail and pedestrian conflicts at street crossing
- Consider overhead lighting
- Consider installing trail x-ing signage and elephants feet pavement markings
- Consider installing overhead streetlight
- Consider removing or relocating bollards
- Additional markings / signage should be considered

6.0 PEDESTRIAN NETWORK

6.1 Overview

As a compact community with easy access to most destinations, most residents can get around by foot. As of 2017, walking accounted for 33% of all trips within the Town of View Royal. The Town provides policy direction in the Strategic Plan and ongoing OCP update to make walking an even more attractive transportation option and notes that more specific recommendations will be included in the ATNP.

That said, there are several issues in the pedestrian network that have been raised through the OCP update process. A summary of those issues is provided below with more detail found in Section 6.3 (Barriers to Walking in View Royal).

- Key commercial destinations such as coffee shops, grocery stores, and pharmacies are too far for a walking trip.
- The Trans-Canada Highway serves as barrier that dissects the community making it harder for people walking to access either side of View Royal.
- There is a desire to increase overall walkability in the community to reduce reliance on driving. This will require easy access to services and amenities where residents can walk for most trip purposes. It will also require more mixed-use developments to reduce overall walking distances.
- Even though there are several crosswalks in the community, there are still locations in the community such as Eagle Creek where crossings do not feel safe for some residents.

The barriers outlined above—in addition to other pedestrian network barriers—will be explored in this section.

6.2 Pedestrian Facilities

There are several different types of pedestrian facilities within the Town with concrete sidewalks being the most common. As shown in **Map 12**, there are currently 26.3 kilometres of sidewalks across the community with most found on all arterial and collector roads including Helmcken Road, Island Highway, and parts of Watkiss Way. However, most local (residential) roads do not have a sidewalk. Beyond the sidewalk, other pedestrian facilities include multi-use pathways / trails and local trails. Each facility type is described in more detail below.

E&N Rail Trail

Multi-use Pathway

The BC Active Transportation Design Guide defines multi-use pathways as off-street facilities that are physically separated from motor vehicle traffic and can be used by any non-motorized user. Examples include the E&N Rail Trail and the Galloping Goose.

Example of a local trail

Local Trail

Local trails are off-street facilities that are physically separated from motor vehicle traffic and are primarily designed for pedestrians but can also accommodate bicycles. They come in varying widths and can be paved or not.

Helmcken Rd at E&N Rail Trail

Separated Sidewalk

A separated sidewalk has a 'furnishing zone' or boulevard that separates the sidewalk from the roadway. The furnishing zone acts like a buffer and enhances pedestrian safety and comfort while providing a space for sidewalk amenities and utilities. These facilities provide additional benefits including street trees, which provide shade, traffic calming, and place making. Separated sidewalks are found on Helmcken Road, Island Highway, and parts of Watkiss Way, for example.

The BC Active Transportation Design Guide recommends separated sidewalks along all arterial roads, areas with high pedestrian activity, and along collector roads that are near health care facilities and school zones.

Admirals Rd

Non-separated Sidewalk

A sidewalk that is located directly next to the roadway but is physically separated from the roadway by a curb. According to the BC Active Transportation Design Guide, streets like Admirals Road should have a separated sidewalk to improve walking conditions for all ages and abilities. Admirals Road is a busy vehicle corridor with over 12,000 vehicles per day.

Midwood Rd

Unimproved Roads without Sidewalks

While some local / residential roads have sidewalks on one or both sides, there are many such as Midwood Road and parts of View Royal Avenue that do not have any pedestrian facility. This results in pedestrians having to share the road with vehicles. The BC Active Transportation Design Guide recommends that in urban environments, all local roads should have a sidewalk on at least one side.

View Royal Ave

Map 13 presents the widths of the sidewalk facilities within the Town. According to the BC Active Transportation Design Guide, sidewalk widths should be informed by two indicators: (1) the land use context to ensure that in areas with higher pedestrian activity, window shopping, or large surges of activity, there is sufficient width to

maintain pedestrian movement and (2) the adjacent road type, recognizing that higher motor vehicle speeds and volumes can negatively impact safety and comfort.[28]

The recommended widths for pedestrian facilities in the BC Active Transportation Design Guide are shown below.

Land Use Context	Road Type	Separation	Desirable (m)	Constrained Limit (m)*
Single- Family Residential	Local	Non-Separated or Separated	1.8	1.8
	Collector/Arterial**	Separated	1.8	1.8
Multi- Family Residential	Local	Non-Separated or Separated	2.1	1.8
	Collector/Arterial**	Separated	2.4	1.8
Industrial	Any**	Separated	2.1	1.8
Commercial	Any**	Separated	2.4-3.0	2.1
Area of high pedestrian activity (including temporary, special event, or seasonal)***	Any	Separated	3.0-4.0	2.4

Figure 4 – BC Active Transportation Design Guide Recommended Sidewalk Widths

Based on the Design Guide, there are several locations within View Royal that have deficient sidewalk widths, which may be resulting in a less comfortable pedestrian experience. Locations include:

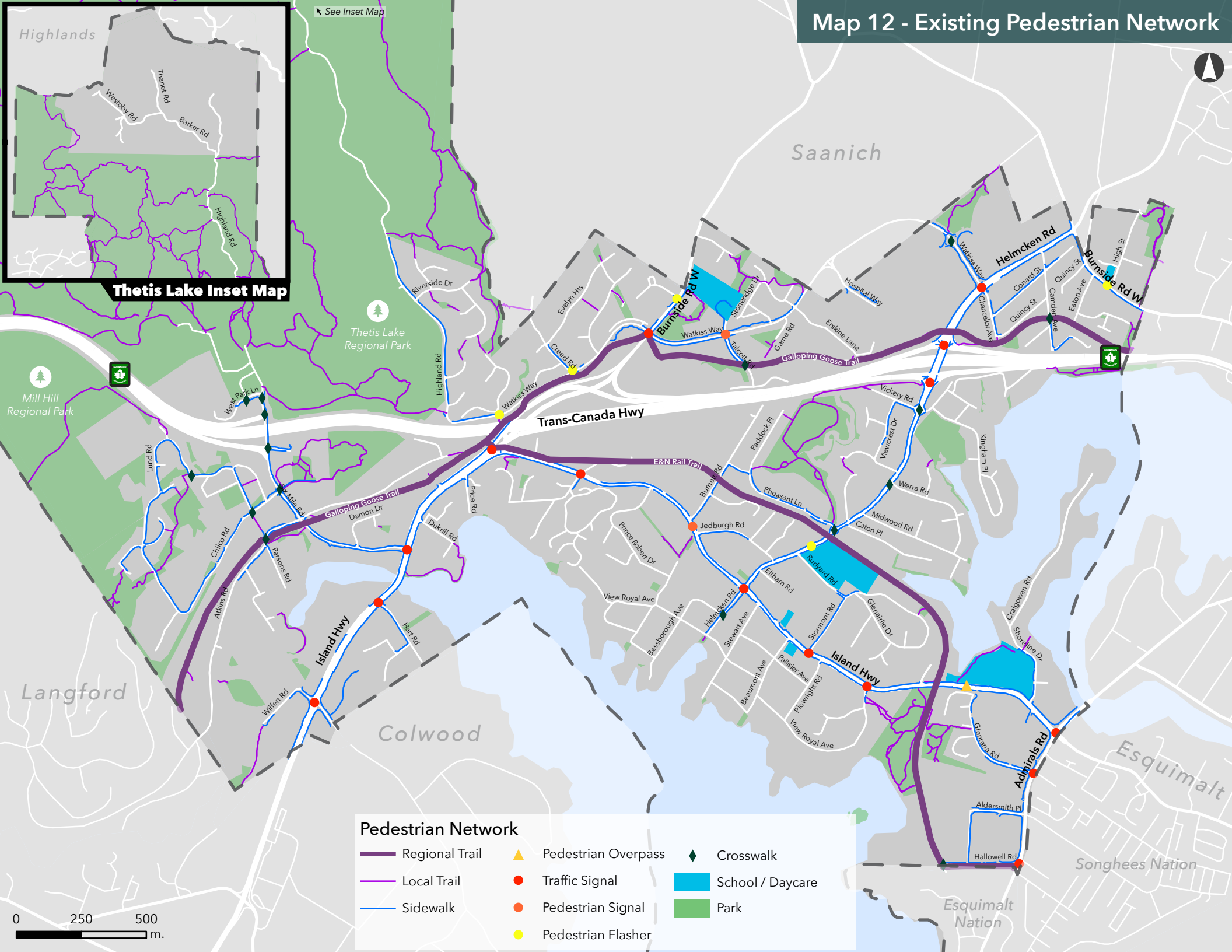
- Island Highway from Helmcken Road to Island Highway where sidewalk widths are below 1.5m, specifically between Helmcken Road and Burnett Road and Burnett Road and Kislingbury Lane. Based on the land uses along this corridor (mix of single-family residential / multi-family residential and commercial), along with the street type (arterial), a separated sidewalk with a width of 2.4m would be appropriate.
- Island Highway from the Trans-Canada Highway to Six Mile Road where sidewalk widths are below 1.5m. As an arterial road with some industrial, a separated sidewalk of 2m would be needed to meet best practices.

[28] Government of BC. (2019). BC Active Transportation Design Guide. Chapter G: Intersections + Crossings. Available online at: https://tinyurl.com/4sn2k526

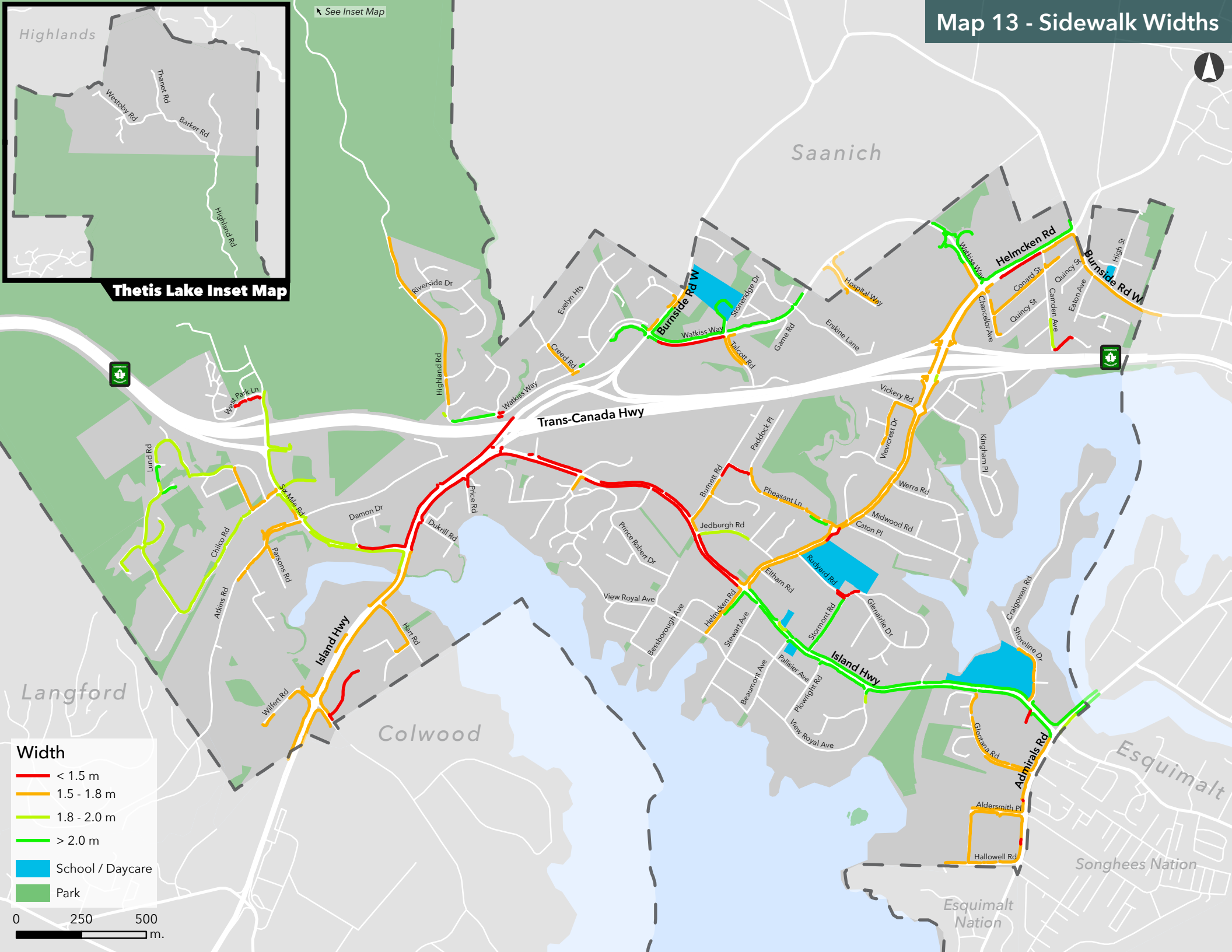
- Island Highway from Six Mile Road to the City of Colwood border where sidewalk widths are between 1.5m to 1.8m. As an arterial road with some industrial, a separated sidewalk of 2m would be needed to meet best practices
- Admirals Road from Island Highway to Hallowell Road where sidewalk widths are 1.5 to 1.8m. The corridor is mostly defined by commercial and industrial land uses and therefore a separated sidewalk of 2-3m would be needed to meet best practices.

Sidewalk widths on Helmcken Road are in the 1.5 to 1.8m range for most of the corridor (Island Highway to Watkiss Way). As shown above, most of the corridor has a separated sidewalk, which provides a buffer and enhances pedestrian safety and comfort. Even though there are some pedestrian related barriers along Helmcken Road, the sidewalk facilities generally meet the standards in the BC Active Transportation Design Guide

Map 12 - Existing Pedestrian Network



Map 13 - Sidewalk Widths



6.3 Pedestrian Crossings

Pedestrian crossings are an integral part of a pedestrian network. The provision of safe and accessible crossings makes it easier for people of all ages and abilities to move around their community and reach destinations.[29] As a vulnerable user group, people walking are exposed to various conflicts with motor vehicles, people cycling, and other road users when crossing the road or an intersection.

The Town currently has 152 pedestrian crossings throughout the community. Below is a summary of the types of crossings in the community.

Admirals Rd

Unmarked Crossing

At the intersection of any two roads with pedestrian facilities, all legs of the intersection are legally considered to contain crosswalks, regardless of whether they are marked with signage or pavement marking. Unmarked crossings are found in several locations in the community where a local road meets a collector road.

Helmcken Rd / Werra Rd

Marked Crossing

Marked crossings typically include 'twin parallel line crosswalks' and 'zebra crossings'. They are the most common crossing type in View Royal. Twin parallel line crosswalks are found at all signalized intersections in the Town where zebra crossings are more common on Helmcken Road, at trail / multi-use pathway crossings, and in other locations where a local road meets a collector or arterial.

[29] Government of BC. (2019). BC Active Transportation Design Guide. Chapter G: Intersections + Crossings. Available online at: https://tinyurl.com/mvn4tw29

Helmcken Rd / Trans-Canada Hwy

Helmcken Rd (View Royal Elementary School Zone)

Signalized Crossing

Most signalized intersections in View Royal contain pedestrian activated signals. There are also several locations in the Town with pedestrian flashers including Waykiss Way & Creed Road, Burnside Road W & High Street, and on Helmcken Road within the View Royal Elementary school zone, for example.

Watkiss Way Roundabout

Pedestrian Refuge Island and Medians

The Town has a handful of pedestrian refuge islands along Island Highway and Watkiss Way. They allow people walking to cross one direction of traffic at a time and provide physical protection for waiting pedestrians.

Watkiss Way Roundabout

Roundabouts

There are three roundabouts in the Town currently with additional locations being planned. Different roundabout designs are used in the Town. Some provide more comfortable accommodation for people walking than others. None of the current designs are accessible to people cycling. At the April 5, 2022 Town Council meeting, a motion was moved to use Dutch-style roundabouts in future developments where feasible. Therefore, as part of the ATNP process, all roundabouts will be reviewed to ensure consistent design that meets best practice.

Helmcken Rd / Bessborough Ave

Raised Crosswalk

There are some raised crosswalks in the Town including this one at Helmcken Road and Bessborough Avenue and along the regional trails. Raised crosswalks elevate the crossing to be at curb level, which improves visibility of people walking and reduces motor vehicle speeds along the roadway.

6.4 Barriers to Walking in View Royal

Even though View Royal is a walkable community, there are still several barriers that make it challenging for people of all ages and abilities to move around including those with mobility impairments (e.g., walkers, wheelchair users), parents with young children and strollers, and older people who may require more time for a crossing. The following section provides a summary of some of key barriers to walking in the community.

6.4.1 Admirals Road Corridor

Admirals Road is a major vehicle corridor with 12,000 vehicles per day. As shown in the photos below, the walking conditions on Admirals Road south of Hallowell Road are more suitable for all ages and abilities with the E&N Rail Trail on the west side and a concrete sidewalk on the east side. However, the walking conditions deteriorate along the corridor north of Hallowell Road. The key pedestrian barriers along Admirals Road are as follows:

- **Inadequate sidewalk facilities** | There is no sidewalk on the east side of Admirals Road from Hallowell Road to Island Highway. Further, the sidewalk on the west side is 'non-separated', which means people walking are directly next to the roadway. According to the BC Active Transportation Guide, all collector streets and/or roads with a posted speed limit of 50 km/h should be a candidate for a 'separated sidewalk'. A separated sidewalk has a 'furnishing zone' or boulevard that separates the sidewalk from the roadway. The furnishing zone acts like a buffer and enhances pedestrian safety and comfort while providing a space for sidewalk amenities and utilities.

WALKROLLMAP

WalkRollMap is a crowdsourcing tool for mapping barriers to accessible walking and rolling. Similar to BikeMaps.org, this tool allows users to mark locations that are difficult to walk or locations where they have been hit by another road user or had a near miss.

More information about WalkRollMap is available online at: https://walkrollmap.org/about

- **Lack of crossing opportunities** | There are no marked crossings or mid-block crossings along the Admirals Road corridor from Hallowell Road to Island Highway. This is problematic for residents and members of the Songhees Nation living on the east side of Admirals Road as it makes it more difficult to cross the road to access Admiral's Walk. According to the TAC Pedestrian Crossing Control Guide, a street like Admirals Road that has 12,000 vehicle per day, a 50 km/h posted speed limit, and over three lanes should have either overhead flashing beacon systems or traffic signals to facilitate crossings for pedestrians.

The absence of a sidewalk on the east side of Admirals Road and lack of crossings along the corridor result in a less comfortable and safe experience for people walking.

6.4.2 View Royal Elementary School

According to the View Royal Elementary Active School Travel Report (2019/2020), 83% of families who usually drive their children to school would prefer their child use an active transportation mode to get to and from school. The reasons for not walking vary but include:

- High vehicle volumes and speeds (Helmcken Rd / Island Hwy / Rudyard Rd)
- Poor vehicle yield / stop compliance at roundabouts (Helmcken Rd)
- Lack of sidewalks (Island Hwy / Rudyard Rd)
- Narrow bike lanes (Helmcken Rd)
- Not enough time to cross intersection / feels unsafe (Island Hwy / Rudyard Rd)

In addition to the Active School Travel Report, the consultant team made the following observations of the school's surrounding walking conditions:

- There is only one access from E&N Trail, which forces people into some conflicts along Helmcken Road
- Walkability could improve by adding a path connection through the field behind the school
- A sidewalk (on one side) could be considered on Rudyard Road
- A bi-directional cycling facility on the east side of Helmcken Road would help to improve the cycling conditions around the school

6.4.3 Accessibility at Intersections

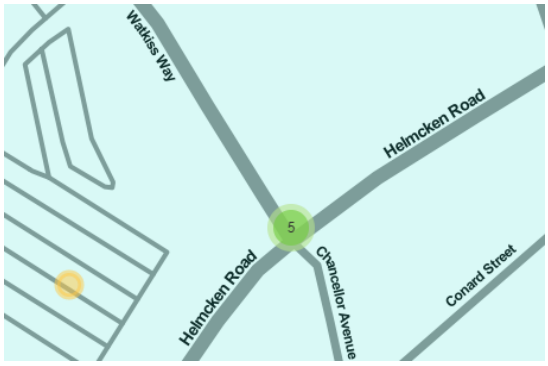
An important part of the walking experience is navigating through a safe and accessible intersection. There are several intersections in the Town that do not provide a high level of accessibility for all ages and abilities. The following are examples of inaccessible intersections in the Town.

Island Hwy / Helmcken Rd

Deficient Curb Ramps

Curb ramps, which are also referred to as "curb cuts" and "sidewalk letdowns" are found at almost all intersections in the Town. They are required for people using wheelchairs, power scooters, and other mobility devices, but also benefit people with strollers, baggage, and delivery carts. They are also used as a navigational tool by people with visual impairments.

Many of the curb ramps in the Town do not meet best practices in the BC Active Transportation Design Guide. Double curb ramps are a more accessible feature. They provide full universal access by landing pedestrians directly in the crossing area and in the desired direction of travel, rather than entering the road at an angle and having to reorient themselves. Some intersections do have double curbs ramps including Helmcken Road / Island Highway.



Collisions / near misses from left turning vehicles at Helmcken Rd / Watkiss Way.
Image credit: WalkRollMap

Lack of Leading Pedestrian Intervals

A Leading Pedestrian Interval (LPI) typically gives pedestrians a 3–7 second head start when entering an intersection with a corresponding green signal in the same direction of travel. They are becoming more common in communities around North America including in the City of Victoria.

According to WalkRollMap, there have been 31 reported incidents in the Town of View Royal since data has been available. Five of those incidents are at the Helmcken Road / Watkiss Way intersection where pedestrians reported being struck or nearly struck by a vehicle turning left. A leading pedestrian interval at this intersection—and others—could reduce incidences of pedestrian / vehicle collisions.

Image credit: Global News

Audible Pedestrian Signal

Audible pedestrian signals make sounds to indicate when to cross a road. They help visually impaired people to safely navigate intersections. None of the Town's intersections currently have an audible pedestrian signal, which acts as a barrier for those who are blind.

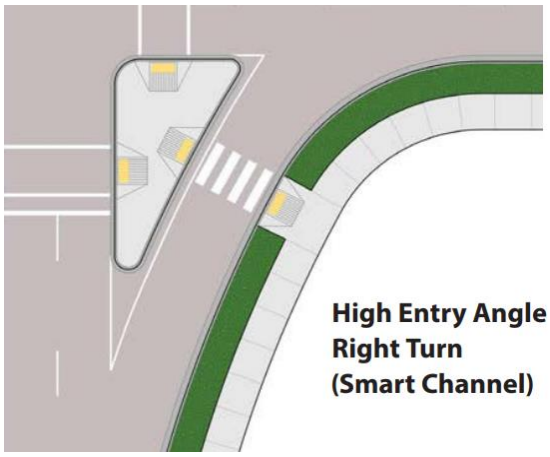


Image credit: BC Active Transportation Design Guide

Channelized Right Turn

As discussed in the BC Active Transportation Design Guide, channelized right turn lanes present challenges to pedestrians trying to cross due to the higher speed of the turning vehicles and yield controlled nature of the turn. When it is not feasible to remove the channelized right turn, the guide recommends a 'high entry angle' design, which increase the entry angle to the cross road and decrease the turning speed to be more consistent with a yield condition.

6.4.4 Helmcken Road Highway 1 Crossing

Helmcken Road is a popular roadway for View Royal residents who need to access either the north or south side of the community. However, the Helmcken Road highway overpass does not provide adequate accommodation and safety for those using active transportation modes including people walking. There is minimal separation from the sidewalk and motor vehicle travel lanes on the overpass. While there is a painted bike lane, the traffic volumes and motor vehicle speeds result in a less comfortable—and safe—experience for people walking along this corridor.

The provision of a multi-use pathway along the bridge—similar to the design of the Craigflower Bridge—would improve the walking and cycling conditions of the corridor and address a key gap in the network. This will be further explored in the ATNP.

Narrow sidewalk on east side of Helmcken Rd overpass (left). Photo at right is Helmcken Rd looking south. It shows the dangerous transition from the painted bike lane where a person cycling has to cross a busy motor vehicle travel lane.

6.4.5 Other Locations

In addition to the locations above, there are other gaps in the sidewalk network including:

- Island Highway between City of Colwood border and Six Mile Road
- Six Mile Road between the Galloping Goose and Thetis Lake
- Watkiss Way from Highland Road to Francis View Drive

7.0 CYCLING NETWORK

7.1 Overview

Data from both Statistics Canada and the CRD indicate that cycling accounts for about 4-6% of the Town's total mode share, and about 5% for commute trips. The Town is situated in a strategic location between the West Shore and downtown Victoria, which are both connected by two regional multi-use pathways (Galloping Goose Trail and E&N Rail Trail). These pathways provide safe and comfortable ways for people to travel around by bicycle. However, there are several gaps in the existing network in accessing the regional trails or multi-use pathways, as discussed in **Section 7.5**.

Both the MTP and the OCP update outline the need for improvements to the cycling network and streets that prioritize active transportation. Recent engagement as part of the OCP update revealed support for active transportation and a desire for expanding the cycling network. The Town has set a target of achieving 25% of all trips to work and school by walking, cycling, and transit. Achieving this target will require a more robust and connected cycling network that is safe, accessible, and comfortable for people of all ages and abilities.

7.2 Cycling Facilities + Infrastructure

There are three main cycling facilities in the Town with bicycle lanes being the most common, followed by multi-use pathways and shared-use lanes. Combined, they represent 29.3 kilometres of cycling facilities. All multi-use pathways are off-street facilities (discussed in detail in **Section 5.0**), whereas most of the on-street cycling facilities (bicycle lanes and shared-use lanes) are found on arterial roads such as Helmcken Road and Island Highway. Burnside Road West, Watkiss Way, and Six Mile Road have either a bicycle lane or a shared-use lane for part of the corridors.

Table 5 – Existing Cycling Network Inventory

Type	Length (km)	Percentage
Multi-Use Pathway	10.6	36.1%
Bicycle Lane	14.7	50.2%
Shared-Use Lane	4	13.7%
Total	**29.3**	**100%**

E&N Rail Trail

Multi-use Pathway

The BC Active Transportation Design Guide defines multi-use pathways as off-street facilities that are physically separated from motor vehicle traffic and can be used by any non-motorized user. Examples include the E&N Rail Trail and the Galloping Goose. According to the Design Guide, they can be considered a comfortable facility appropriate for people of all ages and abilities. However, they may feel less comfortable if there is a high volume and a diverse mix of users, as this can make the pathway feel congested and can be uncomfortable if the speed differential between users is high.

Helmcken Rd

Bicycle Lane

A bicycle lane is defined by the BC Active Transportation Design Guide as a lane that includes only a white longitudinal line running parallel to the alignment of the road to visually separate the bicycle lane from the motor vehicle and/or parking lanes. Bicycle lanes are representing the majority of cycling facilities in Town and are found on Helmcken Road, Island Highway, Six Mile Road, Watkiss Way, Admirals Road, and Burnside Road West.

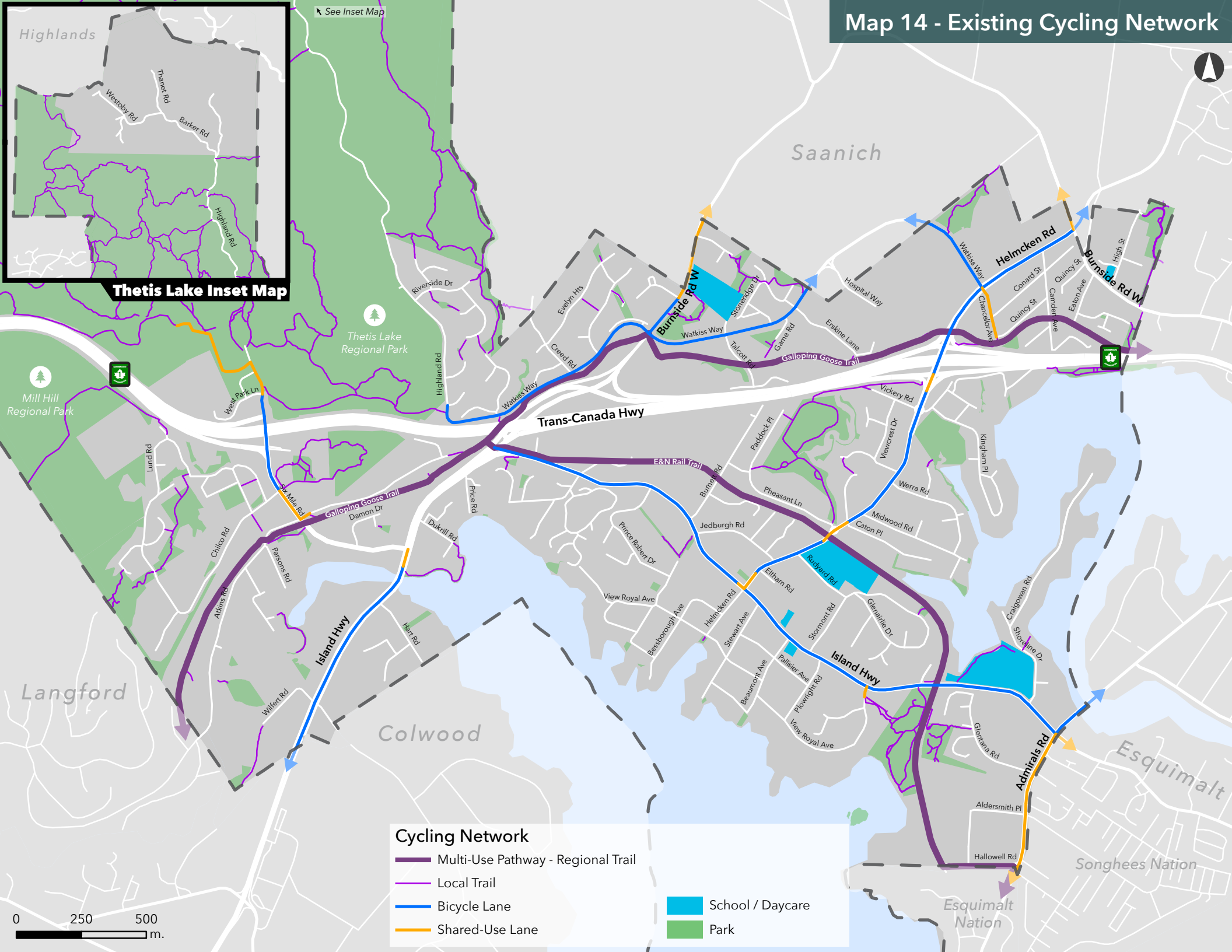
A bicycle lane is not considered an all ages and abilities cycling facility and is no longer recommended on major roads with more than 4,000 vehicles/day.

Chancellor Ave

Shared-Use Lane

A shared-use lane is a general purpose lane that has enough space to accommodate the use of the lane by both motor vehicles and cyclists. The intent of these lanes is to provide sufficient space for a motor vehicle to safely overtake a cyclist. Shared-use lanes are found on Helmcken Road, Admirals Road, Island Highway, Six Mile Road, Chancellor Avenue, and Burnside Road West. A shared-use lane is not considered an all ages and abilities cycling facility and people cycling do not feel comfortable using these facilities. Shared-use lanes are no longer recommended from both BC Active Transportation Design Guide and TAC, unless it is a lower speed/lower volume local road.

Map 14 - Existing Cycling Network



7.3 Intersections

As outlined in the BC Active Transportation Design Guide, intersection design is a critical part of cycling facility design. Active transportation network planning must consider how people cycling can navigate intersections in a safe and comfortable manner.[30] The following provides a description of existing intersection designs in View Royal with a brief commentary on their overall cycling accommodation. A more detailed discussion about intersection specific barriers in the cycling network is provided in **Section 7.5.3**.

Helmcken Rd / Trans-Canada Hwy

Standard Intersection

Almost all standard intersections in the Town do not provide signage and pavement markings, which are used to help communicate right-of-way and warn all modes of conflict areas. The Helmcken Road / Trans-Canada Highway intersection is one example where there is no signage or pavement marking, which can increase the risk of collision.

Burnside Rd / Helmcken Rd

Channelized Right-turn

There are several channelized right turn lane crossings in the Town such as the Burnside Road / Helmcken Road and Island Highway / Admirals Road intersections. Even though there is a conflict green marking at the Burnside Road / Helmcken Road intersection, the BC Active Transportation Design Guide recommends removal of channelized right turn lane as due to the safety risks they present to people walking and cycling.

[30] Government of BC. (2019). BC Active Transportation Design Guide. Chapter G: Intersections + Crossings. Available online at: https://tinyurl.com/mvn4tw29

Island Hwy Rd / Admirals Rd

Watkiss Way Roundabout

Roundabout

There are a handful of roundabouts in the Town. According to best practices, the design of the roundabout itself is such that the approaching traffic is slowed through deflection at the splitter island, and the circulating speed reduces to 30km/h or less. The Town's roundabouts currently require people cycling to share the travel lane (shared-use lane), which is not considered appropriate for all ages and abilities on major roads.

E&N Rail Trail / Burnett Rd

Off-Street Pathway Crossing

There are several locations in the Town where a local or collector road intersects with the two major regional trails—the Galloping Goose and E&N Rail Trail. The BC Active Transportation Design Guide provides detailed direction on the design treatments for these intersections to minimize conflicts. At minor intersection crossings such as the E&N rail trail and Burnett Road, the Design Guide recommends a separate crosswalk and cross-ride pavement markings. It also recommends raised crosswalks to help define right-of-way, slow approaching vehicles, and create a comfortable level crossing for pathway users.

Galloping Goose / Burnside Rd

At major intersection crossings such as Burnside Road and the Galloping Goose, the Design Guide recommends dedicated phasing, pavement markings, and signage to provide a safe and comfortable crossing for all pathway users. The existing crossing has many of these design treatments except for signage.

7.4 Strava

Crowdsourced data and, in particular, Strava have been overlooked in the past as they are considered to capture only a specific segment of the population that rides their bicycle or do any sport activity in a competitive manner. This hypothesis, however, has been discarded recently as the share of people subscribing to the app has been increasing. Research has found that people are increasingly using these apps for both recreational and commuter trips and thus Strava has the potential to capture general trends for active transportation, including identifying desire paths and network gaps. More recently, researchers have been completing spatial and statistical analyses using Strava data to help communities improve their active transportation infrastructure.[31]

WHAT IS STRAVA?

Strava is a mobile app tracking human exercise and incorporates social network features. It is mostly used for cycling and running using GPS data. If an activity is publicly shared, Strava automatically groups activities together, when they occur at the same time and place. Each activity shows users' activity results, including route summary in map view form, elevation, speed, timing, power, and heart rate.

More information about Strata is available online at:

Traditional approaches to obtaining ridership data can only capture specific segments and lack the potential variation of trips between summer and winter season. Physical activity apps, like Strava, can provide a detailed log of trips per street or intersection and have a significant ridership base that uses it regularly. Even though not everyone utilizes Strava and thus the actual number of cyclists is not going to be representative, Strava could represent the relative use of a road within a city.[32]

Cycling activity trends showed a significant 28% increase in total cycling trips recorded on Strava from 2019 to 2020. This growth in cycling trips did not replicate from 2020 to 2021, with an increase of 7%, however it demonstrates that the increase that was observed during COVID-19 pandemic has become the new normal, with early data from 2022 confirming this. In addition, data from Strava indicate an increase in E-bike rides. In 2020, of the total trips recorded 1% was made by E-bikes (3,191),

[31] Ferster, C. & Nelson, T. & Laberee, K. & Winters, M. (2021). *Mapping bicycling exposure and safety risk using Strava Metro. Applied Geography*. Vol 127. Available online at: https://doi.org/10.1016/j.apgeog.2021.102388
[32] Jestico, B. & Nelson, T. & Winters, M. (2016). *Mapping ridership using crowdsourced cycling data*. Journal of Transport Geography, Vol 52, pp 90-97. Available online at: https://doi.org/10.1016/j.jtrangeo.2016.03.006

this has doubled in 2021 with 2% of the total trips being made by E-bikes (6,971). Early data from 2022 indicate that 2.8% of the total trips were made by E-bikes (1,671), demonstrating an upward trend in the use of E-bikes across the Capital Regional District.

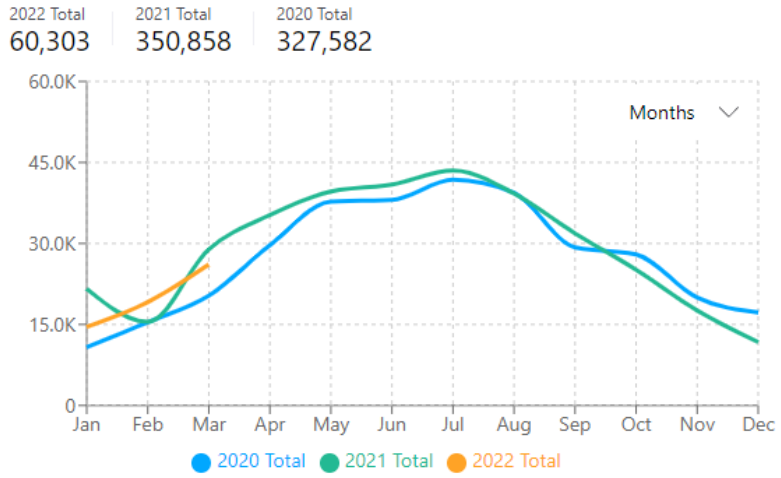


Figure 5 – Total Strava trips recorded in the Capital Regional District (2020-2022)

As discussed above, even though the number of trips may not capture total cycling activity, it does provide an indication of cycling utilization and which corridors are preferred and perceived as safer or more convenient for users. For View Royal, as shown on the heat map below, every arterial, collector and many local streets indicate a desire line regardless of the existing infrastructure. If these corridors were to be improved, that in hand would enable more people to choose cycling for their travel mode. Some of the most active corridors based on the total trips for 2021 include:

- E&N Rail Trail
- Galloping Goose Regional Trail
- Burnside Road West
- Helmcken Road
- Admirals Road
- Island Highway
- Watkiss Way

Figure 6 – Strava Heatmap based on cycling activity between April 2021 – March 2022

7.5 Barriers to Cycling in View Royal

7.5.1 Existing Cycling Network

While View Royal benefits from having two AAA multi-use pathways, the on-street cycling network lacks connections and facilities that would attract more cycling trips. The following list identifies the major gaps in the network:

1) **Admirals Road:** This corridor has a significant potential as it connects View Royal with the neighbouring municipalities of Esquimalt and Saanich. Currently, the E&N Rail Trail turns on Hallowell Road and the stretch between Hallowell Road and Island Highway is a significant gap in the cycling network. There is significant commercial activity along this section of Admirals Road that has the potential to attract cyclist trips but also connect inter- or intra-community trips to View Royal via Island Highway, to Saanich via Admirals Road, and to Esquimalt via Craigflower Road. In 2014, the District of Saanich improved the cycling facilities along Admirals Road with the Craigflower Bridge improvements.
2) **Island Highway:** The bicycle lanes along Island Highway come to end at the Six Mile bridge when traveling northbound, or at the Highway 1 intersection when traveling westbound. With approximately 39,000 vehicles per day along

this corridor, most people would not feel comfortable or safe sharing the road with vehicles.

3) **Six Mile Road:** This corridor has a combination of painted bicycle lanes and shared-use lanes. With 10,000 vehicles per day along Six Mile Road, the existing cycling facilities are not adequate for all ages and abilities, especially for those trying to access Thetis Lake by bike.
4) **E&N Rail Trail + Galloping Goose Trail:** Overall, the existing network could benefit from more connections to the trails. There are opportunities to fill some of the gaps through new developments or new pathways connecting to residential areas. This will be further explored in the ATNP process.
5) **Burnside Road**: There is no facility on Burnside Road just south of Helmcken Road and continuing into the District of Saanich. With over 9,000 vehicles per day, a cycling facility is required along this road.
6) **Helmcken Road:** The streetscape on Helmcken Road both north and south of the Trans-Canada Highway is lacking accommodation for people cycling. As shown in the photos below, the painted bicycle lane terminates on the approach to the highway, which forces people cycling to cross a vehicle travel lane to connect with the bike facility. This is dangerous and could lead to collisions with motor vehicles.

7.5.2 Existing Cycling Facilities Not Meeting AAA Standards

Even though the Town has cycling facilities on most of its major roads, most of the facilities do not meet best practices and/or accommodate people of all ages and abilities. The BC Active Transportation Design Guide recommends that for streets with more than 4,000 vehicles/day (regardless of the posted speed limit), cycling facilities should be considered that separate people cycling from motor vehicles. That means that all of the collector and arterial roads should have protected bicycle lanes or a type of multi-use pathway. Based on the definition in the Design Guide, none of View Royal's existing cycling facilities are classified as suitable for all ages and abilities. A detailed description of each bicycle facility is provided in **Table 6**. Through the development of the ATNP, a more detailed analysis will be completed to identify the types of AAA facilities required in the network and what should be prioritized in the short, medium, and long-term.

Table 6 – Detailed Breakdown of Existing Cycling Facilities

Bike Facility / Location	Posted Speed Limit	Average Daily Traffic	Notes
Bicycle Lane			
Island Highway *(Admirals Rd to Hwy 1)*	50 km/h	16,500 – 23,600	• Exceed the recommended threshold of 4,000 vehicles/day • Not suitable facility based on volumes and posted speed limit
Island Highway *(south of Six Mile Bridge)*	50 km/h	32,300	• Exceed the recommended threshold of 4,000 vehicles/day • Not suitable facility based on volumes and posted speed limit
Helmcken Road *(Island Hwy to Hwy 1)*	30 – 50 km/h	5,700	• Exceed the recommended threshold of 4,000 vehicles/day • Not suitable facility based on volumes and posted speed limit
Helmcken Road *(north of Hwy 1)*	50 km/h	12,000 – 16,300	• Exceed the recommended threshold of 4,000 vehicles/day • Not suitable facility based on volumes and posted speed limit
Watkiss Way *(Helmcken Rd to Burnside Rd W)*	30 – 50 km/h	8,000	• Exceed the recommended threshold of 4,000 vehicles/day • Not suitable facility based on volumes and posted speed limit

Bike Facility / Location	Posted Speed Limit	Average Daily Traffic	Notes
Six Mile Road *(north of Atkins Rd)*	50 km/h	3,400 – 10,900	• Not suitable facility based on volumes and posted speed limit
Shared-Use Lane			
Admirals Road *(Island Hwy to Hallowell Rd)*	50 km/h	12,200	• Exceed the recommended threshold of 2,500 vehicles/day • Not suitable facility based on volumes and posted speed limit
Burnside Road West *(Kami Ct to boundary with Saanich)*	50 km/h	4,300	• Not suitable facility based on posted speed limit
Burnside Road West *(Boundary with Saanich to Helmcken Rd)*	50 km/h	2,400	• Not suitable facility based on volumes and posted speed limit

7.5.3 Intersections

According to ICBC, four out of five crashes involving cyclists take place at intersections in BC.[33] It is crucial for the success of both the cycling and pedestrian network to have a safe crossing point and to mitigate as many conflicts as possible through well-thought design.

Three key points should stand out when reviewing intersections:

1) Maintaining low speeds for motor vehicles
2) Ensuring sightlines so that people cycling and walking are visible to other modes
3) Denoting clear right-of-way

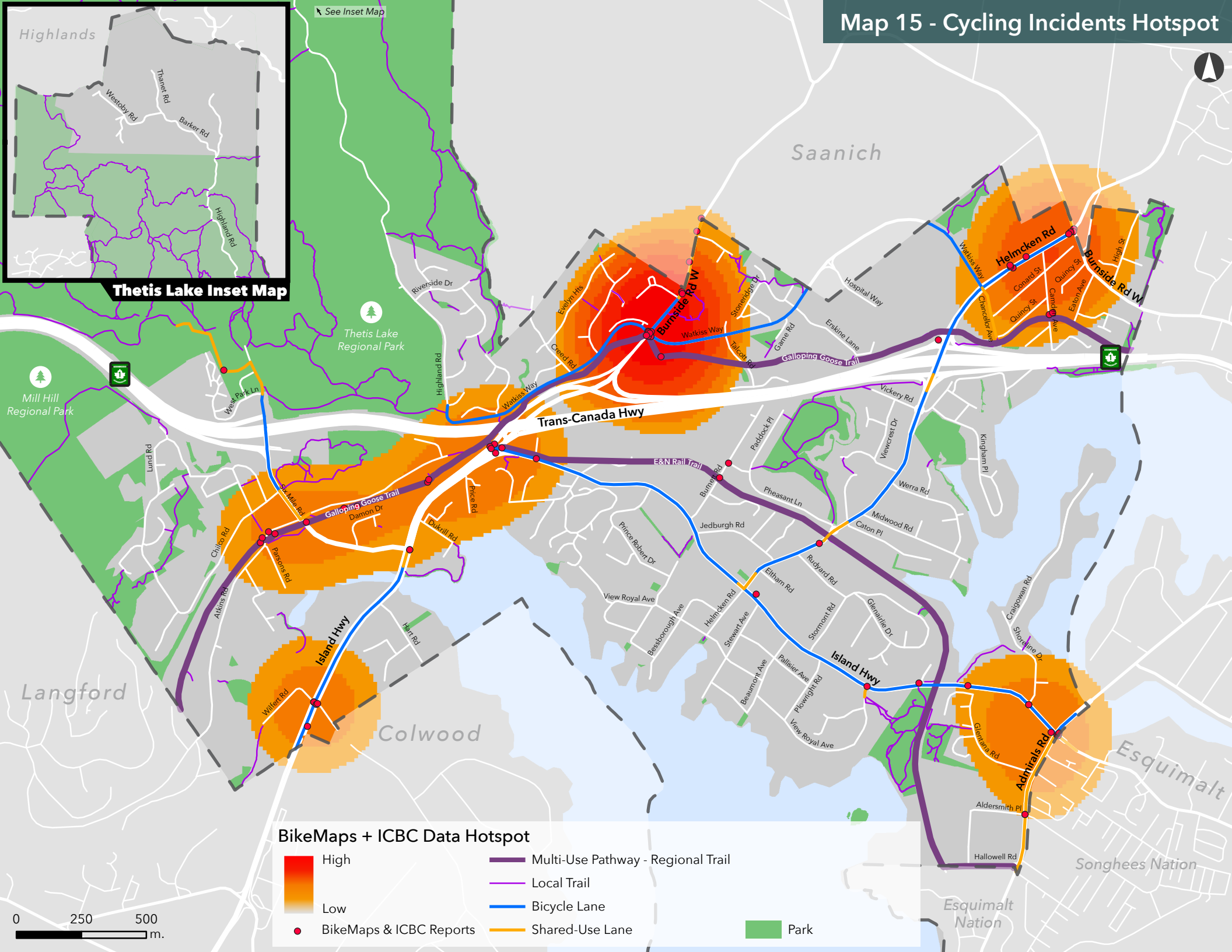
Using data and analysis from the University of Victoria and BikeMaps.org, a number of hotspots were identified that hinder cycling safety at the intersection level. The hotspots are shown in **Map 15** and **Table 7** below. The dataset used combined BikeMaps.org reports and ICBC reports for incidents involving cyclists between 2013 – 2021.

[33] ICBC (2022). Cycling Safety. Available online at: https://www.icbc.com/road-safety/sharing/Pages/cycling-safety.aspx

Table 7 – Summary of Cycling Incident Hotspots

Location		Description	Data
1	**Burnside Rd W & Galloping Goose Trail & Watkiss Way**	Dangerous Galloping Goose crossing. Drivers fail to yield on left turns, striking or nearly striking cyclists in the crosswalk.	*10 BikeMaps.org near misses* *3 BikeMaps.org crashes* *4 ICBC crashes (3 casualties)*
2	**Burnside Rd W & Helmcken Rd**	Right hooks as eastbound cyclists riding in the bicycle lane continue straight through the intersection.	*2 BikeMaps.org near misses* *1 BikeMaps.org crash* *3 ICBC crashes (2 casualties)*
3	**Helmcken Rd (southbound bicycle lane)**	Right hooks as drivers turn right across bicycle lane, conflicts with drivers turning across bicycle lane onto Helmcken Rd; drivers invade bike lane	*4 BikeMaps.org near misses*
4	**E&N Rail Trail – Humpback Connector & Island Hwy & Burnside Rd W**	E&N Rail trail crossing. Drivers fail to obey traffic signals (run red light, illegal turn), striking or nearly striking cyclists in the crosswalk. Collision with fixed bollard at E&N Rail Trail entrance.	*2 BikeMaps.org near misses* *1 BikeMaps.org crash* *3 ICBC crashes (2 casualties)*
5	**Island Hwy & Wilfert Rd & Turning Lane**	Drivers turning right onto Island Hwy from Wilfert Rd turn right in front of cyclists traveling straight and downhill through the intersection; right hooks as cyclists travel downhill on Island Hwy in the bicycle lane.	*2 BikeMaps.org near misses* *1 BikeMaps.org crash* *3 ICBC crashes (3 casualties)*
6	**Island Hwy (View Royal Ave to Admirals Rd)**	Conflicts in the bicycle lane with drivers turning across cyclists path and invading the bicycle lane; conflicts in intersection with drivers turning; conflicts with drivers turning in to gas station at intersection.	*3 BikeMaps.org near misses* *3 BikeMaps.org crashes* *3 ICBC crashes (2 casualties)*
7	**Admirals Rd & Aldersmith Pl & Cooper Rd**	ICBC data, no description available	*2 ICBC crashes (2 casualties)*
8	**Galloping Goose Trail & Atkins Rd**	Conflicts with motor vehicles in crosswalk; single bicycle crashes in crosswalk due to black ice	*1 BikeMaps.org near miss* *1 BikeMaps.org crash* *1 ICBC crashes (no casualties)*
9	**E&N Rail Trail & Burnett Rd**	E&N Rail Trail crossing. Drivers fail to yield at stop sign, striking or nearly striking bicyclists in the crosswalk.	*1 BikeMaps.org near miss* *1 ICBC crash (1 casualty)*
10	**Burnside Rd W (north of Watkiss Way)**	Uphill terrain and poor visibility heading north, near misses as drivers overtake cyclists.	*5 BikeMaps.org near misses*

Map 15 - Cycling Incidents Hotspot



BikeMaps + ICBC Data Hotspot

- High
- Low
- BikeMaps & ICBC Reports
- Multi-Use Pathway - Regional Trail
- Local Trail
- Bicycle Lane
- Shared-Use Lane
- Park

0 250 500 m.

8.0 TRANSIT NETWORK

Public transit services, which are provided by BC Transit, are important for increasing sustainable trips within the Town and across the CRD. With 84% of View Royal's residents working outside of the Town,[34] transit is an excellent option for longer commutes and further supports the suite of mobility options that can assist residents in walking and cycling more. Transit is considered a form of active transportation in that walking and cycling account for part of the overall trip, depending on where the person begins and ends their trip. Likewise, transit contributes to the Town's overall economic development since it enables residents from other parts of the CRD to access services and employment in View Royal. Further, transit provides a viable option for those who do not own a vehicle and therefore ongoing improvements to service can address many of the equity challenges identified in **Section 2.5**.

Per the 2016 census, 9% of commuter trips in View Royal were by transit, which is slightly lower than the CRD average of 11%. Out of the four neighbouring municipalities (Colwood, Esquimalt, Langford, Saanich), View Royal ranks in the middle with a range of 7-12% in mode share. That said, Esquimalt saw 16% of its commuter trips made by transit. If a greater percentage of mode share was represented by transit, congestion and vehicle emissions from single-occupant trips could be reduced.

8.1 Service Overview

8.1.1 Existing Service

The Town of View Royal is directly serviced by 10 transit routes as part of the Victoria Regional Transit System, which is a cost-shared BC Transit system whose decision making is by the Victoria Regional Transit Commission. All routes vary with the level of frequency and span provided based on the three classification types:

- **Regional Route** – These routes provide service and connect key regional destinations, have fewer bus stops, operate almost all day, and run very frequently.

[34] Statistics Canada (2017). *View Royal, T [Census subdivision], British Columbia and Capital, RD [Census division], British Columbia (table). Census Profile. 2016 Census*. Statistics Canada Catalogue no. 98-316-X2016001. Ottawa. Released November 29, 2017. Available online at: https://tinyurl.com/ywf5xmru

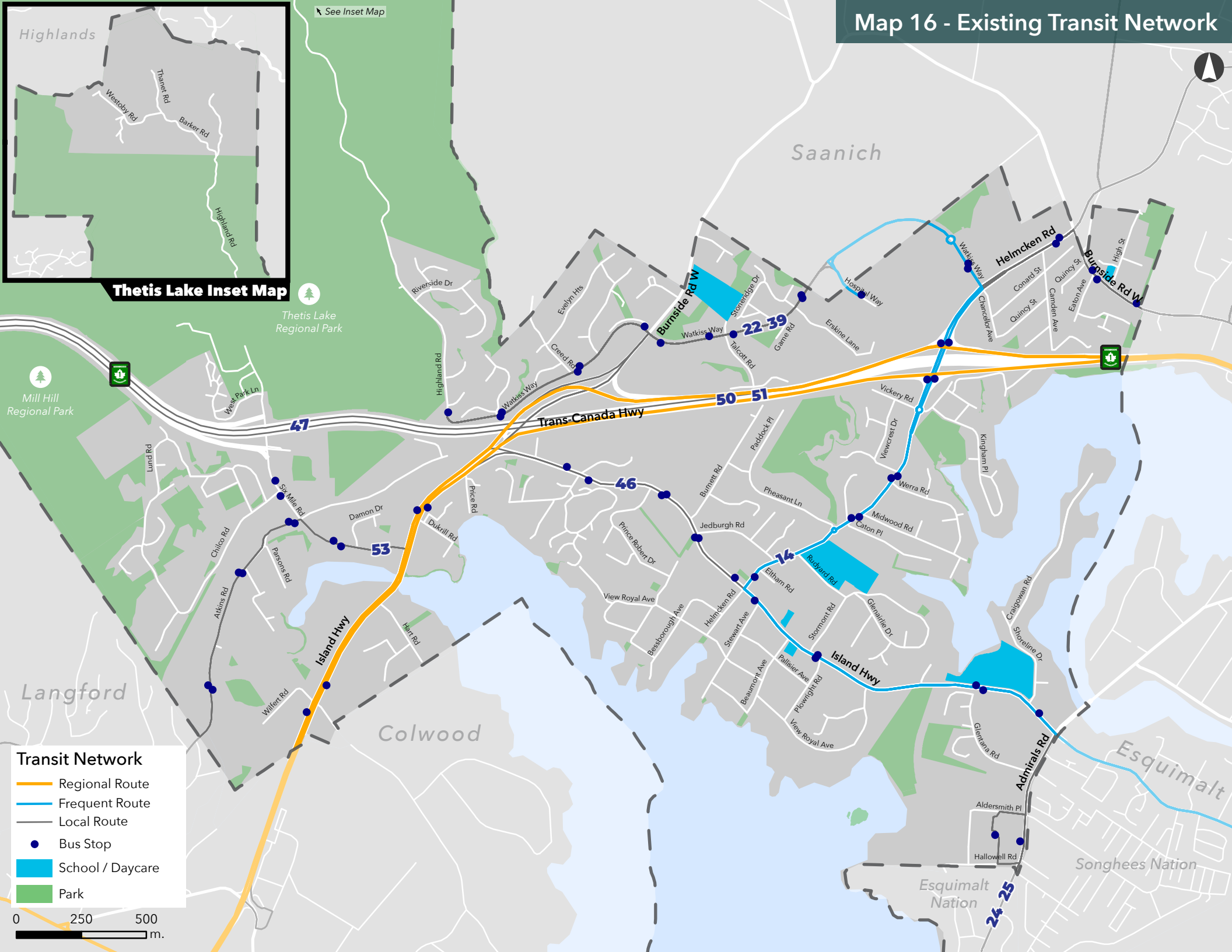
- **Frequent Route** – Frequent routes are typically shorter in distance than regional routes, provide service to key employment hubs, operate almost all day, and run every 15 minutes or better.
- **Local Route** – Local routes offer service within communities, have more stops, and operate in lower service frequency.

The existing service information for each route that serves View Royal is summarized in **Table 8**. **Map 16** presents the transit routes and bus locations in View Royal.

Table 8 – Transit Service Summary

Route Number / Type	Route Name	Peak Frequency	Span	Avg. Daily Boardings *(2021)*	Avg. Riders per Service Hour *(2021)*
50 – Regional	Langford / Downtown	8 – 9 min	5:10am – 2:07am	1,049	9.6
14 – Frequent	Vic General / UVic	12 min	5:40am – 1:49am	692	6.3
22 – Local	Vic General / Hillside Centre	20 – 30 min	6:10am – 9:54pm	219	4.5
24 – Local	Admirals Walk / Cedar Hill	35 – 40 min	6:22am – 11:25pm	84	3.7
25 – Local	Maplewood / Admirals Walk	35 – 40 min	6:22am – 11:32pm	102	4.1
39 – Local	Westhills / Interurban / Royal Oak / UVic	30 min	6:22am – 9:50pm	138	4.5
46 – Local	Dockyard / Westhills	30 – 35 min	6:10am – 6:49pm	103	12.9
47 – Local	Goldstream Meadows / Downtown	30 min	6:22am – 8:18am & 4:11pm – 6:13pm	35	11.7
51 – Local	Langford / UVic	15 min	6:36am – 6:17pm	69	23
53 – Local	Victoria General Hospital / Langford Exch	60 – 80 min	6:18am – 8:40pm	11	1.2

Currently, View Royal is serviced throughout the day with routes that offer direct connections to most key destinations in the Greater Victoria area. Two routes (Routes 50, and 14) currently offer service at 15 minutes or better for most of the day and with a substantial span of service operating from early in the morning until past midnight. This level of service allows residents—especially those who live close to transit—to use transit with a high level of confidence and commute to major destinations such as downtown Langford, Colwood Exchange, University of Victoria, Uptown Mall, Royal Jubilee Hospital, Camosun College, downtown Victoria, and more. These routes are also augmented by route 5,1 which offers some 15 minute service at weekday peak times to/from the University of Victoria and other destinations in Saanich along the McKenzie Avenue corridor.


Map 16 - Existing Transit Network
See Inset Map
Thetis Lake Inset Map
Highlands
Thanet Rd
Westoby Rd
Barker Rd
Highland Rd
Thetis Lake Regional Park
Mill Hill Regional Park
Saanich
Langford
Colwood
Esquimalt
Songhees Nation
Esquimalt Nation
Trans-Canada Hwy
Island Hwy
Burnside Rd W
Helmcken Rd
Admirals Rd
Riverside Dr
Evelyn Hts
Creed Rd
Watkiss Way
Stoneridge Dr
Hospital Way
Talcott Rd
Game Rd
Eskine Lane
Chancellor Ave
Conard St
Quincy St
Camden Ave
Eaton Ave
High St
Vickery Rd
Viewcrest Dr
Kingham Pl
Paddock Pl
Burnett Rd
Pheasant Ln
Werra Rd
Midwood Rd
Caton Pl
Rudyard Rd
Eltham Rd
Jedburgh Rd
Prince Robert Dr
Price Rd
Dukrill Rd
Six Mile Rd
Damon Dr
Parsons Rd
Chilco Rd
Atkins Rd
Wilfert Rd
Hart Rd
Lund Rd
West Park Ln
Highland Rd
View Royal Ave
Bessborough Ave
Stewart Ave
Beaumont Ave
Pallisier Ave
Plowright Rd
Stormont Rd
Glenairlie Dr
Craigdarroch Rd
Shoreline Dr
Glentana Rd
Aldersmith Pl
Hallowell Rd
47
46
53
22
39
50
51
14
24
25
Transit Network
Regional Route
Frequent Route
Local Route
Bus Stop
School / Daycare
Park
0
250
500
m.

8.1.2 Future Service

A Local Area Transit Plan was developed in 2021 by BC Transit for the Esquimalt-View Royal Area and builds on the 25-year vision for transit development. The plan includes service changes, network modifications, and infrastructure improvement, which will help increase the transit mode share within View Royal and the Greater Victoria region. See **Table 9** for a summary of the improvements targeted for View Royal transit per the Local Area Transit Plan.

Table 9 – Improvements to View Royal Transit

Route Name	Improvement
Short-term	
53 - Victoria General Hospital / Langford Exch	Realign route from turning south on Six Mile Road to travel on the Island Highway and terminate at Colwood Corners instead of the Victoria General Hospital.
24 – Admirals Walk / Cedar Hill	Realignment to provide service to Tillicum Mall via Cowper Street and Obed Avenue.
Medium-term	
53 - Victoria General Hospital / Langford Exch	Introduce midday and weekend service to existing peak-only service. Once stable ridership is established invest additional hours and develop the route into a frequent transit route.
46 – Dockyard / Westhills	Improve access for residents and area as well as for Langford residents accessing Vic General Hospital.

RapidBus will also be implemented within View Royal in the coming years to better serve commuters and aid in efficient trips connecting the West Shore communities to downtown Victoria. As detailed in the Victoria Regional RapidBus Implementation

Strategy[35] and the West Shore Local Area Transit Plan[36], the existing route 50 is proposed to evolve into the West Shore RapidBus Line that will also serve View Royal on its alignment between Langford and Downtown Victoria. In addition to significant frequency and convenience improvements from this limited stop service, two stations are proposed for the Town as part of this service's full implementation in the medium-term (next 3-5 years):

- **Helmcken** – Located in both directions on the interchange of Trans-Canada Highway at Helmcken Road, the RapidBus stations will feature larger shelters and passenger amenities served by bus lanes and queue jumps. The stations will also facilitate connections to/from frequent and local services operating on Helmcken Road at adjacent stops, particularly Route 14.
- **Six Mile** – Located on both sides of Island Highway at Atkins Road, these stations are planned to relocate other existing nearby stops at Dukrill Road and will feature larger shelters and passenger amenities that are also served by transit priority lanes and a new pedestrian signal and crosswalk at Atkins Road. The pair of stations will also connect to a Park & Ride location.

8.2 Ridership Summary

The consultant team obtained 2021 ridership data from BC Transit for the stops that are serviced in View Royal. **Table 10** identifies the top five stops measured by the total combined number of boardings and alightings or otherwise known as "total bus stop activity" for 2021. **Map 17** shows the bus stop activity across View Royal's bus stops. The busiest bus stops are located adjacent to major employment hubs and commercial uses, such as the Victoria General Hospital, the Eagle Creek Village, Admirals Walk Shopping Centre, and Capital Regional District's offices (Island Highway & Six Mile Road).

[35] BC Transit. (2021). *Victoria Regional RapidBus Implementation Strategy*. Available online at: https://www.bctransit.com/documents/1529712854568
[36] BC Transit. (2022). *West Shore Local Area Transit Plan*. Available online at: https://www.bctransit.com/documents/1529716646447

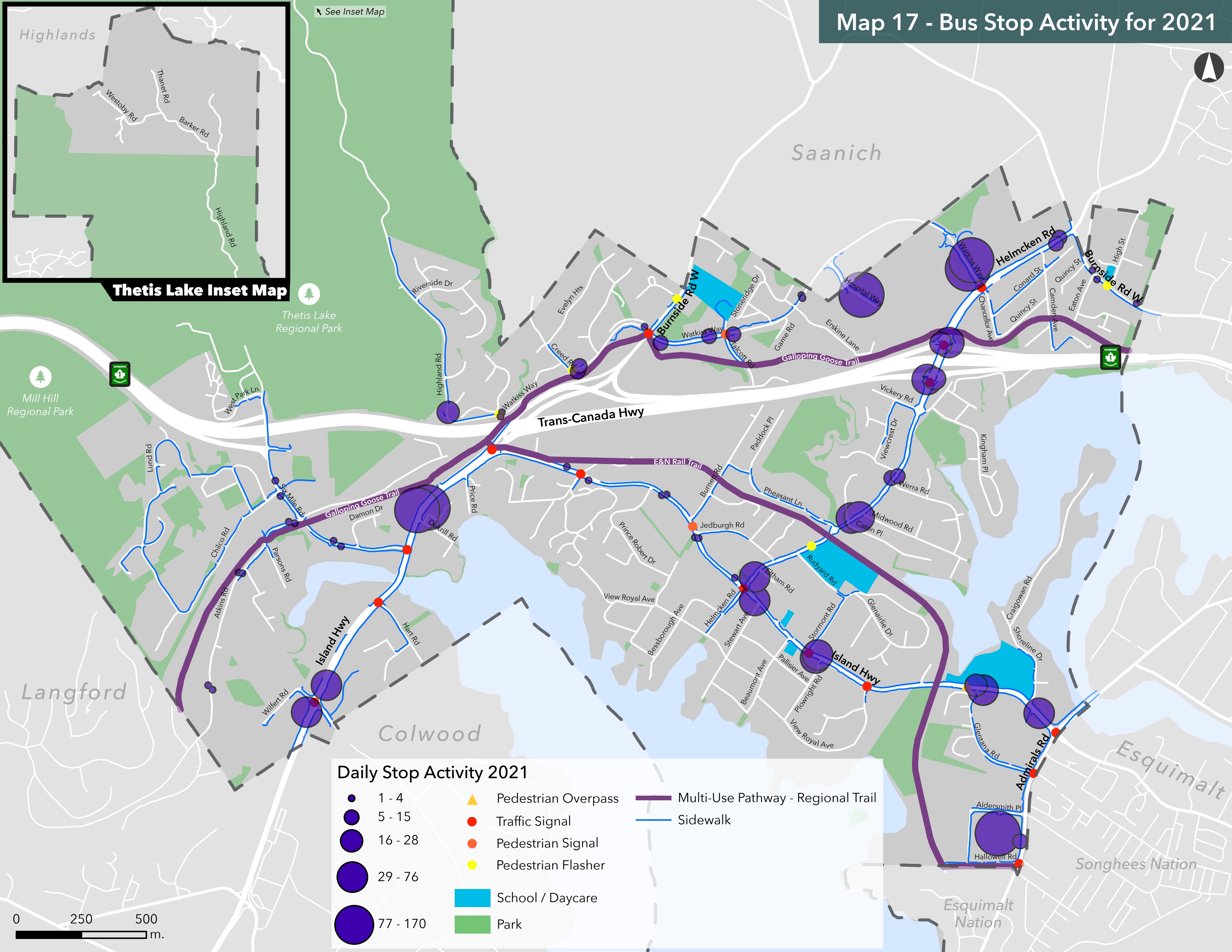
Table 10 - Bus Stop Activity View Royal (Top 5)

Bus Stop ID + Location	Related Destination	Boardings	Alightings	Total Bus Stop Activity
Hospital Way @ Parking Entrance (WB) (101119)	Victoria General Hospital	87	82	170
Island @ Dukrill (NB) (101262)	Six Mile	118	38	156
Island @ Dukrill (SB) (101254)	Six Mile	38	112	150
Outlook @ Aldersmith (SB) (100881)	Admirals Walk Shopping Centre	61	55	115
Watkiss @ Helmcken (SB) (101080)	Eagle Creek Village	99	8	107

Ridership activity in View Royal has dropped significantly since 2019, which is considered the year most representative of transit activity prior to the COVID-19 pandemic. There was a sharp 42% decrease in bus stop activity observed when comparing 2019 to 2021 data. The drop can be explained by several factors including lower comfort levels for riding transit after the start of the pandemic along with more remote work. As per the Esquimalt-View Royal Local Area Transit Plan (LATP), the drop in ridership for that area was the most dramatic in the Victoria system. However, as per the findings of the most recent LATP for the West Shore, overall ridership has begun to rebound across the whole transit system as COVID-19 restrictions have been eased.[37]

[37] BC Transit. (2022). *West Shore Local Area Transit Plan*. Available online at: https://www.bctransit.com/documents/1529716646447

Map 17 - Bus Stop Activity for 2021



8.3 Bus Stop Infrastructure

There are 57 bus stops within the Town. Just under 40% of these stops (21 stops) have a shelter that can provide protection from the weather for transit users. Amenities for transit users, including shelter, bench, garbage bin, and transit information tend to be located at the bus stops with ridership. However, some of the bus stops that have seen high levels of activity do not have any amenities (e.g., shelter, bench, garbage bin, transit information). Some of those higher-use bus stops that should be considered as priorities for improved passenger amenities are:

- Outlook @ Aldersmith (SB) [100881]
- Watkiss @ Helmcken (SB) [101080]
- Helmcken @ Westbound TCH Offramp (NB) [101064]
- Helmcken @ Midwood (NB) [101026]
- Helmcken @ Westbound TCH Offramp (SB) [101069]
- Helmcken @ Helmcken Park and Ride (NB) [101046]

Most bus stops are well connected with sidewalks that allow safe and comfortable access for people that want to use transit. As part of active transportation network planning, it is critical to ensure there is pedestrian infrastructure—including sidewalks and crossings—that connect bus stops with nearby destinations (e.g., commercial, employment hubs, multi-family residential buildings, etc.). Most of the bus stops in View Royal are in proximity to a signalized intersection. Currently, three locations require further review to improve safe crossings:

- Outlook @ Aldersmith (SB) [100881]
- Island @ Dukrill [101262 & 101254]
- Helmcken @ Midwood (NB) [101026]

Lastly, where stops also clearly interface with major cycling infrastructure or nearby major destinations, bike racks at stops should also be considered.

9.0 EMERGING MOBILITY TRENDS

9.1 Overview

New technologies and systems are introduced within transportation that disrupt and evolve the status quo and lead to new perspectives when planning our transportation network. With the help of technology advancements and socio-behavioural shifts, a significant number of new mobility options have surfaced in the last decade that give people more transportation options that market their convenience to move away from motor vehicle ownership and subsequently automobile dependency.

Examples of these new mobility options that have arisen in North America include carsharing (e.g., Evo, Modo), ride-hailing (e.g., Uber, Lyft), micromobility vehicles (e.g., e-bikes, e-scooters), shared micromobility programs (e.g., Mobi, Lime, HOPR). In addition, great interest and subsequently significant advancements have been made in the electrification of transportation from electric vehicles to e-bikes and e-scooters, which can reduce greenhouse gas (GHG) emissions. All these new mobility options will have a significant impact on how we move around and need to be taken into consideration when planning the future of View Royal.

9.2 Electric Bikes

9.2.1 What is it & Why is it important?

Electric bicycles (e-bikes) are bicycles with an electric motor of 500 watts or less, and functioning pedals that are limited to a top speed of 32 km/h without pedaling. Electric bicycles make cycling more attractive for a greater diversity of the population, particularly for older adults, women, and people with disabilities, as they increase the maximum length of bicycle trips, minimize the impact of hills and other terrain challenges, and allow people to bike with heavier cargo loads. Further, electric bicycles can help municipalities achieve their GHG emission reduction targets. With supportive cycling infrastructure in place, e-bikes have the potential to substitute for, or completely replace, a substantial number of trips taken by a gasoline powered car, which could address congestion issues within urban areas.

Recent research on e-bikes has reported the following impacts on vehicle ownership:

- A 2020 scoping review looked at 76 studies that have been published to date on electric bikes. It found that the proportion of car journeys substituted following acquisition of an e-bike ranged from 20% to 86%, with three studies reporting the substitution of short car journeys with the e-bike.[38]
- A 2020 study found that people who purchased an e-bike increased their bicycle use from 2.1 to 9.2 km per day on average.[39]
- A 2019 study found that approximately 39 kilometres of driving per week is displaced by the average e-bike adopter along with 14 kilometres of travel by conventional bicycle.[40]
- A 2018 study presented results of a North American survey of electric bike owners. The study reported that 62% of e-bike trips replaced trips that otherwise would have been taken by car. Of these trips previously taken by car, 45.8% were commute trips to work or school, 44.7% were other utilitarian trips (entertainment, personal errands, visiting friends and family, or other), and 9.4% were recreation or exercise trips. The average length of these previous car trips was 15 kilometres.[41]

9.2.2 Application to View Royal

There are not publicly available data in the Town about the number of electric bicycles per household. However, based on regional trends, which indicate that e-bike adoption is increasing, the number of e-bikes in the community is likely on the rise.

[38] Bourne, J.E., Cooper, A.R., Kelly, P., Kinnear, F.J., England, C., Leary, S., and A. Page. (2020). The impact of e-cycling on travel behaviour: A scoping review. *Journal of Transportation Health*, 19.
[39] Fyhri, A & H.B. Sundfor. (2020). Do people who buy e-bikes cycle more? *Transportation Research Part D*, 86, 1-7.
[40] Bagasse, A & E Borgesian. (2019). Electric Bicycles: Can they reduce driving and emissions in Canada. Plan Canada Fall 2019.
[41] MacArthur, J., Harpool, M., & D. Scheppke. (2018). A North American Survey of Electric Bicycle Owners. National Institute for Transportation and Communities, NITC-RR-1041.

The Town could support e-bike adoption in at least two ways, both of which will be further explored in the ATNP process:

1. **E-bike parking requirements in the Zoning Bylaw** | Even though the Town's Zoning Bylaw contains requirements for energizing Class 1 bicycle parking spaces, it does not provide direction on parking design guidelines for non-standard bicycles such as electric bikes. As a result, the bicycle parking provided in new developments may not adequately accommodate non-standard bikes such as e-bikes, which require more space and greater security to minimize theft.
2. **Rebates / incentives for e-bike purchase** | Several BC communities including the District of Saanich, City of Nelson, and City of North Vancouver have introduced e-bike incentive programs to lower the cost of obtaining an e-bike. Each municipality has a different structure / approach to their programs but the objective is to make e-bikes more financially attainable, especially for lower-income residents.

9.3 Micromobility

9.3.1 What is it & Why is it important?

Micromobility has exploded globally and has a market that has attracted a strong customer base. Compared to other mobility services, shared micromobility has attracted significant investments and customers two to three times faster than car sharing and ride-hailing. Micromobility has found its niche in the first and last kilometer transportation as:

- It enables citizens to comfortably access transit
- It discourages people from owning a vehicle
- It can support climate change mitigation efforts

9.3.2 Application to View Royal

The Town could support micromobility in at least two ways, both of which will be further explored in the ATNP process:

1. **Shared micromobility program** | more cities are investing and/or permitting shared micromobility vehicles for individual use, typically for a short duration, for a price. Primarily, there are two distinct types of shared micromobility: docked and dockless.
    a. **Docked systems** include shared vehicles that are parked in special racks at one of multiple stations where users can unlock vehicles with a membership card, cell phone, credit card. The user has to return the vehicle to the same or another station. Docking stations are typically found with bike share systems.
    b. **Dockless systems** include shared vehicles that are parked without a rack in the furniture zone or in designated areas called "havens". This system provides flexibility and efficiency for the user, as it allows them to park very close to their destination. Dockless systems are typically found with electric scooter sharing systems and some bike share systems. Dockless systems require members to have a smartphone in order to locate a vehicle.

One of the recommended actions in the Esquimalt ATNP is to participate in a future regional bike share program with neighbouring municipalities such as View Royal. A shared micromobility program with View Royal and neighbouring municipalities will be further explored in the ATNP.

2. **Supporting private micromobility** | The significant increase in e-bikes and e-scooters over the last couple years has required communities to critically think about the regulations that should dictate where and how these vehicles should be used. The Town of View Royal could [a] conduct a detailed review of all the relevant Bylaws with transportation staff and the legal department to amend or create any new bylaws to facilitate the legal use of privately owned micromobility vehicles and [b] apply for the provincial pilot to legalize the use of micromobility vehicles on all roadways within View Royal.