# Municipality of North Cowichan
# Special Committee of the Whole
# AGENDA

Monday, June 21, 2021, 6:00 p.m.
Electronically

Pages

## 1. CALL TO ORDER

This meeting, though electronic, is open to the public. All representations to Council will form part of the public record. Proceedings will be streamed live and archived at www.northcowichan.ca.

**This meeting shall begin immediately upon adjournment of Special Council Meeting**

*(Note: the meeting link and meeting ID# is the same for this meeting and the Special Council Meeting beginning at 6:00 p.m.)*

Members of the public may join this online meeting and participate virtually during the Public Input and Question Period portions of the agenda.

- To join by computer, smartphone, or tablet, visit northcowichan.ca/virtualmeeting for instructions.
- To join by telephone, dial 1.844.426.4405, enter the meeting ID 177 285 3051, and then press # to join the meeting.

## 2. APPROVAL OF AGENDA

Purpose: To consider any items of business not included in the Agenda, that are of an urgent nature, must be introduced and approved at the time the agenda is adopted. Matters must be taken up in the order that they are listed unless changed at this time.

Recommendation:
That the Special Committee of the Whole agenda be adopted as circulated [or as amended].

## 3. PUBLIC INPUT

Public Input is an opportunity for the public to provide their feedback on matters included on the agenda. The maximum number of speakers to be heard during the public input period is limited to five, with a maximum of three minutes allotted to each speaker. To be added to the speakers list, please:

- click on the 'raise your hand' button, if participating by computer, smartphone, or tablet, or
- dial *3 on your phone

## 4. BUSINESS

4.1. Master Transportation Plan 3 - 127

Purpose: For Watt Consulting to present Council the results of compiling data on existing issues related to transportation networks, public engagement and surveys leading into network assessment and plan development for feedback and comment.

4.2. Biodiversity Protection Policy - Workshop 128 - 150

Purpose: To gather input from Committee of the Whole on the purpose and scope of the 2019-2022 Council Strategic Plan priority project to develop a biodiversity protection policy.

4.3. OCP Update Project - Community Profiles 151 - 218

Purpose: To present the OCP Community Character Engagement results and receive input on the draft OCP Community Character Profiles.

Recommendation:
That the Committee of the Whole recommend that Council accepts the Draft Community Character Profiles as presented in Attachment 1 to the Community Planning Coordinator's June 21, 2021 report entitled "OCP Update Project – Community Character Profiles" as background information for consideration during the drafting of the OCP.

4.4. Land Prices and Affordability

Purpose: Discussion on whether to invite UBC planning professor, Paul Condon, to attend a future meeting to facilitate a dialogue on land prices and affordability.

Recommendation:
That the Committee of the Whole direct staff to invite UBC planning professor Patrick Condon to a attend a Council or Committee meeting this summer, at his earliest convenience, to discuss issues related to growth, development and affordability.

## 5. NEW BUSINESS

## 6. QUESTION PERIOD

Question Period is an opportunity for the public to ask brief questions regarding the business discussed during the meeting. To be added to the speakers list, please:

- click on the 'raise your hand' button, if participating by computer, smartphone, or tablet, or
- dial *3 on your phone

## 7. ADJOURNMENT

Recommendation:
That the meeting be adjourned at _____ p.m.

# North Cowichan Master Transportation Plan

## Review of Phase 1 Existing Conditions

June 21 2021

WATT Consulting Group

MUNICIPALITY OF NORTH cowichan

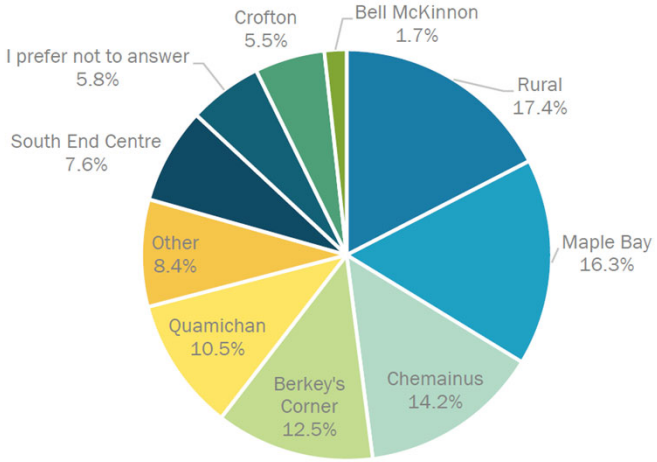
MODUS planning, design & engagement

# AGENDA

- Engagement Strategy
- Walking
- Cycling
- Transit
- Vehicles
- Parking
- Draft Vision & Goals

# ENGAGEMENT

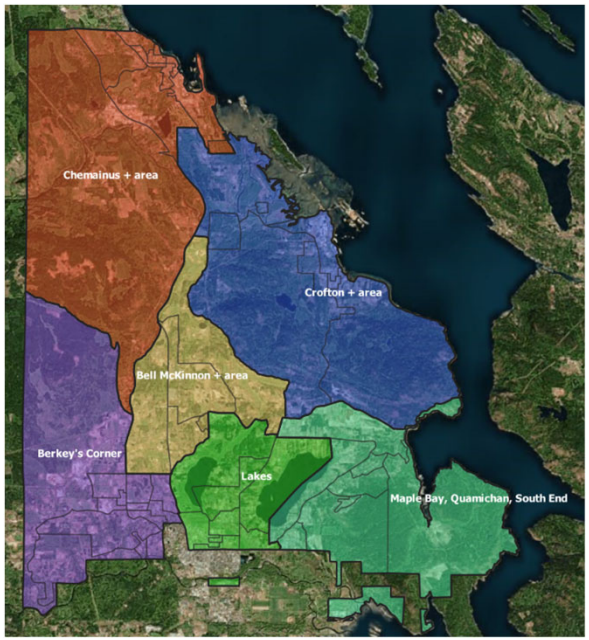
- Public Online Survey
- Informant Interviews
- Letters to First Nation
- Travel Survey (on-going)




Log in at
**NCtravelsurvey.ca**
Your secure access code is
**1234ABCD**

# TRAVEL SURVEY

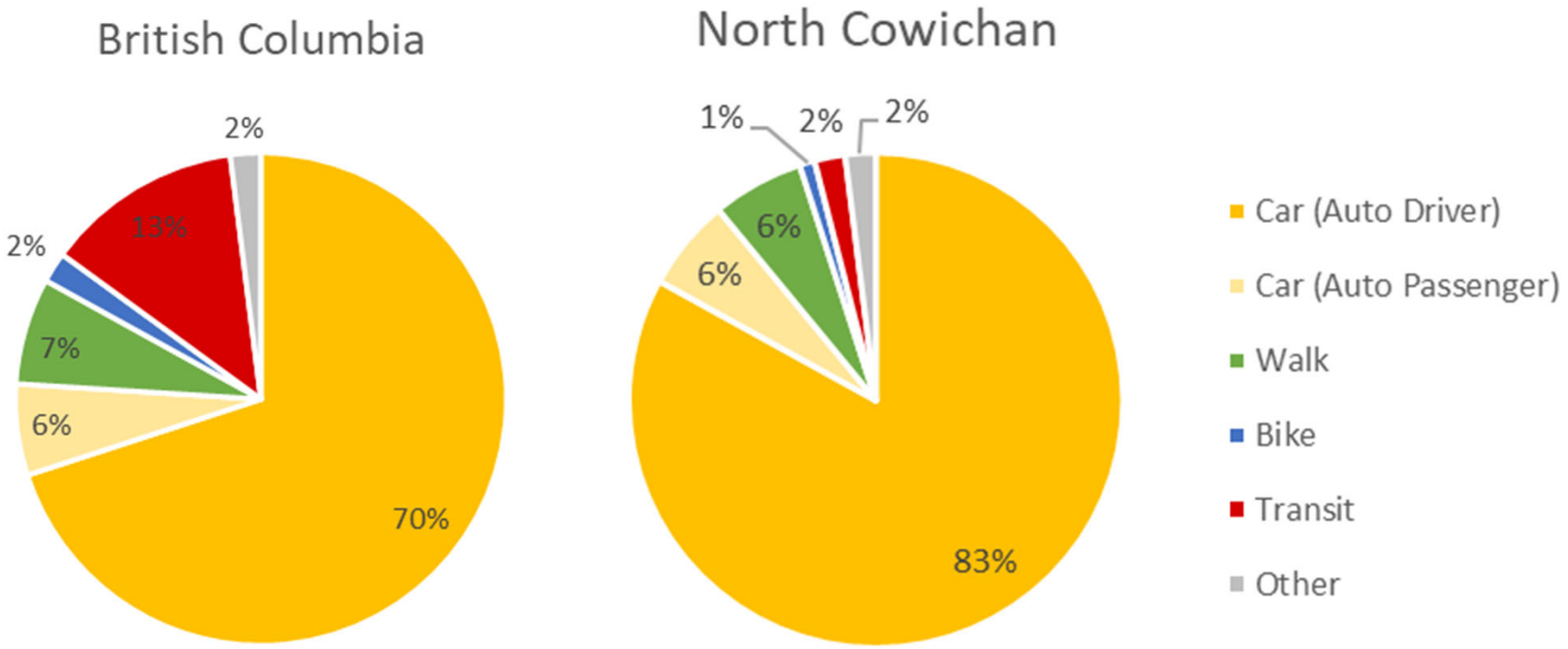
- Total Responses = 1,052 or 8.2% the population
- Exceeded Expectations as goal was 675 response
- To provide mode splits and origin / destination data
- Asked pre, during, and post-COVID questions




| Area | Land area km$^2$ | Population | Pop. density per km$^2$ | Total private dwellings | Persons in private households | Survey Completions* | Sampling Rate |
|---|---|---|---|---|---|---|---|
| Chemainus + area | 53.47 | 4,750 | 88.8 | 2,427 | 4,475 | 201 | 8.8% |
| Crofton + area | 46.01 | 3,517 | 76.4 | 1,485 | 3,430 | 97 | 7.0% |
| Bell McKinnon + area | 19.1 | 1,622 | 84.9 | 682 | 1,610 | 57 | 8.7% |
| Berkey's + area | 33.96 | 9,195 | 270.8 | 3,955 | 9,125 | 261 | 7.0% |
| Lakes | 12.8 | 5,107 | 399.0 | 2,425 | 4,940 | 170 | 7.3% |
| Maple Bay + Quamichan + South End | 31.86 | 5,791 | 181.8 | 2,518 | 5,730 | 266 | 11.0% |
| **Total** | **197.2** | **29,982** | **1101.7** | **13,492** | **29,310** | **1,052** | **8.2%** |

# MODAL SPLIT

- Census level data
- Community level will be from travel survey



# WALKING

- Existing Conditions
  - 136km of sidewalks or 23% of road network
  - 235km of off-road trails 39% of road network
  - Limited sidewalks on major roadways
  - Limited sidewalks in Maple Bay, Lakes, Bell McKinnon areas
  - 13 pedestrian involved collisions over last 5 years

- Crossings
  - Standard policy for crossings needed

- Considerations
  - Determine pedestrian facility types for North Cowichan
  - Develop standards for each type
  - Develop policy for placement of each type

# WALKING – ENGAGEMENT FINDINGS

- Top three barriers:
    - Lack of space / buffer between sidewalk and motor vehicle traffic
    - Lack of sidewalks or other walking infrastructure to my usual destinations
    - Speed, noise, and fumes of motor vehicle traffic

- Top three desired improvements:
    - Improve pedestrian network connections
    - Implement vehicle speed reduction/calming measures
    - Ensure sidewalks are properly maintained

# CYCLING

- Existing Conditions
  - 63km of bicycle facilities or 10% of road network
  - Mixture of off-road (16km); on-road protected (1.3km) bicycle lanes + buffered lanes (33km), & shared lanes (12.5km)
  - Limited connectivity of existing routes
  - Existing facilities don't all meet current standards
  - 12 cyclists involved collisions (with vehicles)

- Considerations
  - Determine bicycle facility types for North Cowichan
  - Review planned routes from 2016 & update
  - Review Strava heat maps
  - Develop standards for each type of facility
  - Develop identify for placement of each type
  - Consider with pedestrian needs
  - Consider wayfinding

# CYCLING – ENGAGEMENT FINDINGS

- Top three barriers:
  - Lack of bike lanes, trails, and other cycling (safe) infrastructure to my usual destinations
  - Lack of bike racks and other secure bike parking / concerns about bike theft
  - Speed, noise, and fumes of motor vehicle traffic

- Top three desired improvements:
  - Improve cycling network connections
  - Build more lanes physically protected
  - Provide more secure bike parking



# TRANSIT

- Existing Conditions
  - Nine Routes + Two commuter routes
  - Covers most of region, but low frequency of service
  - 234 Bus stops under District control
  - Most stops consist of sign & pole
  - Ridership is low (less than 30 passengers per day)
  - Busiest Stops = Cowichan Hospital & Cowichan Commons (40 passengers/day)
  - Next busiest stops are in Chemainus, Crofton, & Berkey's Corner

- Considerations
  - Bus Stop Improvements & Priorities
  - Densification needs for added transit service
  - Education

# TRANSIT – ENGAGEMENT FINDINGS

- Top three barriers:
  - Too infrequent
  - Lack of direct routes to my usual destinations
  - I am not familiar with the transit system

- Top three desired improvements:
  - Increase transit frequency
  - I am not interested in taking transit
  - Expand transit routes

# VEHICLES

- Existing Conditions
  - 607 km of roads
  - 76% are locals
  - Road standards have wide lanes, no bicycle facilities, & pedestrian facilities are too narrow
  - Majority of major roads have 3,000 to 5,000 vpd
  - Maple Bay Road, Drinkwater Road, Somenos Road & Cowichan Lake Road have 5,000 to 12,200 vpd
  - Only two poor operational locations: Somenos/Cowichan Lake/Sherman & Tzouhalem/Maple Bay
  - Top Collision Locations are signals & roundabouts + Herd/Lakes & Herd/Osborne Bay & Canada Ave/Philip St
  - Truck Policy is based on restricting roads rather than identify routes trucks should be using

# VEHICLES

- Existing Conditions - Speeds
  - 15 roads have speeds > than 10km/h over the posted speed limit
  - Roads with 30 to 40km/h speed limits have greatest difference between operating & posted speed limit
  - Most roads are rural in nature – wide lanes, shoulders, limited driveways, low density land use
- Considerations
  - Policy for posted speed limits
  - Updated road cross sections to change the nature of the roads
  - Identify geometric changes to change nature of roads
  - Update traffic calming policy to include arterial and rural roads
  - Review with OCP (land use)

# VEHICLES – ENGAGEMENT FINDINGS

- Top three barriers:
  - Too much traffic congestion when I need to travel
  - I have no driving related challenges
  - Unsafe intersections

- Top three desired improvements:
  - Create physical separation between vehicles and cyclists
  - Provide more off-street parking at key destinations
  - Improve intersection safety



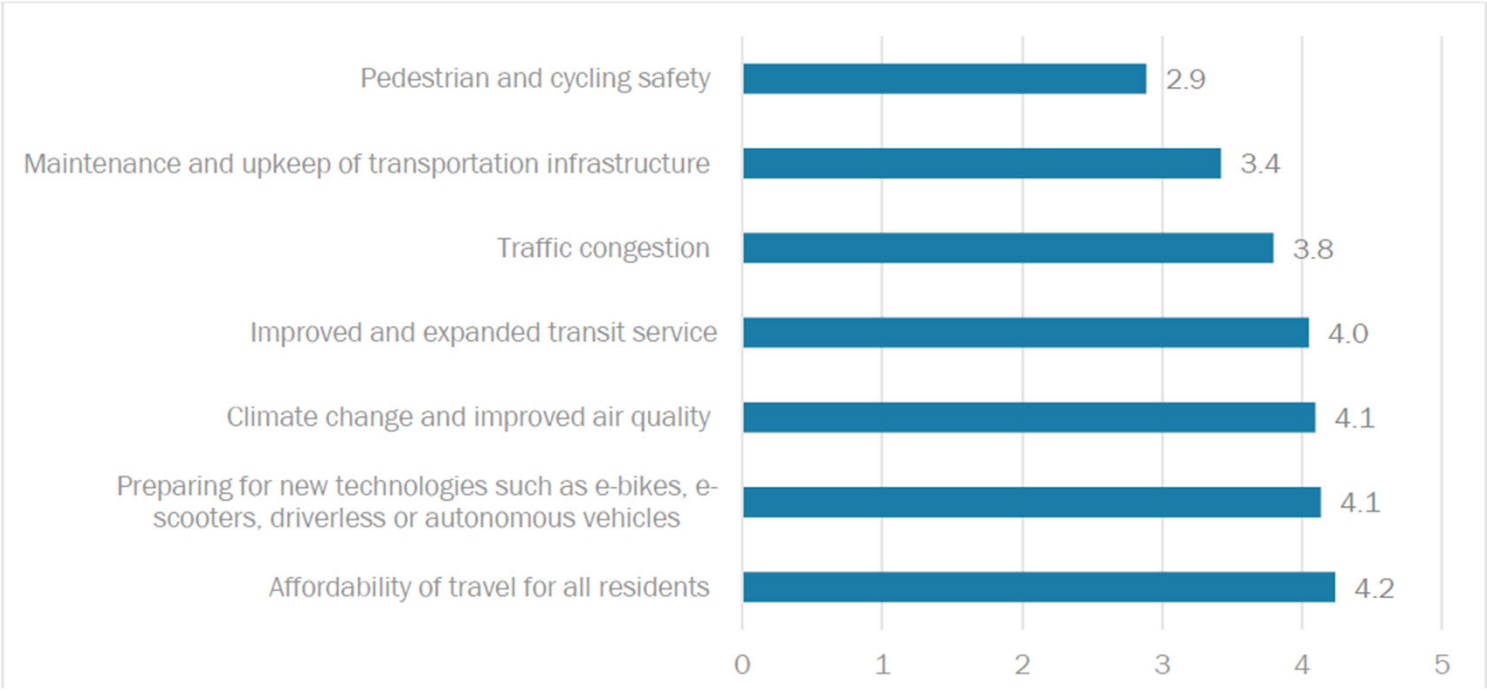
# PARKING

- Considerations
  - Secure Bicycle Parking
  - Accessible Parking
  - Multi-Family Off-street Parking Rate(s)
  - Review on-street policies and bylaw


# FUTURE OF TRANSPORTATION

*The Master Transportation Plan will guide our transportation-related decisions over the next 20+ years. Looking forward, what are the most important issues the updated Plan should address?"*

*Ranking of 1 = Most Important and 7 = least Important*



# DRAFT VISION

## Workshop opportunity

*"North Cowichan is a connected community, where residents, employees, businesses, and visitors have transportation choices when deciding how to move around their network. Each transportation choice is supported with safe infrastructure. North Cowichan vehicle travel has become electrified to reduce impacts on the environment and align with the community's desire to be more sustainable."*

# GOALS

**Safety for All Modes**

Streets are redesigned to support all modes especially active transportation.

**Connectivity**

A connected network allows residents to travel to where they need to go, for any trip purpose.

**Reduce Impact on Environment**

The transportation network gradually reduces its greenhouse gas emissions over time.

# NORTH COWICHAN MASTER TRANSPORTATION PLAN

## Technical Paper no.1

Date: June 14, 2021

File No.: 2899.B01

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## APPENDICES

## LIST OF FIGURES



## LIST OF TABLES

## 1.0 OVERVIEW

The District of North Cowichan is updating its Master Transportation Plan (MTP) with the goal to improve transportation options across the District for people of all ages and abilities. The MTP has a 30-year planning horizon and will guide the District's decisions related to all aspects of the transportation network.

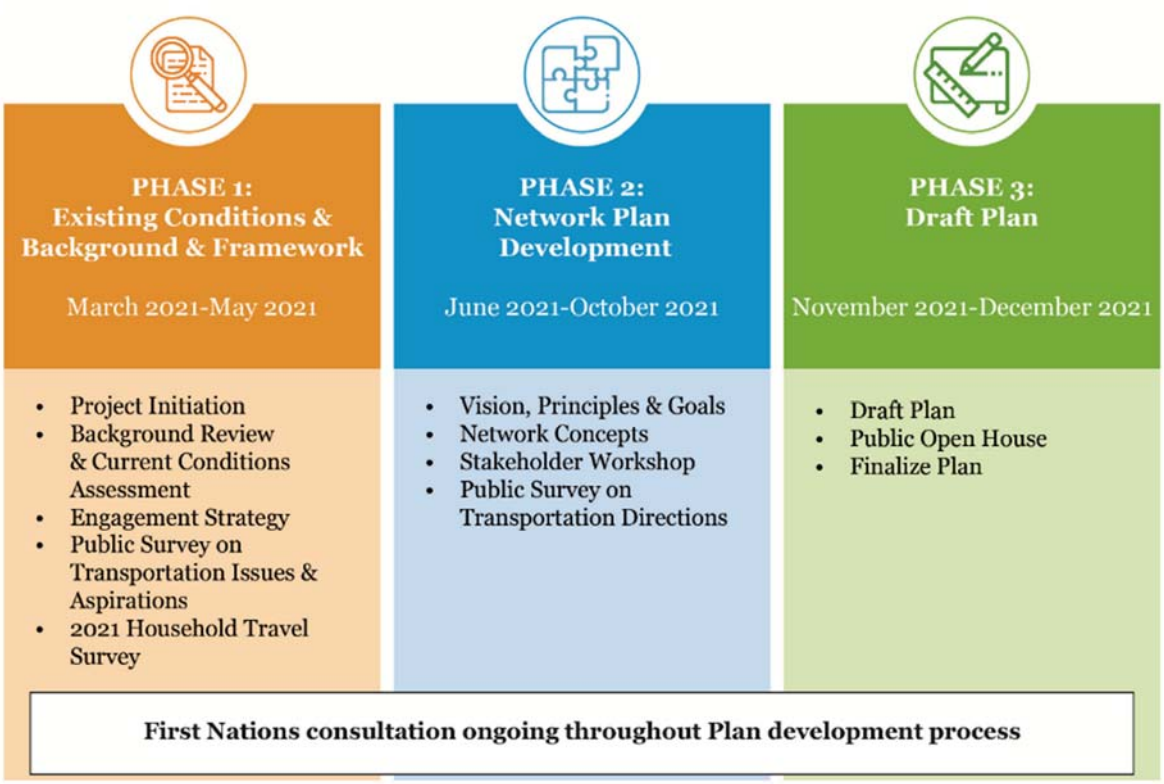
The purpose of Technical Paper no.1 is to provide a comprehensive analysis of North Cowichan's transportation network today. This includes a review of existing travel patterns, a summary of the land use patterns and key trip generators, and policies / planning direction for the transportation network that influence growth and travel mode choice. Further, a detailed analysis is provided for each transportation mode / network, as follows:

- Section 5.0 (Pedestrian & Trail Network Condition)
- Section 6.0 (Cycling Network Conditions)
- Section 7.0 (Transit Network Conditions)
- Section 8.0 (Street & Traffic Conditions)
- Section 9.0 (Parking)

The document also includes a summary of the results from the first phase of consultation, which is introduced in Section 4.0, with specific findings integrated throughout the report. The full phase 1 consultation report is provided as an appendix.

### 1.1 PROJECT TIMELINE

This project is following a three phase approach to the development of the plan. The graphic below illustrates the three-phase timeline for the MTP project. We are currently at the end of Phase 1.


PHASE 1:
Existing Conditions & Background & Framework
March 2021-May 2021
Project Initiation
Background Review & Current Conditions Assessment
Engagement Strategy
Public Survey on Transportation Issues & Aspirations
2021 Household Travel Survey
PHASE 2:
Network Plan Development
June 2021-October 2021
Vision, Principles & Goals
Network Concepts
Stakeholder Workshop
Public Survey on Transportation Directions
PHASE 3:
Draft Plan
November 2021-December 2021
Draft Plan
Public Open House
Finalize Plan
First Nations consultation ongoing throughout Plan development process

# 2.0 COMMUNITY PROFILE

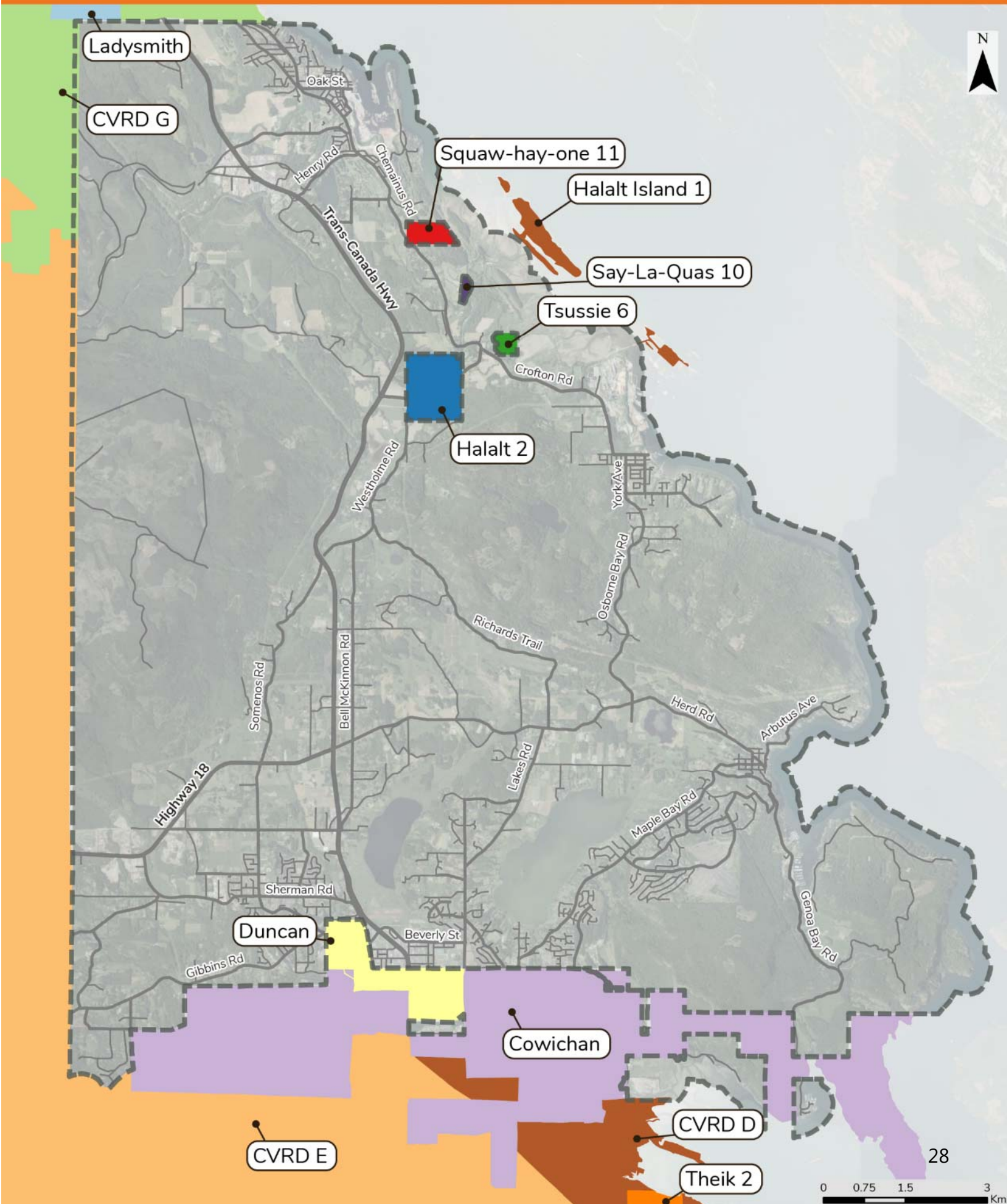
## 2.1 LOCATION

North Cowichan is a vibrant, growing, and active community located between two major centres—69 kilometres north Greater Victoria and 45 kilometres south of Nanaimo. North Cowichan is the largest municipality in the Cowichan Valley, and is a geographically diverse community both in population, economy, and its many natural features ranging from parks, trails, lakes, and oceanfront.

It is also a "community of communities" including Chemainus, Crofton, Maple Bay, and the South End, which includes University Village and is adjacent to the City of Duncan. Collectively, these communities make up the identity of North Cowichan. Its diverse nature makes North Cowichan unique, but also presents challenges when trying to find universal transportation solutions that result in enhanced accessibility, safety, and connectivity for all North Cowichan residents.

**Map 1** illustrates the location of the District and the surrounding jurisdictions.

# Map 1. Jurisdictional Map



## 2.2 DEMOGRAPHIC SUMMARY

According to the Statistics Canada 2016 census, the District of North Cowichan has a population of 29,676. The population has grown by almost 40% since 1991 when there were about 21,360 residents. According to population projections, over the next 30 years, the population is anticipated to reach 38,612 by 2050—a 30% increase from 2016, which is a significant amount of grow although a slightly slower increase compared to the last 30 years.

The District's 2016 median population age is 50.0 years. This is an increase from 44.4 years in 2006 and 47.1 years in 2011. The current median age is also higher than the 2016 BC provincial average of 43.0 years. The age group of 65 and over makes up 25% of the District's population. According to future projections, the age group of 85 and over is projected to increase by 230% while the remaining population is projected to increase by less than 50%. These projected demographic changes underscore the importance of building a transportation network that is inclusive for all ages and abilities—particularly for the senior population.

## 2.3 TRANSPORTATION MODE SHARE

**Table 1** shows a comparison between transportation mode share in North Cowichan and the provincial average based on the 2016 Statistics Canada Census. The data indicates that North Cowichan is currently an auto-dependent community with approximately 90% of commuting occurring by car, which is 15% higher than the provincial average.

TABLE 1. MODE SHARE, NORTH COWICHAN VS. BC

| Mode | British Columbia | North Cowichan |
|---|---|---|
| Car (Auto Driver) | 70% | 83% |
| Car (Auto Passenger) | 6% | 6% |
| Walk | 7% | 6% |
| Bike | 2% | 1% |
| Transit | 13% | 2% |
| Other | 2% | 2% |
| **TOTAL** | **100%** | **100%** |

A mode share comparison was also made between North Cowichan and the surrounding jurisdictions as well as in Chemainus—a community within the District's boundaries (see **Table 2**). The comparison with the other jurisdictions indicates the following:

- The District had approximately 15% higher commutes made by car than the nearby Duncan, south of the District.
- Auto trips in Chemainus and Duncan are lower than North Cowichan and may be attributed to the higher share of trips by foot due to the more compact nature of the community.
- About 92% of commute trips in Ladysmith are by car, which is 3% higher than the District of North Cowichan.

TABLE 2. MODE SHARE: NORTH COWICHAN VS. SURROUNDING JURISDICTIONS

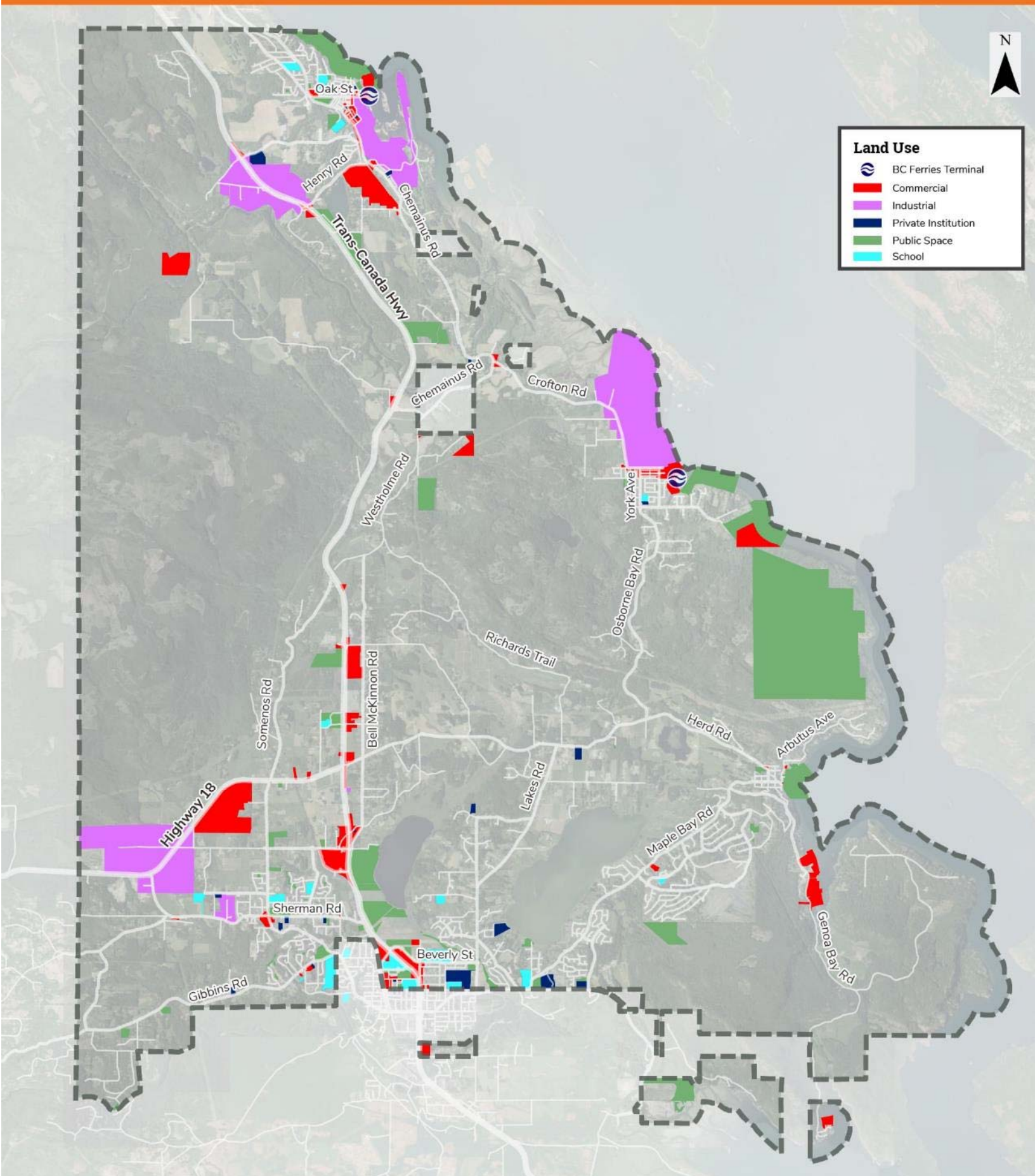
| Mode | North Cowichan | Duncan | Ladysmith | Chemainus |
|---|---|---|---|---|
| Car (Auto Driver) | 83% | 71% | 87% | 79% |
| Car (Auto Passenger) | 6% | 5% | 5% | 4% |
| Walk | 6% | 16% | 5% | 12% |
| Bike | 1% | 2% | 0% | 2% |
| Transit | 2% | 3% | 1% | 1% |
| Other | 2% | 3% | 2% | 2% |
| **TOTAL** | **100%** | **100%** | **100%** | **100%** |

## 2.4 LAND USE & TRIP GENERATORS

**Map 2** presents the District's land uses and major trip generators. A robust transportation plan cannot be completed without understanding both current and future land uses. The land use data provides an indication of where residents and employees are travelling to and from. Further, the locations of the major trip generators are important for understanding how well the road network serves residents who may be trying to access these destinations by a sustainable mode (e.g., walking, cycling, transit). As shown in the map, common destinations in North Cowichan include:

- Parks (e.g., Evans Park, Properties Park, Stoney Hill Regional Park, Wul'aam Park)
- Schools (e.g., Somenos Elementary, Drinkwater Elementary)
- Employment areas (e.g., Cowichan Commons, Tansor Industrial Park)
- Cowichan District Hospital
- BC Ferries terminals (e.g., Crofton terminal, Chemainus terminal)
- Various recreational amenities including trails, and recreation facilities

# Map 2. Land Uses + Key Destinations



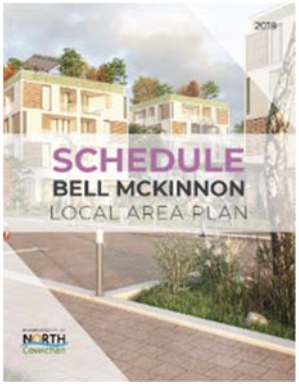
# 3.0 REVIEW OF PLANS & TECHNICAL STUDIES

## 3.1 MUNICIPAL PLANS & STUDIES


**Official Community Plan**

The Municipality of North Cowichan's current Official Community Plan (OCP) was adopted in 2011. The OCP estimated that transportation accounts for 80% of the Municipality's total greenhouse gas emissions (excluding Catalyst Pulp Mill) and recognizes the importance of efficient land use planning integrated with transportation systems to relieve traffic congestion as well as reduce greenhouse gas emissions. As such, the OCP outlined its commitment to taking a multi-modal approach by understanding the distinct needs for active transportation options and maintaining an overall effective transportation network.

The Municipality is currently working on updating the 2011 OCP which involves confirming the community's vision for the next 20 years and developing technical documents such as the Transportation Master Plan, projecting future demographics, and planning work with community organizations. The OCP Background Report, which summarizes background information as part of Phase I of the project process to adopt the anticipated 2021 OCP document, plans for maintenance of over 300km of road network within the District of North Cowichan based on the OCP's evaluation of three key pieces of demographic information: population, housing, and employment.




**Bell McKinnon Local Area Plan**

The Bell McKinnon Local Area Plan (BMLAP) was published in 2018 to provide detailed policies and recommendations for guiding future private and public investments in the Bell McKinnon area over the next 20+ years. The BMLAP is a critical tool to prepare for and respond to anticipated regional growth including the new regional hospital on Bell McKinnon Road. Key policies and directions that relate to this technical study include:

- A mixed-use land use plan to create a village where people can live, work, and play; and that can accommodate growth for future generations.
- Municipality to acquire a network of new or improved streets as the neighborhood redevelops, with an emphasis on pedestrian comfort and safety.

Based on these key policies, The BMLAP has a vision to transform the area currently characterized by rural roads with very limited pedestrian and cycling facilities into a model green Growth Centre with new directions for land use and transportation systems. In order to realize this vision, a number of on-going, short-term, and medium to long-term actions over the next 5-15 years have been listed in the Local Area Plan. Relevant action items include:

*On going:*

- Work with developers (including CVRHD) to develop and acquire new streets, laneways, trails, parks, buffers, and other open spaces.

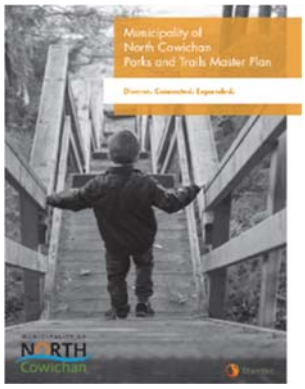
*Short-term:*

- Undertake a detailed study of the new local street network to inform street development.
- Support the CVRD initiative to complete the Cowichan Valley Trail / Trans-Canada Trail and prioritize cycling improvements on Bell McKinnon Road, Herd Road, and Norcross Road.

*Medium to Long-Term:*

- Work with developers, CVRHD, and others to create an off-street trail network that enhances connectivity and promotes recreation within the neighbourhood.
- Develop a Truck Routes Bylaw to minimize the impacts of trucks servicing the planned hospital and the Core Village on the neighborhood, with a strong preference for servicing access to the hospital off of Herd Road.
- Work with car share enterprises to identify opportunities to expand car share services in the area.

- Work with BC Transit to extend and schedule existing services or create new services (local, regional, interregional, and handyDART) through the LAP area with strong consideration to linkages with other areas.
- Create a multi-modal transit hub on Bell McKinnon Road, adjacent to the planned hospital site.
- Develop a parking strategy that implements time-limited parking in select areas (e.g., Core Village) as the neighborhood develops.
- Monitor the need and explore options for a parking structure in proximity to the Core Village that would provide secure, long-term parking, and market-priced stalls.




**Parks and Trails Master Plan**

The 2017 Municipality of North Cowichan Parks and Trails Master Plan is a system-wide strategic plan that guides the resourcing, development, management, provision and expansion of the area's parks and trails over the next 15 years. The Plan aspires to allow more residents to be more active more often while connecting with the natural world.

Following are the priority trail projects identified in the Plan in terms of trail classifications:

*New Off-Road trails*

- Maple Mountain multi-use trail (Maple Bay to Crofton connector)
- Stamps-Bazett connector
- Eves Provincial Park to Crofton Lake
- Mount Tzouhalem to Stoney Hill linkage
- Mount Prevost – "Grind" trail and Downhill Mountain Bike run

*Enhance Existing Off-Road Trails*

- Friendship Trail – Phillips St. to Sherman Rd
- Dike Trail – surfacing, accessibility improvement
- Municipal Forest Reserve – trail drainage and maintenance upgrades

*New On-Road routes*

- Municipality's south end
- Maple Bay to Mount Tzouhalem
- Crofton to Chemainus
- Connection points to Cowichan Valley Trail

*Enhance Existing On-Road Routes*

- Lakes Road
- Herd Rd
- Tzouhalem Rd
- Maple Bay Rd
- Bell-McKinnon Rd

The Plan also highlights several infrastructure improvements to support trail use:

*Cyclist Supporting Infrastructure*

- Bike maintenance stations at staging areas
- Bike racks at staging areas
- Bike lane separation as per classification

*Staging Areas*

- Municipal Forest Reserve
- Copper Canyon

*Neighborhood connections*

- Schools and recreation facilities
- Neighborhood parks to trails
- Bing's Creek Nature Trail

**Bike Network Implementation Guide**

The Bike Network Implementation Guide provides a vision for developing, maintaining, and enhancing cycling infrastructure within the Municipality of North Cowichan and beyond. The Guide outlines North Cowichan's strategy for delivering selected projects over a five-year term to be completed between 2017-2021 to maximize impact and move forward on many established cycling-related policies and goals.

The Guide includes a Bike Network Map that indicates existing cycling connections and identifies all potential connectivity improvements, their intended minimum modal type, and their current completion status.

With regards to design guidelines for the different modal types, the Guide adopts a combination of standards from the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide, Municipality of North Cowichan Parks and Trails Master Plan as well as the US Department of Transportation Trail Design Guidelines. Four different modal types are defined in the Guide:

*Modal 1: Off-Road Separated Trail*

- Separated trails that will allow two-way travel of cyclists, as well as pedestrians and other human powered road users.
- These trails will be built to as high a standard, taking into consideration that they are mostly long-distance routes located in low density areas and not subject to congestion, and are multi-use.

*Modal 2: On-Road Protected Trail*

- Protected trails (also known as protected bike lanes or cycle tracks) to physically separated cycle tracks that allow bicycle movement in both directions on one side of a street.
- These trails are aimed at providing safe space within the protected area and ensuring that the form of protection is adequate to provide a safe riding environment and perception thereof.

*Modal 3: Bike Lanes*

- Bike lanes to designate an exclusive space for bicyclists located on the right side of the street between the adjacent travel lane and curb, road edge, or parking lane, flowing in the same direction as motor vehicle traffic.
- These lanes are intended for streets with a posted speed ≥ 40 km/h and may be buffered if space permits.

*Modal 4: Shared Bike Lane – Full Integration*

- Shared bike lanes for streets designated and designed to give bicycle travel priority using signs and pavement markings.
- These lanes are intended for streets with posted speeds 40 km/h or less (30 km/h or less preferred) and with traffic volumes fewer than 3,000 vehicles per day (below 1,500 vehicles per day preferred).

**Chemainus Parking Management Strategy**

The Chemainus Parking Management Strategy was developed in 2012 as a result of the needs identified in the Chemainus Town Centre Revitalization Plan and the District of North Cowichan Official Community Plan. The Strategy includes addressing existing parking challenges and meeting future parking needs of various stakeholder groups as well as developing strategies that facilitate travel behavior change in favor of sustainable transportation modes.

Based on directions that emerged from parking data collection, following principles were recommended to be followed for improved parking management in the Chemainus town center:

- Ensure future developments meets their own parking demands and do not negatively impact town center parking conditions.
- Encourage short-stay parking in central locations.
- Encourage all-day parking at the periphery.
- Improve adherence to parking restrictions through improved education and marketing and without formal enforcement officers.

- Accommodate specialized vehicles such as RVs, campers, motorcycles and buses.
- Support sustainable transportation options to reduce parking demand and address many of the District's environmental, health, and social objectives.
- Make parking simple through improved signage and wayfinding.

**Climate Action & Energy Plan**

The Municipality of North Cowichan Climate Action & Energy Plan (CAEP) inventoried the community's existing energy use and greenhouse gas (GHG) emissions and identified future trends in energy and GHG emissions based on population, land-use, technology and other factors. It also identified opportunities to reduce energy consumption and emissions through policy and other municipal mechanisms.

The Plan highlights that according to the BC Government Community Energy and Emissions Inventory (CEEI) data in 2007, 76% of North Cowichan's emissions come from on-road transportation, significantly higher than the BC average of 59%. Following mitigative actions to reduce GHG emissions from transportation systems are recommended:

- Create a Transportation Planning Program with dedicated staff that oversees transportation planning in North Cowichan.
- Implement a Smarter Travel Choices Program for transportation behavior change.
- Establish a Taxi-bus Rural Public Transit System for a low-cost and effective transit system for low-density areas.
- Increase community biodiesel purchases and require municipal fleet biodiesel use to enhance existing biodiesel operation through procurement.
- Join Project Get Ready and transition the municipal fleet to electric vehicles to support electric vehicle deployment.

## 3.2 SURROUNDING JURISDICTIONS

### 3.2.1 CITY OF DUNCAN

With North Cowichan being in the middle of the Cowichan Valley, any changes to its future transportation network will have implications for its neighbouring municipalities. Therefore, understanding the transportation policy direction in its neighbouring municipalities is critical for developing the MTP and ensuring it ties into regional transportation.

The City of Duncan is currently updating both its Transportation & Mobility Plan and Official Community Plan. Both documents will have implications for North Cowichan's transportation network. As such, the strategies developed in Phase 3 of the MTP will look at and consider alignment with the City's strategic direction to ensure there is consistent direction on topics such as regional transportation and growth.

### 3.2.2 COWICHAN TRIBES

The Cowichan Tribes Transportation and Mobility Plan was adopted in 2015. Developed over a six-year period with extensive input from Cowichan Tribes members, the purpose of the plan was to provide a comprehensive picture of the key transportation challenges facing the community and outline a suite of improvements that could address those challenges. Common challenges and barriers include unsafe roads, lack of pedestrian and cycling facilities, and difficulty crossing the Trans-Canada Highway. The plan framework includes seven strategies and associated actions, as follows:

- Strategy 1 | Make minor street safety improvements.
- Strategy 2 | Make it easier to get to the services on and around Allenby Road.
- Strategy 3 | Make the Trans-Canada Highway safer and easier to cross and walk/ride along.
- Strategy 4 | Make Boys Road safer for members walking and riding their bikes.
- Strategy 5 | Bring better transit service to the reserves.
- Strategy 6 | Make Tzouhalem Road corridor safer for members walking and riding their bikes.
- Strategy 7 | Provincial road upgrades.

Several of the strategies and actions within the Cowichan Tribes Transportation and Mobility Plan have implications for North Cowichan and will be further explored and considered through the Master Transportation Plan process.

### 3.2.3 TOWN OF LADYSMITH

The Town of Ladysmith is also in the process of updating its OCP. Section 3.4 of the Town's existing Official Community Plan contains specific transportation goals, objectives, and policies outlining how the Town would like to develop its transportation network. Some of the specific transportation objectives that have the most relevance include:

- Develop supportive land use and transit policies, including streets that support cycling, walking, and persons with disabilities as well as identification of appropriate transit routes and bus stops, and transit friendly land use patterns.
- Promote multi-modal transportation systems.
- Promote safe, efficient, and economical operation for all users of the existing and future road networks, including regional transportation links.
- Adopt a Functional Classification for Ladysmith's road network.

## 3.3 REGIONAL CONTEXT

### 3.3.1 COWICHAN VALLEY REGIONAL DISTRICT

The CVRD's Strategic Plan (2020-2022) has relevance for the MTP. The document contains five themes for achieving the vision, which is stated as follows:

*"The Cowichan region is a diverse collection of vibrant, livable, and healthy communities, balanced in its pursuit of economic, social & environmental opportunities."*

The most relevant theme is *infrastructure*, which contains three specific actions:

- Advance inter-regional transit service
- Work with First Nations to identify and pursue opportunities to develop and/or complete multipurpose trails that connect and traverse jurisdictions

### 3.3.2 BC TRANSIT COWICHAN VALLEY REGIONAL TRANSIT FUTURE PLAN

The Cowichan Valley Region Transit Future Plan (TFP) was prepared in 2012, which included background research and community engagement to create a unified vision for the Cowichan Valley Region's transit network for the next 25 years and identify what services, infrastructure and investments are needed to achieve that vision. The process to update the 2012 TFP is just beginning with BC Transit and CVRD.

The 2012 Transit Future Plan set a relatively ambitious ridership target of 1,200,000 annual rides for 2036 following input from stakeholders and a review of comparable communities. In order to meet this target, the TFP identifies transit improvements in a series of horizons.

## 4.0 PUBLIC & STAKEHOLDER ENGAGEMENT

The Phase 1 public and stakeholder engagement occurred simultaneously with the completion of the phase 1 technical analysis. The key objectives of engagement in Phase 1 were:

- To understand existing barriers to walking, cycling, driving and taking transit in North Cowichan;
- To understand opportunities to reduce barriers and improve walking, cycling, driving and taking transit in North Cowichan; and
- To understand community priorities and visions for a future transportation network

The engagement activities in this phase included the following:

- **A public online survey** made available to all members of the public from April 5 to April 22, 2021.
- **Informant interviews** with key institutional partners and stakeholders, resident groups, business groups, and community-based organizations selected from a stakeholder mapping exercise between Municipal staff and the consultant team. Interviews were conducted virtually between April 12 to April 22, 2021.
- **Letters to each of the First Nations** The letters shared background information on the project, asked whether each Nation was interested in participating in the

process and provided each Nation the opportunity to share how they would like to participate.

A detailed summary of the engagement findings is provided in the *Phase 1 Engagement Summary Report*. Relevant findings from that report are included in **Sections 5.0-9.0**, which serve to augment and substantiate some of the technical findings presented in those sections.

# 5.0 PEDESTRIAN & TRAIL NETWORK CONDITIONS

## 5.1 OVERVIEW

North Cowichan residents pride themselves on their active and recreational lifestyles. The District's parks, trails, rivers, lakes, oceanfront, and Municipal Forest Reserve are at the heart of North Cowichan's quality of life, sense of place, and ecosystem services. While the District has several recreational assets and amenities that support active modes such as walking, its overall pedestrian network is limited, which is due in part to its rural / suburban nature, large geographical area, and significant distances between destinations. As a result, walking for commuting and utilitarian purposes can be challenging for many pedestrians in the District today.

The District recognizes that an integrated approach to transportation planning is critical for supporting all modes of transportation including walking trips. The 2011 OCP specifically contains policy direction that is focused on accommodating pedestrians, as follows:

- Policy 2.5.6.1 | The Municipality will design its transportation network to accommodate all modes of transportation (pedestrian, cyclist, transit and auto) and enhance connectivity throughout the municipality.
    - The movement of people by foot, bicycle and public transit (all low-emission transportation modes) will be given equal priority and attention with automobile transportation in policy, design, and capital investment decision-making
    - The Municipality will design roads, public parking facilities, sidewalks and trails so they are safe and comfortable for all users, including those with scooters, wheelchairs and other mobility aids, and so they contribute to the aesthetics and vibrancy of the setting
- Policy 2.5.6.3 | The Municipality will plan for a complete pedestrian/cyclist transportation grid, developed to appropriate standards
    - The Municipality will institute measures to minimize hazards between pedestrians and automobiles along roadways.

## 5.2 SIDEWALK NETWORK

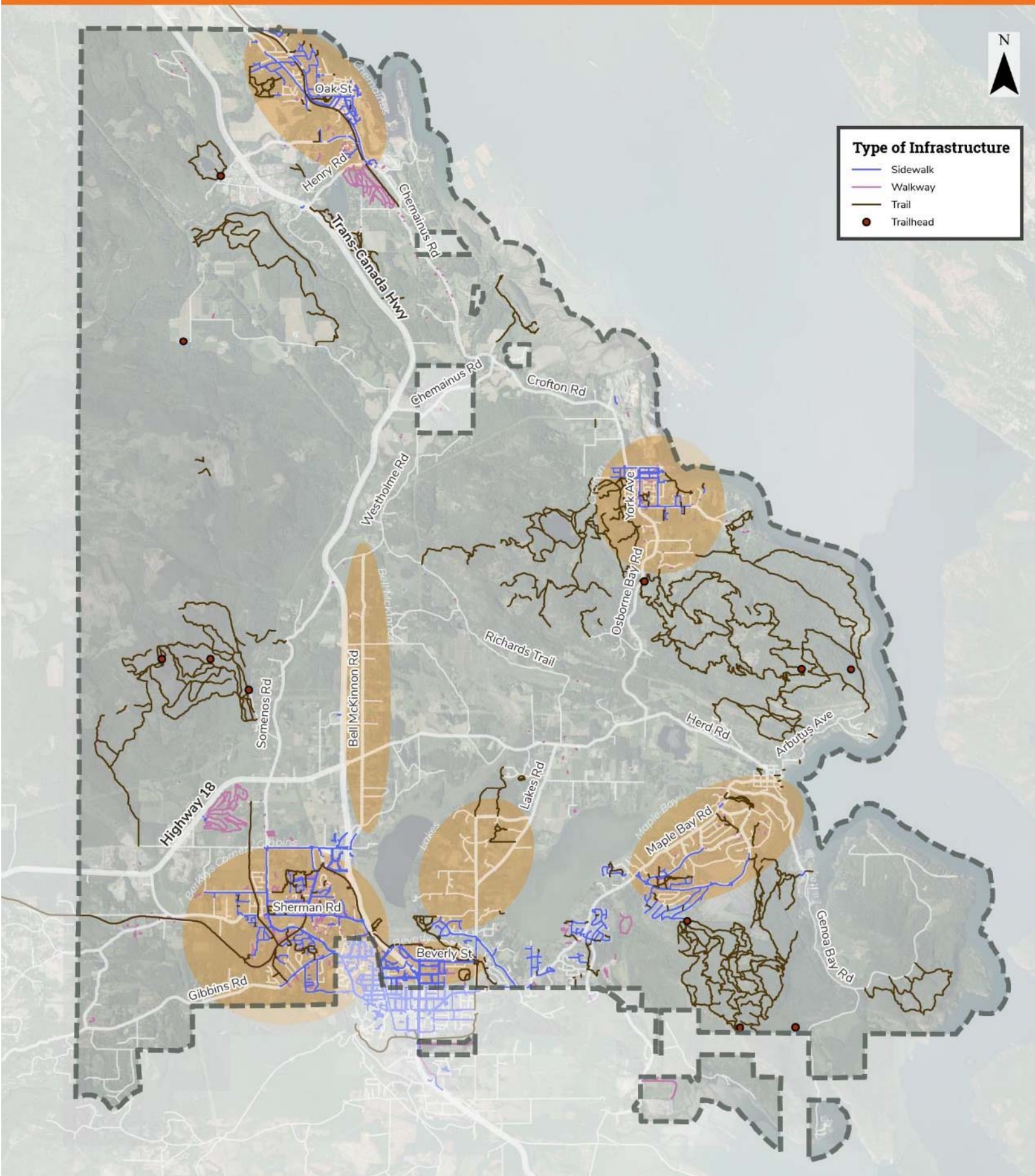
The overall sidewalk network consists of approximately 136 km of sidewalk facilities and 108 km of walkways (paved shoulders). As shown in **Map 3**, sidewalks are largely concentrated in the following 5 neighbourhoods / areas:

- Maple Bay
- Beverly (Quamichan)
- Berkey's Corner / Gibbins
- Crofton
- Chemainus

Both the Bell McKinnon and the Lakes neighbourhoods lack pedestrian infrastructure with almost no sidewalk coverage and limited walkways. In addition to the lack of sidewalk coverage, there are many examples of existing walkways and shoulders that are largely uncomfortable for pedestrians (see **Section 5.6** for more details). Much of the sidewalk network in the Maple Bay and Quamichan/Lakes area are located within the neighbourhoods and not along major roadways. It should be noted that walkways are identified in the mapping; however, not all paved shoulders are designated as walkways. The details of walkways will be reviewed in Phase 2.

*Example of walkway (left) on Herd Road and sidewalk (right) in Chemainus.*

# Map 3. Pedestrian & Trail Network



## 5.3 PEDESTRIAN COUNTS

Peak hour AM and PM pedestrian counts were conducted at 24 intersections in the District to assess existing pedestrian activity. **Table 3** shows the top 5 locations for pedestrian activity based on collected data. High pedestrian activity is identified at Sherman Road/Somenos Road/Cowichan Lake Road due to short distances in the vicinity between trip generators such as single-family homes and trip attractors such as the Sherman Soccer Park, and retail at Berkey's Corner. Similarly, at Chemainus Road/Victoria Street there are residential units west of Chemainus Road and commercial uses east of Chemainus Road that are driving walking trips. In the areas with greater distance between residential and commercial land uses the number of walking trips are lower.

### TABLE 3. PEAK HOUR PEDESTRIAN COUNTS

| Rating | Intersection | Pedestrians/ Hour | Time Period |
|---|---|---|---|
| 1 | Sherman Road / Somenos Road / Cowichan Lake Road | 30 | PM |
| 2 | Chemainus Road / Victoria Street | 17 | PM |
| 3 | Tzouhalem Road / Donnay Drive | 7 | PM |
| 4 | Drinkwater Road / Cowichan Commons | 5 | AM |
| 5 | Drinkwater Road / Norcross Road | 4 | AM |

## 5.4 CROSSINGS

As per the BC Motor Vehicle Act (MVA) pedestrians have the right-of-way over vehicles at intersections. No signage or markings are required to make it a legal crossing point; however, many people are unaware of this regulation and the public 'feel' safer with additional features, such as signs, pavement markings, flashers, to identify crosswalks.

> **Motor Vehicle Act Definition of a Crosswalk**
> "(a) a portion of the roadway at an intersection or elsewhere distinctly indicated for pedestrian crossing by signs or by lines or other markings on the surface, or (b) the portion of a highway at an intersection that is included within the connection of the lateral lines of the sidewalks on the opposite sides of the highway, or within the extension of the lateral lines of the sidewalk on one side of the highway, measured from the curbs, or in the absence of curbs, from the edges of the roadway"

The District does not currently have a standard policy to determine the need for installation of signed and marked crosswalks. As a result, many crosswalks are installed inconsistently. The Transportation Association of Canada (TAC) Pedestrian Crossing Control Guide provides a decision support tool to determine the level of pedestrian crossing facilities warranted. The District should develop a crossing policy that is based on TAC, but with considerations for North Cowichan conditions to systematically install crosswalks at required locations and ensure consistent messaging for improved conspicuity.

*Examples of crosswalks in the District on York Avenue (left) and on Chemainus Road in Chemainus (right).*

## 5.5 TRAIL NETWORK

The North Cowichan Parks & Trails Master Plan provides a comprehensive planning framework that guides the resourcing, development, management, provision and expansion of our parks and trails over the next 15 years. According to the 2017 plan, the District has approximately 42 designated trails, which amount to 59 kilometres of formally designated off-road trails for residents and visitors alike. In total, there is about 235 kilometres of trail in the entire District that are used for both commuting and recreational purposes.

**TRAIL NETWORK, BY THE NUMBERS...**

42 designated trails

235 km off-road trails

101 authorized and unauthorized trails in Municipal Forest Reserve

32% of residential parcels are not within walking distance to a trailhead

The Parks & Trails Master Plan also provides detailed information about the overall quality of North Cowichan's trail network. Trail quality is measured by several factors including design and siting, location, ambiance, the supply of comfort and convenience amenities (e.g., benches), and accessibility. The trail conditions of all 42 designated trails were evaluated and are summarized as follows:

- 4 trails exceeded expectations
- 20 trails met expectations
- 18 trails were below expectations

The plan indicates that the trails that are meeting or above expectations are most commonly those that have been planned, designed and appropriately constructed by the Cowichan Trail Stewardship Society. The plan also assessed access to trails and trailheads recognizing that proximity to trails has a direct influence on trail use. The analysis reported the following:

- 51% of residential parcels have access to trails that meet or exceed quality expectations
- 17% have access to trails that do not meet quality expectations
- 32% of residential parcels are not within walking distance (1,200-1,600 metres) to any trailhead

The plan reported that trails that are of a good quality and connect neighbourhoods to key community destinations and assets tend to be used more frequently.

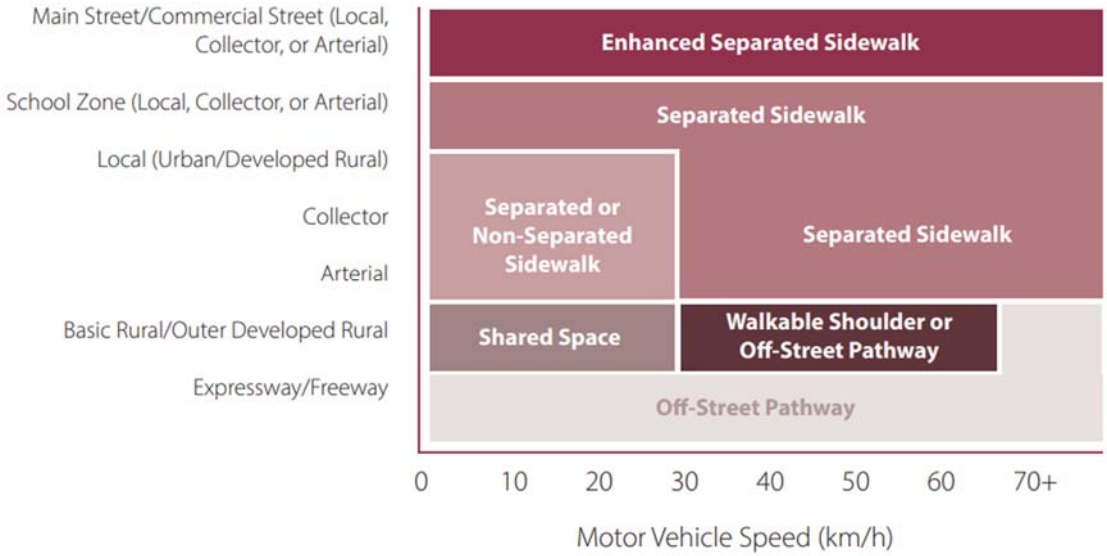
## 5.6 BARRIERS TO WALKING

Even though the District has an existing sidewalk network and extensive trail system, there are many barriers to walking for both recreational and utilitarian purposes. The online survey feedback (detailed in **Section 5.7**) indicated that one of the top barriers to walking for residents is the lack of space or buffer between walking facilities and motor vehicle traffic. Survey respondents also indicated that implementing vehicle speed reductions would also make them feel more comfortable walking.


*Drinkwater Road where pedestrians have no space or separation from motor vehicle traffic.*

The barrier identified above is evident when looking at the District's road network and posted speed limits in relation to its pedestrian facilities. For example, several arterial roads including Lakes Road, Maple Bay Road, Herd Road, and Chemainus Road, among others, all lack pedestrian facilities (beyond minimal paved shoulders), which means pedestrians are required to walk in the shoulders. All of these roads have a posted speed limit of 50 to 60 km/h and some—including Maple Bay Road and Lakes Road—have daily vehicle volumes exceeding 7,000. This results in a more uncomfortable experience for the pedestrian. Improvements to the pedestrian network is not as simple as more sidewalks or changes in speed limits, but a combination of cross section elements (such as sidewalks, landscaping, separated pathways, etc.) and land use that will be explored in Phase 2.

According to the BC Active Transportation Design Guide, in suburban / rural contexts such as North Cowichan, sidewalks are recommended in developed cores (commercial/retail/residential uses) with population densities of at least 400 people per square kilometre. The guide also indicates that in order to increase pedestrian safety, sidewalks are recommended along roads with more than 2,000 motor vehicles per day or motor vehicle speeds over 30 km/h. The guide also notes that the construction of sidewalks in these rural environments can be cost prohibitive, and the curb and gutter construction of sidewalks may not support the existing rural character. Other facilities such as separated pedestrian walkways or off-street pathways separated from motor vehicle traffic by a landscaped ditch could be more appropriate.[1]




*Pedestrian Facility Selection Decision Support Tool. Source: BC Active Transportation Design Guide, Chapter C – Pedestrian Facilities.*

[1] Government of BC. (2019). Active Transportation Design Guide, Chapter C: Pedestrian Facilities. Available online at: https://tinyurl.com/y298s6lq

The BC Active Transportation Design Guide includes three principles around pedestrian facility selection in rural environments that will be used to help guide the development of North Cowichan's network, summarized at a high-level as follows:

- **Principle 1:** Dedicated Space over Mixed Conditions | Providing dedicated pedestrian facilities is recommended over mixed conditions, where people walking and cycling all share the same space.
- **Principle 2:** Physical Separation over Pavement Marking | Physical separation provided by curbs or other means of physical separation is preferred over walkable shoulders. Where a sidewalk with curb and gutter is not appropriate, other means of physical protection, such as wheel stops and bollards, may be considered.
- **Principle 3:** Off-Street Pathways over Walkable Shoulders | Off-street pathways are preferred on roads with high motor vehicle speeds or volumes Removing pedestrians from the roadway and providing a buffer between them and motor vehicle traffic creates a comfortable space for people of all ages and abilities.


*Example of a separated pedestrian facility (left) and off-street pathway (right) that are suitable on roads in rural environments. The specific facility depends on factors such as motor vehicle speeds and volumes and residential / commercial density. Source: BC Active Transportation Design Guide, Chapter C – Pedestrian Facilities.*

The specific recommended pedestrian facilities within North Cowichan will be determined in latter phases of the project. However, what is clear from the District's existing road network and the public engagement feedback (**Section 5.7**), is that more physical separation from motor vehicle traffic is desired by pedestrians—especially on busier / higher order roads—to increase the share of trips completed by foot and to improve the pedestrian experience overall.

## 5.7 WHAT WE HEARD FROM THE COMMUNITY

Both the online survey and stakeholder interviews reported several findings relevant to the pedestrian and trail network. Overall, the online survey reported that the community's satisfaction with the transportation infrastructure is highest for the trail network with 51% indicating 'very satisfied' or 'satisfied'. For the pedestrian network, satisfaction is much lower with only 31% indicating 'very satisfied' or 'satisfied'. Other engagement findings relevant to the pedestrian and trail network are as follows:

- About 23% indicated that they were 'very satisfied' or 'satisfied' with 'connectivity of the walking network (e.g., directness of routes, gaps in the network). This is compared to 52% who indicated that they were 'very satisfied' or 'satisfied' with the 'connectivity of the road network'.
- Online survey respondents indicated that there are many safety issues within the pedestrian network, specifically a lack of sidewalks along Maple Bay Road, unsafe crossings, and lack of wheelchair accessibility.
- Online survey respondents were asked, "What makes walking[2] within and through North Cowichan difficult for you?". The top barrier to walking according to survey participants is the lack of space or buffer between sidewalks and motor vehicle traffic (46%), followed by the lack of sidewalks, and other infrastructure to respondent's usual destinations (44%).
- Online survey respondents were asked, "What could we do to make it easier to walk within and through North Cowichan?" A majority of respondents (68%) indicated that improving pedestrian network connections would make walking

[2] In the survey, "walking" included the use of a mobility such as a walker, scooter or wheelchair.

easier. This was followed by implementing vehicle speed reductions (37%) sidewalk maintenance (34%) and streetscape enhancements (34%).

- Online survey respondents were asked, “The Master Transportation Plan will guide our transportation-related decisions over the next 20 years. Looking forward, what are the most important issues the updated Plan should address?”. Pedestrian and cycling safety were the top issue respondents wanted to see addressed in the Master Transportation Plan.
- The stakeholder interviews reported two specific challenges within the pedestrian network, which largely corroborate the online survey findings.
    1. Inadequate pedestrian infrastructure. Narrow rural roads lack sidewalks as do busy highway roads that often lack safe crosswalks. Soft gravel shoulders are typically the only option for pedestrians, putting them in close proximity with traffic.
    2. Lack of complete, walkable communities. There was a desire for more compact, complete neighbourhoods where services and amenities were located within walking distance from homes. Interviewees felt that this would allow people to be less dependent on their cars, as shops and services are often too far away to access on foot. This issue is especially prevalent in remote and First Nation communities.
- The stakeholder interviews also identified solutions for the pedestrian network. There is a strong desire to promote and prioritize safe pedestrian movement through sidewalk enhancement, placemaking, lighting and wayfinding signage, along with safer intersection crossings. Interviewees identified the excellent trail network and suggested continued work to connect and enhance the network.

# 6.0 CYCLING NETWORK CONDITIONS

## 6.1 OVERVIEW

Similar to the pedestrian network, North Cowichan's cycling infrastructure is limited and the bike facilities that are available are generally not suitable for all ages and abilities. Even though the network is currently underdeveloped, the District has strong policy direction in both its 2011 OCP and the 2016 Bike Network Implementation Guide to develop and enhance its cycling infrastructure.

The OCP contains the following policies that are specific to accommodating cyclists:

- Policy 2.5.6.3 | The Municipality will plan for a complete pedestrian/cyclist transportation grid, developed to appropriate standards
    - The Municipality will institute measures to minimize hazards between pedestrians and automobiles along roadways.
- Policy 2.5.6.4 | The Municipality will plan cycling routes
    - Except in areas with the highest traffic volume, the Municipality will design roads to be shared by automobiles, bicycles and pedestrians. In areas where traffic volumes and/or speeds are higher, a separate bike lane or route may be warranted.
    - When undertaking road improvements and upgrades, the Municipality will incorporate cycling requirements into subdivision design standards and road design.

In addition to the OCP, and as outlined in Section 3.1, the District also has a Bike Network Implementation Guide, which provides a vision for developing, maintaining, and enhancing cycling infrastructure within the North Cowichan and beyond. The Guide outlines North Cowichan's strategy for delivering selected projects over a five-year term to be completed between 2017-2021 to maximize impact and move forward on many established cycling-related policies and goals. The following sections provide more detail about what is contained within the Guide.

## 6.2 CYCLING FACILITIES + INFRASTRUCTURE

According to the District's Bike Network Implementation Guide, there are four distinct cycling facilities in North Cowichan, as shown in **Table 4** and discussed below. As of 2016, the total length of the District's cycling network is 63.2 kilometers with bike lanes as the most dominant bike facility. The Bike Network Implementation Guide also includes the proposed bike facilities (see **Table 6**). Based on the guide, once all of the proposed facilities are implemented, the cycling network would be 102.2 kilometres with Modal 1 (Off-road Separated Trail) being the most extensive facility with 46.2 kilometres.

See **Map 4** illustrates the existing cycling network (based on North Cowichan GIS data) and the proposed facilities that are identified in the Bike Network Implementation Guide.

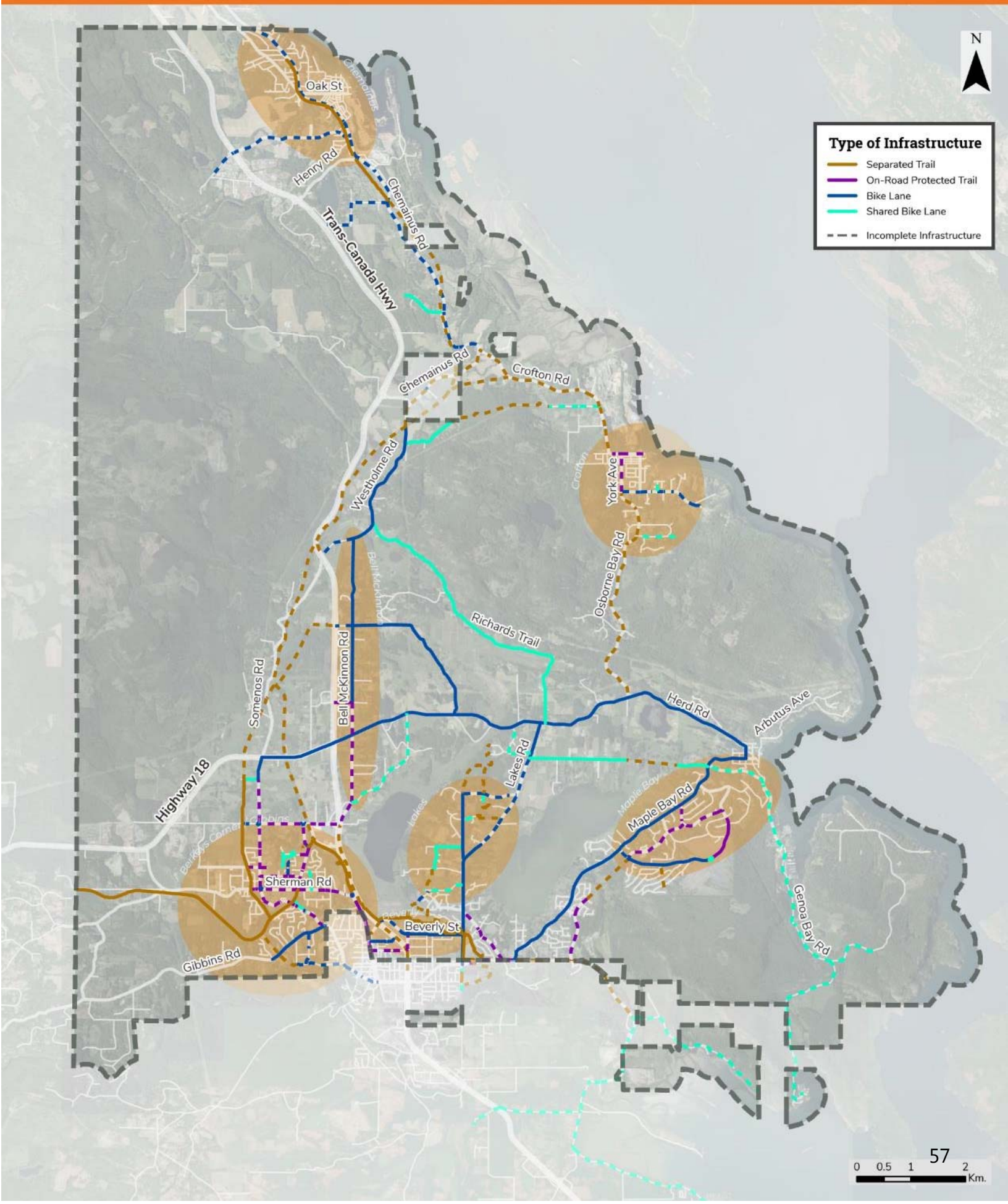
### TABLE 4. SUMMARY OF EXISTING BICYCLE FACILITIES

| Bicycle Facility | Length | Percentage |
|---|---|---|
| Modal 1 – Off-Road Separated Trail | 16.2 km | 26% |
| Modal 2 – On-Road Protected Trail | 1.3 km | 2% |
| Modal 3 – Bike Lanes | 33.2 km | 53% |
| Modal 4 – Shared Bike Lane, Full Integration | 12.5 km | 20% |
| **Total** | **63.2 km** | **100%** |

### TABLE 5. SUMMARY OF PROPOSED BICYCLE FACILITIES

| Bicycle Facility | Length | Percentage |
|---|---|---|
| Modal 1 – Off-Road Separated Trail | 46.2 km | 38% |
| Modal 2 – On-Road Protected Trail | 2123 km | 18% |
| Modal 3 – Bike Lanes | 25.2 km | 21% |
| Modal 4 – Shared Bike Lane, Full Integration | 27.8.5 km | 23% |
| **Total** | **102.2 km** | **100%** |

# Map 4. Cycling Network



### 6.2.1 MODAL 1 – OFF-ROAD SEPARATED TRAIL

The Bike Network Implementation Guide defines off-road separated trails as facilities that allow two-way travel of cyclists, as well as pedestrians and other human-powered road users (pedestrians, strollers, scooters). These facilities are separated from a roadway and are sometimes not located adjacent to any roadway. Where adjacent to a roadway, separated trails may be segregated by a barrier, such as a fence or concrete barrier; or vegetation, such as a berm or drainage ditch.

As shown in **Map 4**, the District's current off-road separated trails are as follows:

- Somenos Creek Trail (Timbercrest Drive to Lakes Road)
- Trans Canada Trail (West boundary to Johnson Road)
- Canada Avenue (Friendship Trail)

The typical applications and design elements of an off-road separated trail include:

- Located on roadways that either [a] traverse a length of rural, park, conservation or natural areas or [b] have a posted speed ≥ 60 km/h
- Have a minimum width of 3m or 2.5m where constrained
- Have a maximum sustained grade of 6%

### 6.2.2 MODAL 2 – ON-ROAD PROTECTED TRAIL

The Bike Network Implementation Guide defines these facilities as being physically separated to allow for bicycle movement in both directions on one side of the street. On-road protected trails (also known as protected bike lanes or cycle tracks) can be located at the street level with a parking lane or other barrier between the cycle track and the motor vehicle travel lane and/or as a raised cycle track to provide vertical separation from the adjacent motor vehicle lane.

There are currently no on-road protected trails; however, the District has identified several locations where on-road protected trail are planned. This includes:

- Drinkwater Road (Somenos Road to Bell McKinnon Road)
- Bell McKinnon Road (Drinkwater Road to Sprott Road)

- Somenos Road (Johnston Road to Drinkwater Road)
- Moorfield Road (Somenos Road to Lane Road)
- Sherman Road (Somenos Road to Lane Road)

The typical applications and design elements of an on-road protected trails include:

- Located on streets with/where:
    - High motor vehicle volumes and/or speeds
    - Extra right-of-way on one side
    - More destinations are on one side thereby reducing the need to cross the street.
- Have a minimum width of 3.6m or 2.0m where constrained (bi-directional facility)
- Have a protected feature such as a raised curb (1.0m) or painted buffer with planters, bollards, or signs (1.0m)

### 6.2.3 MODAL 3 – BICYCLE LANE

The Bike Network Implementation Guide defines these facilities as having an exclusive space for cyclists using pavement markings and signage. The bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic.

As shown in **Map 4**, the District has several bike lanes located in different parts of the municipality. This includes:

- Bell McKinnon Road (Westholme to Sprott)
- Canada Avenue (Beverly Street - Duncan Boundary)
- Gibbins Road (Carmel Drive to Cowichan Lake Road Roundabout)
- Lakes Road (Herd Road to Stamps)
- Maple Bay Road (Tzouhalem Road – Herd Road)

The typical applications and design elements of bike lane include:

- On streets with a posted speed ≥ 40 km/h.
- Have a minimum width of 1.8m
    - 1.2m if adjacent to a street edge or longitudinal joint
    - 1.5m if illegal parking in bike lanes is a concern
- A solid, white, 150 to 200 mm wide line marking to separate motor vehicle travel lanes from the bike lane.
- Buffered lanes use white gore every 0.6m

### 6.2.4 MODAL 4 – SHARED BIKE LANE, FULL INTEGRATION

The Bike Network Implementation Guide defines these facilities as streets with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority. Shared lanes rely on signs, pavement markings, and low motorized traffic speed and volume to create safe, convenient bicycle crossings of busy arterial streets. This type of facility is also known as a neighbourhood bikeway. Although the current North Cowichan Bike Network Implementation Guide and mapping indicates that the following are shared bicycle lanes with full integration there is limited signage or pavement markings to indicate to motorists or cyclists that these are share spaces.

- Inverarity Road (Wicks - Meadow Park Road)
- Johnston Road (Somenos Road – Trans Canada Trail)
- Meadow Park Road (Inverarity Road - Roome Road)
- Ryall Road (Sherman Road to end of road)

## 6.3 CYCLING COUNTS

Peak hour AM and PM cycling counts were conducted at 24 intersections in the District to assess existing bicycle traffic at intersections crossings. **Table 6** shows the top 5 locations for bicycle traffic based on collected data. As these counts illustrate there is limited bicycle trips on the network at this time with the highest cycling trips in one hour at five.

### TABLE 6. PEAK HOUR CYCLING COUNTS AT INTERSECTIONS

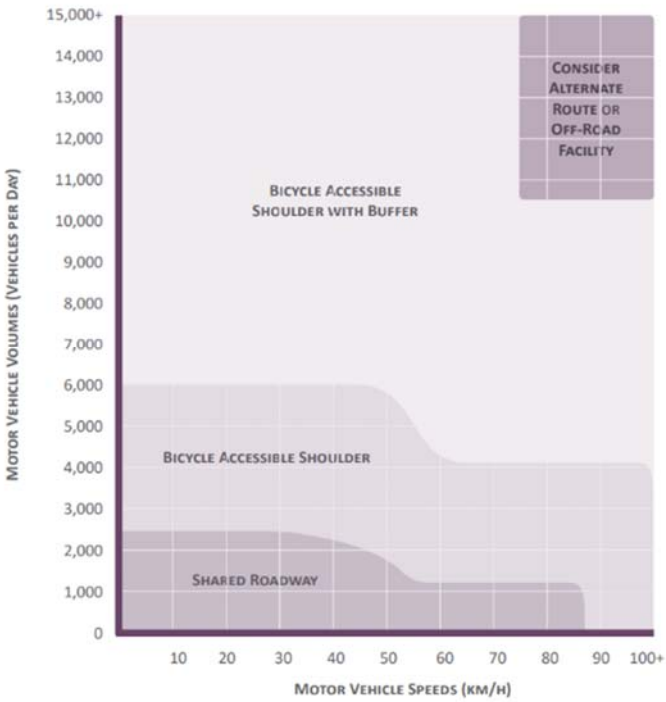
| Rating | Intersection | Cyclists/ Hour | Time Period |
|---|---|---|---|
| 1 | Lakes Road / Herd Road | 5 | PM |
| 2 | Bell McKinnon Road / Norcross Road | 4 | PM |
| 3 | Lakes Road / Trillium Terrace | 4 | AM |
| 4 | Kingsview Road / Maple Bay Road | 4 | AM |
| 5 | Tzouhalem Road / Trunk Road / Lakes Road | 4 | PM |

## 6.4 BARRIERS TO CYCLING

The overall barriers to cycling in North Cowichan are based on how well the cycling network meets the needs of the community. 'All ages and abilities' cycling facilities have become a common term in industry guides and best practices. All ages and abilities (AAA) cycling facilities offer a greater degree of safety and comfort. The planning and designing for people of all ages and abilities is a national and international best practice that should be aspired to for all active transportation facility design and network implementation.

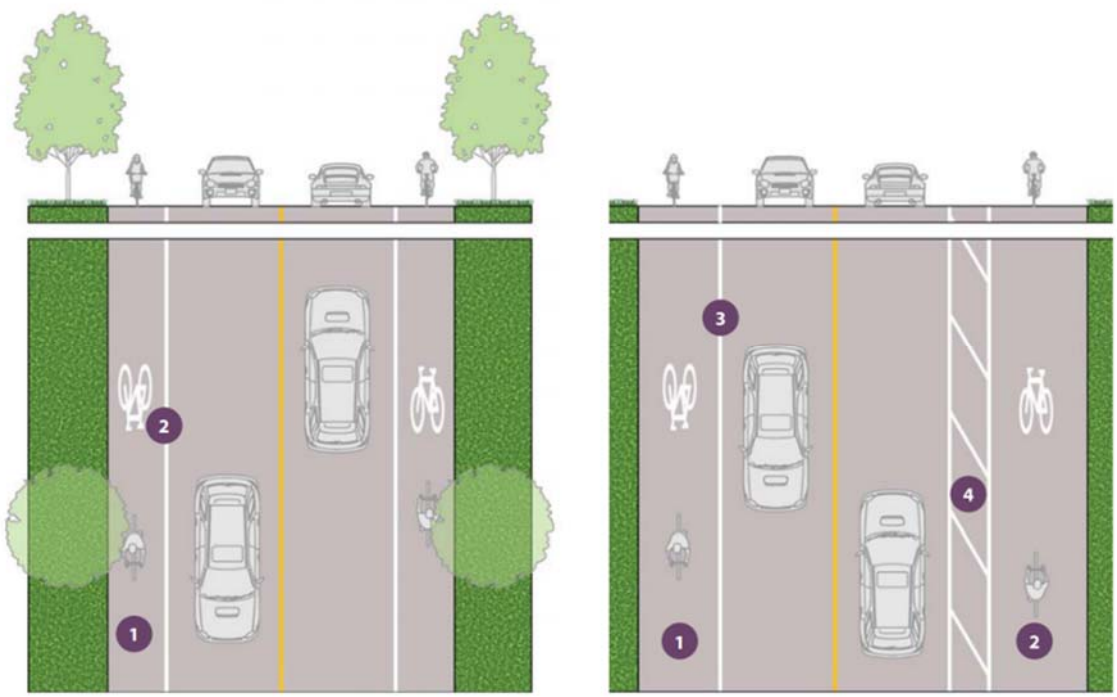
### 6.4.1 EXISTING FACILITIES

North Cowichan's existing cycling network does not broadly meet the definitions of all ages and abilities bike facilities. People prefer to be separated from [a] faster moving traffic and [b] high volumes of traffic. Only in low-speed environments (30 km/h or less) and on streets with low traffic volumes is riding a bicycle adequate for people to share a lane with motor vehicles.




Bicycle Facility Selection Decision Matrix found in the BC Active Transportation Guide.

As illustrated in the figure at-right, in rural contexts such as North Cowichan, traffic volumes above 2,500 vehicles a day justify a bicycle lane (bicycle accessible shoulder in the AT Guide) and above 6,000 vehicles a day necessitate strong consideration of facilities that have more separation from motor vehicles such as a bicycle lane (bicycle accessible shoulder) with a buffer. For many of North Cowichan's arterial roads, this means that better bike facilities such as bicycle lanes with buffers or off-road facilities are more appropriate, especially if the roadways are posted 60 km/h or greater with more than 6,000 vehicles per day.




Example of a bicycle accessible shoulder (left), which is more suitable for a low motor vehicle road with lower posted speed limits. Image at right is an example of a bicycle accessible shoulder with a buffer, which is more suitable for a higher motor vehicle volumes and speed. Note: these figures exclude pedestrian facilities. Source: BC Active Transportation Design Guide, Chapter D – Cycling Facilities.

Based on current best practices the District's existing facilities are deficient and not meeting the guidelines as summarized in **Table 7**. The next phase of this study will be to confirm/identify the types of facilities that should be implemented in North Cowichan and to select the locations for each of these types of facilities. Part of the assessment of the bicycle network will be done in combination with the pedestrian network to ensure both user groups are provided for.

### TABLE 7. CURRENT BICYCLE FACILITIES DEFICIENTCIES

| Bike Facility / Location | Posted Speed Limit | Average Daily Traffic |
|---|---|---|
| **Bike Lanes** | | |
| Maple Bay Road<br>*(Grant Road to Churchill Road)* | 60 km/h | 8,600 |
| Lakes Road<br>*(Tzouhalem Road to Beverly Street)* | 50 km/h | 8,100 |
| Lakes Road<br>*(Jaynes Road to Arnhem Road)* | 50 km/h | 8,500 |
| Drinkwater Road<br>*(Somenos Road to Lane Road)* | 50 km/h | 6,200 |

The above locations are deficient based on speed and exceeding the recommended threshold of 6,000 vehicles/day. Therefore these locations require more than a paved shoulder. The more suitable facility is a bicycle lane with a buffer. In addition, there is little to no bicycle signage along these routes. While not required, the Bike Route sign (IB-23, B-G-001) may be used to identify a facility as a designated bicycle route. Most of these facilities also do not have a pavement marking indicating that they are designated bicycle facilities. When placed in conjunction with a bicycle route guide sign, the stencil should be located within 10 metres of the sign location, preferably in advance of the sign. A bicycle stencil should be spaced every 1.5 to 2 kilometres on longer routes. Use of the stencil does need to consider if the existing shoulder is being converted to a bicycle lane and therefore excluding pedestrians from this space.

### 6.4.2 INTERSECTIONS

Another important factor in designing safe and accessible facilities for people riding bicycles are intersections. According to ICBC[3], four out of five cycling collisions happen at intersections. If motor vehicle speeds and volumes warrant a more protected or separated bike facility, then the same care should extend to the intersection where users are exposed to motor vehicles turning in various directions. The widths of facilities should remain as wide as they are along the corridor as users are more prone to congregate with other users while waiting for their turn to cross.

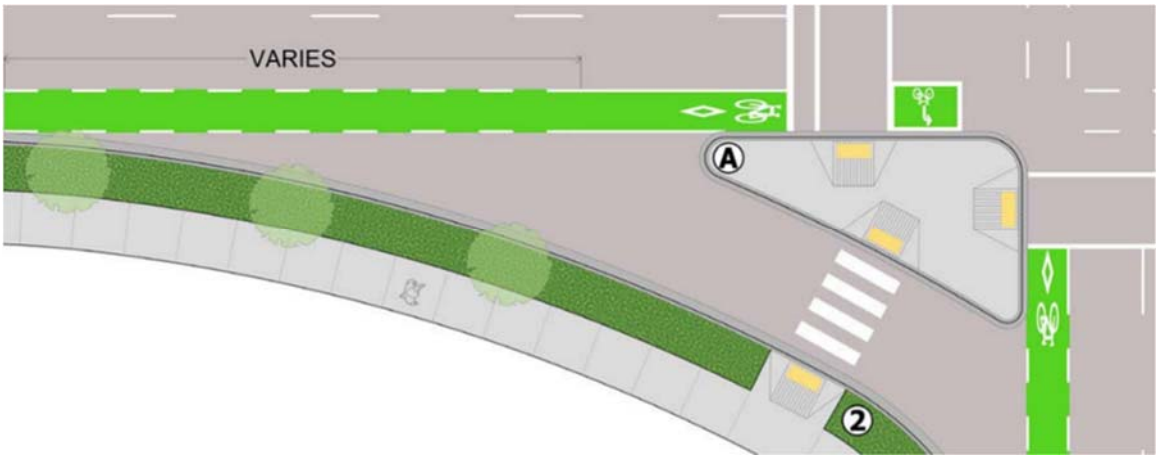
The most serious conflicts to remediate are between the curbs where motor vehicles and vulnerable road users are likely to intersect. Considerations to be included in determining safe intersections for all users include:

- Low turning speed of motor vehicles;
- Increased visibility of people walking and biking;
- Denote clear right-of-way; and
- Facilitate eye contact and awareness with other modes.

There are various treatments that protect cyclists on the intersection approaches that will be explored for the North Cowichan context. One of the key items to consider is channelized right turns. Channelized right turns are intended for higher volume, higher speed roadways to facilitate motor vehicle movements. These higher speed right turns can lead to conflicts with other user groups and drivers who are not paying attention to other user groups. There are a number of these channelized right turns along Maple Bay Road and Jaynes Road that will be reviewed to [a] determine if the channelized right turns are appropriate and [b] what type of bicycle facilities should be added if the right turn islands remain.

[3] ICBC. (2020). *Cycling Safety*. Available online at: https://www.icbc.com/road-safety/sharing/Pages/cycling-safety.aspx


*Jaynes Road / Tzouhalem Road intersection. A cyclist wanting to turn left has to cross from the curb, across the wide right turn area, to the left turn lane.*




*Example of a bicycle lane with a channelized right-turn island. Use of coloured conflict zone pavement markings applied through the bicycle lane conflict area and the use of a Smart Right turn can delineate cyclist space and improve the safety.* Source: BC Active Transportation Design Guide, Chapter G – Intersections + Crossings.

## 6.5 WHAT WE HEARD FROM THE COMMUNITY

Both the online survey and stakeholder interviews reported several findings relevant to the cycling network, as follows:

- Overall, the online survey reported low satisfaction with the existing infrastructure with 21% indicating 'very satisfied' or 'satisfied', which was the second lowest (after transit network) among all the options presented.
- There is low satisfaction with the cycling network with only 17% indicating 'very satisfied' or 'satisfied' with 'connectivity of the cycling network' compared to 52% who indicated that they were 'very satisfied' or 'satisfied' with the 'connectivity of the road network'.
- Qualitative comments from the online survey reported the lack of cycling network continuity, lack of separated bike lanes and bike lane/shoulder debris.
- Online survey respondents were asked, "What makes cycling within and through North Cowichan difficult for you?". The top barrier to cycling according to respondents is a lack of bike lanes, trails and other cycling infrastructure to respondent's usual destinations (49%). A lack of bike racks and other secure bike parking/concerns about bike theft (38%) as well as speed, noise and fumes from motor vehicle traffic (35%) were also identified as barriers to many respondents.
- Online survey respondents were asked, "What could we do to make it easier to cycle within and through North Cowichan?". Improvements to cycling network connections, such as building more lanes, trails and pathways was identified as the top action by over half of respondents (58%), followed by building bike lanes that are physically protected from vehicle traffic (49%) and providing more secure bike parking (40%).
- Online survey respondents were asked, "The Master Transportation Plan will guide our transportation-related decisions over the next 20 years. Looking forward, what are the most important issues the updated Plan should address?". Pedestrian and cycling safety was the top issue respondents wanted to see addressed in the Master Transportation Plan.
- The stakeholder interviews reported two specific findings pertaining to the cycling network, as follows.
    1. **Inadequate cycling supports**. There is a lack of safe, continuous cycling infrastructure like separated lanes as a major barrier to cycling. It was

reported that while there are many trail users, many are hesitant to use unprotected bike lanes out of safety concerns.

2. **Improving Cycling Infrastructure**. There is a strong desire to enhance the cycling infrastructure and general visibility of cycling culture in North Cowichan. Separated, continuous bike lanes were proposed to enhance cyclist safety, as well as controlled crossings and signage for cyclists and to alert drivers of shared roads. The need for more bike racks was identified, as was the need for more bike sharing programs and e-bikes.

*Cyclists using Shoulder on Herd Road (left); Cyclist using Sidewalk on Chemainus Road where no separate facilities for cyclist (right).*

# 7.0 TRANSIT NETWORK CONDITIONS

## 7.1 OVERVIEW

The District of North Cowichan is within BC Transit's Cowichan Valley Regional Transit System. All transit services (route planning and frequency of service) are operated by Cowichan Valley Regional Transit Services in partnership with BC Transit, the Cowichan Valley Regional District (CVRD) and local operating companies. The District of North Cowichan is ultimately responsible for providing the bus stop infrastructure and maintaining it. Based on this model, the District does not directly have control over service route planning; however, it can influence overall transit planning.

## 7.2 SERVICE OVERVIEW

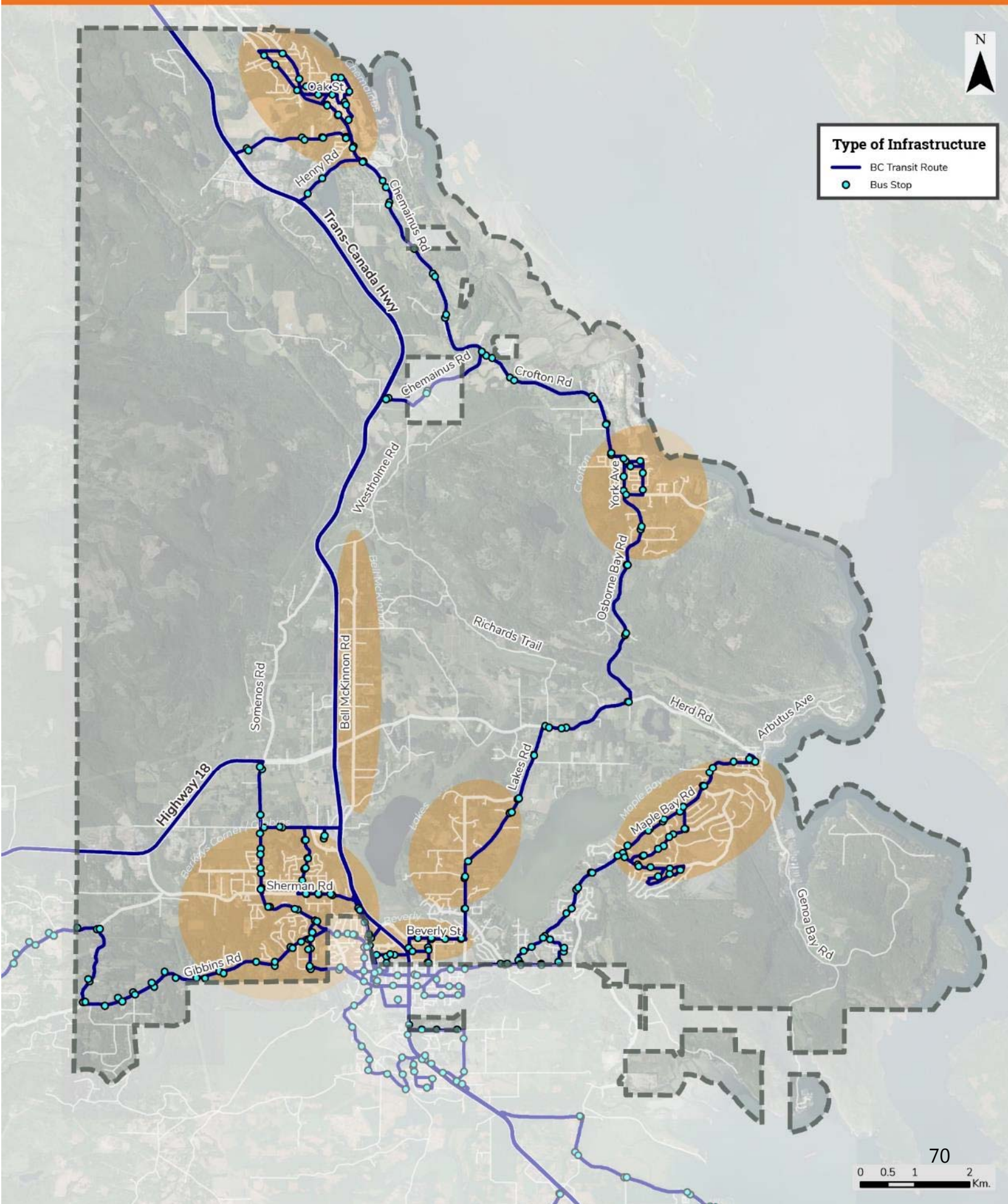
North Cowichan is currently serviced by nine transit routes (see **Map 5**). The bus routes vary in the level of service (frequency), but most are considered 'conventional fixed route' transit service. The following routes run through the District of North Cowichan:

- Route 2 – Mt. Prevost
- Route 3 – Quamichan
- Route 4 – Maple Bay
- Route 6 – Crofton-Chemainus
- Route 7 – Cowichan Lake
- Route 8 – Mill Bay via Telegraph Rd / via Shawnigan Lake
- Route 9 – Mill Bay via Shawnigan Lake / via Telegraph Rd
- Route 34 – Ladysmith-Chemainus
- Route 36 – Ladysmith-Duncan Express

There are also two additional commuter routes that provide inter-regional weekday service to/from Victoria:

- Route 44 – Victoria / Duncan
- Route 66 – Duncan Commuter

# Map 5. Transit Network



## 7.3 BUS STOP INFRASTRUCTURE

There are a total of 234 bus stops in North Cowichan as shown in **Map 5**. However, the type and quality of bus stop ranges across the municipality with some stops offering passenger amenities and others only a sign and pole. Many of the stops lack bus pads that make the stops accessible.

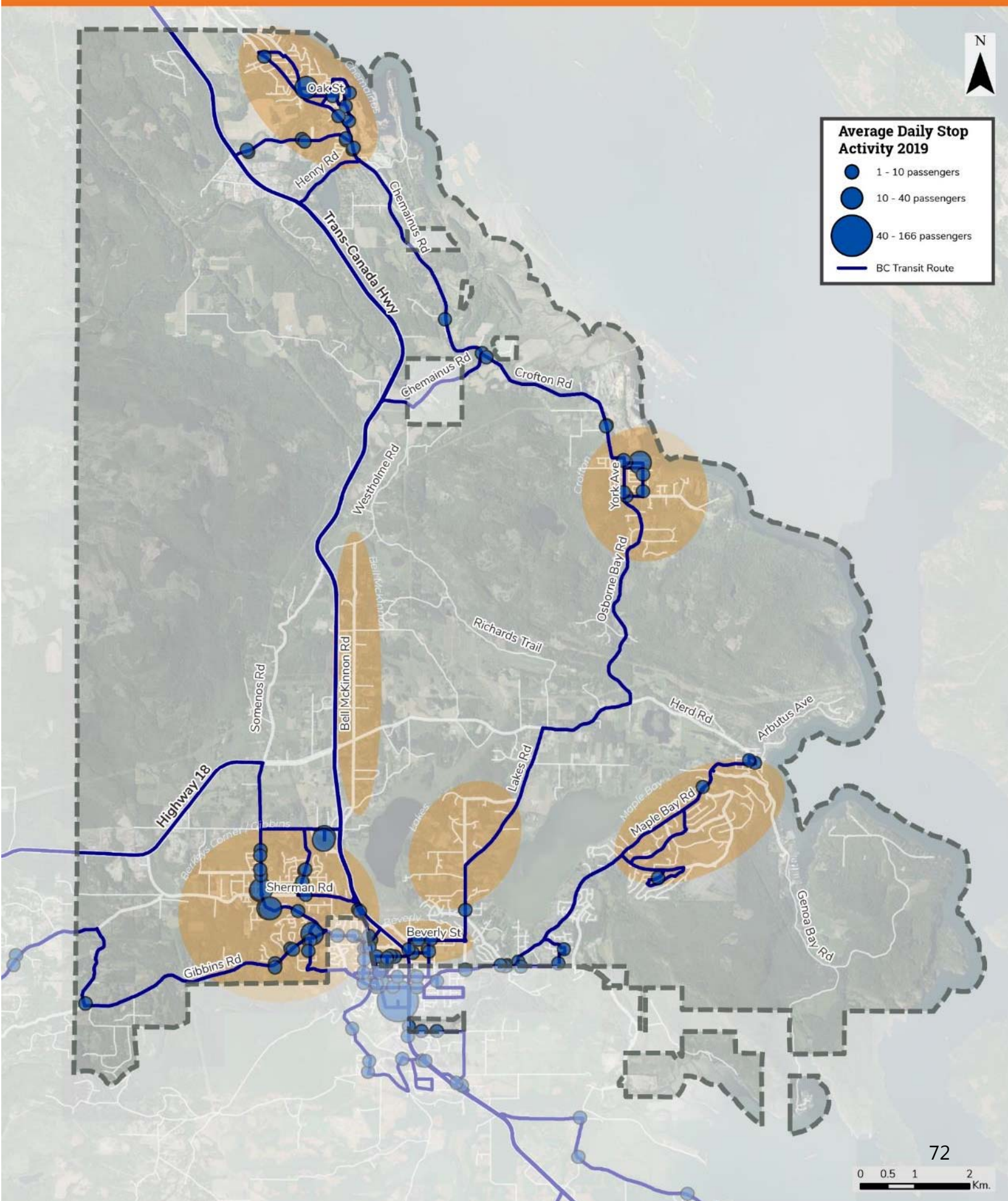
Photos above illustrate the differences in the types and quality of bus stops in the District. The photo at left (on Osborne Bay Road at Maple Mountain) is a basic bus stop with a sign / pole. The photo at right (located on Maple Bay Road at Queen of Angles School) is an example of a higher quality bus stop with shelter, waiting area, and elevated (sidewalk) area for mobility aids.

## 7.4 RIDERSHIP SUMMARY

BC Transit has provided ridership data for each of its bus stops within the District. Referred to as "average bus stop activity", the data measures the average total number of boardings (on to the bus) and alightings (exiting the bus) per day in 2019. **Map 6** shows the bus stop activity across the bus stops. The data indicate the following findings:

- Transit ridership is relatively low across the District with the majority of bus stops seeing less than 30 passengers per day.
- Cowichan District Hospital and Cowichan Commons (NB) see the highest levels of transit ridership in the District with approximately 40 passengers per day.
- Bus stops with about 10-40 passengers per day include Chemainus, Berkey's Corner, and Crofton.
- Downtown Duncan sees the highest level of transit ridership in the Cowichan Valley with one stop (Central at Cowichan) with 250 passengers on a weekday.

# Map 6. Transit Boarding + Alighting Activity



## 7.5 WHAT WE HEARD FROM THE COMMUNITY

Both the online survey and stakeholder interviews reported several findings relevant to the transit service and the transit network more broadly, as follows:

- Overall, the online survey reported that the community has very low satisfaction with the existing transit network with only 16% indicating 'very satisfied' or 'satisfied', which was the lowest among all the options presented.
- Only 12% indicating 'very satisfied' or 'satisfied' with 'connectivity of the transit network', which was the lowest among all the options presented. This compares to 52% who indicated that they were 'very satisfied' or 'satisfied' with the 'connectivity of the road network' and 23% with 'connectivity of the walking network'.
- Qualitative comments from the online survey reported the limited transit network hours and service, and the buses being too large for the number of passengers they carry. This is referred to as "right-sizing" transit, which means providing smaller buses to meet the demand.
- Online survey respondents were asked, "What makes using transit within and through North Cowichan difficult for you?". The most cited barrier was that transit service is too infrequent (43%), followed by a lack of transit service (34%) and a lack of familiarity with the transit system (34%).
- Online survey respondents were asked, "Recognizing that transit service is largely under the jurisdiction of BC Transit/CVRD, what could we do to make it easier to use transit within and through North Cowichan?". The top action identified among respondents to make taking transit easier is to increase transit frequency. It should be noted that close to 40% of respondents are not interested in taking transit.
- The stakeholder interviews reported two specific findings pertaining to the cycling network, as follows.
    1. **Inconvenient Transit Services**. There is a need to increase the frequency and number of transit routes in more areas of North Cowichan. This would better meet the needs of residents and connect residents with local businesses, especially as some residents travel exclusively by public transit.
    2. **Transit Improvements**. It is important to consider the rural/suburban context of North Cowichan and tailor the transit network to it. Smaller bus sizes,

increased express service, increased frequency and on-demand transit, like HandyDart, were proposed to increase ridership. Extending transit hours, especially to accommodate people's varying working hours, was also identified critical to connect employees to their place of work. Some safer bus stops and improved maps would enhance the transit experience, especially for young people and those new to transit like seniors who can no longer drive, new immigrants, and people with disabilities.

# 8.0 STREET & TRAFFIC CONDITIONS

## 8.1 ROAD NETWORK & CLASSIFICATION

**Map 7** shows the existing road network including road classifications within the District's jurisdictional boundary. Road classification is based on factors including adjacent land use, service function, traffic volumes, traffic flow characteristics, vehicle types, vehicle speeds, and connections with intersecting roads. Following are the existing road classifications in the network:

**Provincial Highway** – Traffic movement is the primary function of highways with speed limits of around 80 to 100 km/h and limited access to adjacent properties. Highway 1 and Highway 17 are the two provincial highways under the jurisdiction of BC MoTI that run through the District's boundaries. These roads carry volumes of up to 30,000 vehicles per day which includes high proportions of heavy vehicles. Provincial Highways also tend to prioritize vehicle movement over pedestrian and cycling infrastructure.

**Arterial** – Traffic movement is an important function of arterials to connect vehicles from collectors to highways. These roads carry vehicle volumes in the range of 5,000 to 12,000 vehicles per day with speed limits between 50 and 60 km/h. Heavy vehicles can also be expected on these roads. Arterial roads include roads such as Maple Bay Road, Lakes Road, Sherman Road, and Herd Road. Pedestrian and cycling infrastructure on these types of corridors should be separate and / or protected due to higher speeds and volumes of vehicles.

**Collector** – The intent of collector roads is to balance direct access to adjacent properties while maintaining traffic flow and connecting local roads and arterials. These roads carry vehicle volumes in the range of 1,000 to 5,000 vehicles per day and posted speed limits between 30km/h and 50 km/h. Heavy vehicles maybe permitted on these roads. The District's collector roads include roads such as Bell McKinnon Road, Drinkwater Road, and Victoria Road. These roads tend to need to balance vehicle movement with pedestrian and bicycle accommodations. Separate facilities should be provided, but based on lower volumes, than arterials, the level of facility can be lower.

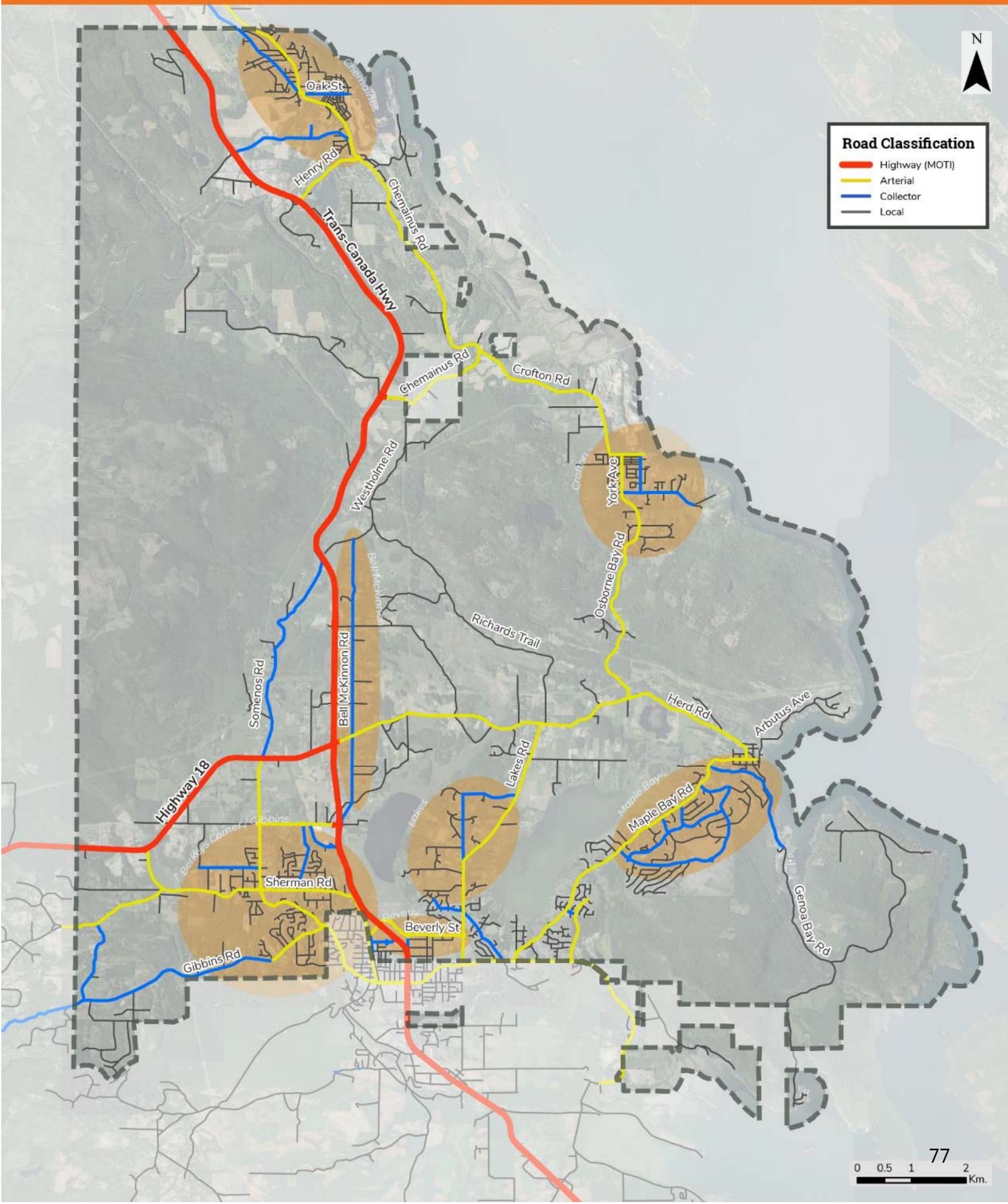
**Local** – The primary function of local roads is to provide direct access to properties over easy traffic flow. Local roads are intended to connect with collector roads. In rural neighbourhood settings, vehicle volumes on these roads are typically less than 1,000 vehicles per day while in denser urban settings, vehicles volumes can range up to 3,000 vehicles per day. Traffic flow on local roads is usually interrupted with on-street parking and driveway access activity. Heavy vehicles access is usually limited on these roads with exceptions for garbage pickup and occasional residential loading/unloading activities. Due to lower volumes pedestrian and bicycle infrastructure can be integrated with vehicles through neighbourhood bikeways and sidewalks.

**Table 8** shows the breakdown of road classifications in the road network based on overall length in kilometers in North Cowichan. There is a total of 607 km of roads within North Cowichan.

TABLE 8. EXISTING ROAD NETWORK INVENTORY

| Road Classification | Length (km) | Percentage |
|---|---|---|
| Local | 459 | 76% |
| Collector | 60 | 10% |
| Arterial | 88 | 14% |
| **Total** | **607** | **100%** |

# Map 7. Road Classifications



## 8.2 ROAD STANDARDS

The District's road standards and specifications are based on the Engineering Standards as part of Schedule "B" Bylaw No 1851, published in 1993. Road construction is covered in Section 7 of this Schedule. Standard cross sections are illustrated in R1 to R6 drawings.

**Table 9** shows typical cross-section width allocation for the District's current road standards which includes specifications for lanes, residential (local), and collector roads in rural and urban settings as well as for industrial roads.

None of the cross sections specifically identify that parking, on-street is permitted or expected and none of the cross sections have separate bicycle facilities. The cross sections with sidewalks have narrower than current standard sidewalks which should be at least 1.8m excluding the curb and on rural roadways there is either no shoulders or less than 1.2m. This width of shoulder is too narrow for shared bicycle / pedestrian use.

The lane widths identified in the current cross section range from 3.65m to 6m. It is expected that roads with 4m or wider lanes widths would have some sort of parking accommodation; however, this is not identified. Lane widths wider than 3.5m are intended for higher speed roadways and roads with significant heavy truck and transit users. Having road widths wider than 3.5m in lower volume roads (lower classification roads) can lead to increased speeding. Lane widths are a key element of the road network that needs to be reviewed.

All of the road cross section elements including lane widths, road edge, sidewalks, trail/pathways, bicycle facilities, and parking will be reviewed and updated in Phase 2. Another consideration is that the existing road classification map does not identify rural versus urban areas. Therefore, judgement is required each time a development or road project is planned to determine which is the appropriate cross section.

TABLE 9. EXISTING ROAD CROSS-SECTION STANDARDS

| Classification | ROW (m) | Roadway Width (m) | Road Edge | Sidewalk Width (m) | Cycling Facilities |
|---|---|---|---|---|---|
| Lane | 4.5-6.0 | 3.5 min. | None | None | None |
| Rural Residential | 15 | 7.3 (3.65 per lane) | None | None | None |
| Urban Residential | 15 | 9.0 (4.0 per lane) | Curb & Gutter | 1.65**, One side | None |
| Rural Collector | 20 | 7.3 (3.65 per lane) | Shoulders | 1.0 – 1.2*** | None |
| Urban Collector | 20 | 12.0 (6.0 per lane) | Curb & Gutter | 1.65**, Both sides | None |
| Industrial Road | 20 | 8.0 (4.0 per lane) | Shoulders | None | None |

*parking is not identified as a separate

**1.5m sidewalk with 0.15m curb

***shoulder width on one side is 1.0m and other side is 1.2m as a paved walkway

The District's existing road standards also do not provide a cross-sections for arterial roads; however, the road network map has arterial roadways.

## 8.3 TRAFFIC VOLUMES

**Map 8** shows daily two-way traffic volumes in the District of North Cowichan. The volumes are based on a combination of intersection turning movement counts, roadway tube counts, and data MoTI. Traffic volumes were found to be 20% lower on average due to the Covid-19 pandemic and were adjusted to reflect pre-pandemic traffic levels.

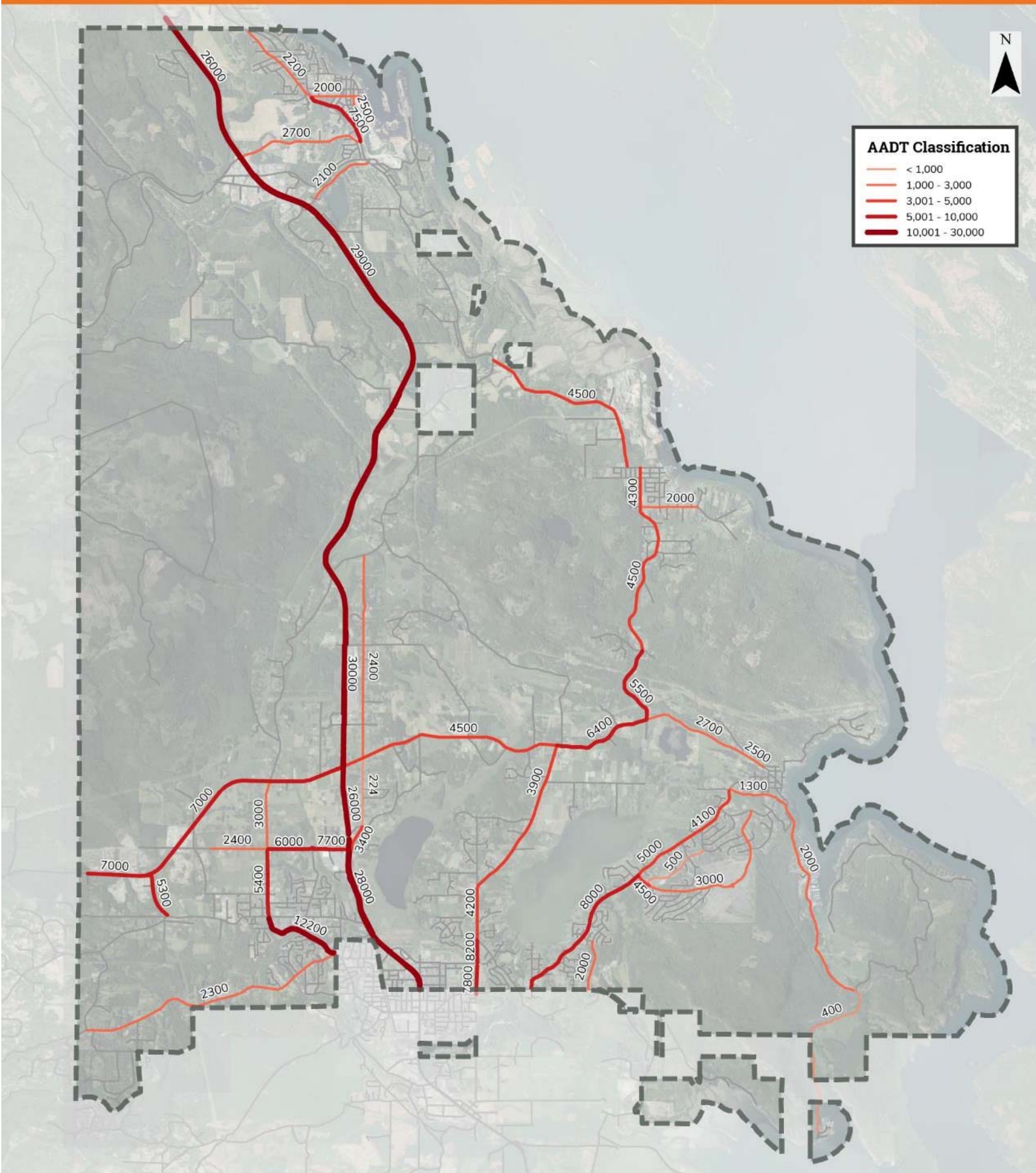
Traffic volumes along corridors were compared with existing roadway classifications to determine any discrepancies in the existing function of the roads to their current classification. There are at least three corridors that need to be reviewed to determine if their road classification needs to be adjusted or other measures to adjust traffic to more suitable levels is required. There are three other roadways that need to be reviewed as

their volumes are at a collector level (functioning classification), but their purpose in the network and current classification is arterial. See **Table 10**.

TABLE 10. ROAD CLASSIFICATIONS TO BE REVIEWED

| Road Segment | Daily Volume | Existing Classification | Functioning Classification |
|---|---|---|---|
| Drinkwater Road *(Somenos Road to Highway 1)* | 8,000 | Collector | Arterial |
| Somenos Road *(Drinkwater Road to Highway 18)* | 3,100 | Arterial | Collector |
| Donnay Drive *(Kingsview Road and McKenzie Drive)* | 500 | Collector | Local |
| Lakes Road | 4,500 | Arterial | Collector |
| Herd Road *(Maple Bay Road to Lakes Road)* | 4,500 | Arterial | Collector |
| York Avenue *(Osborne Bay Road to Crofton Road)* | 4,500 | Arterial | Collector |

# Map 8. Daily Traffic Volumes



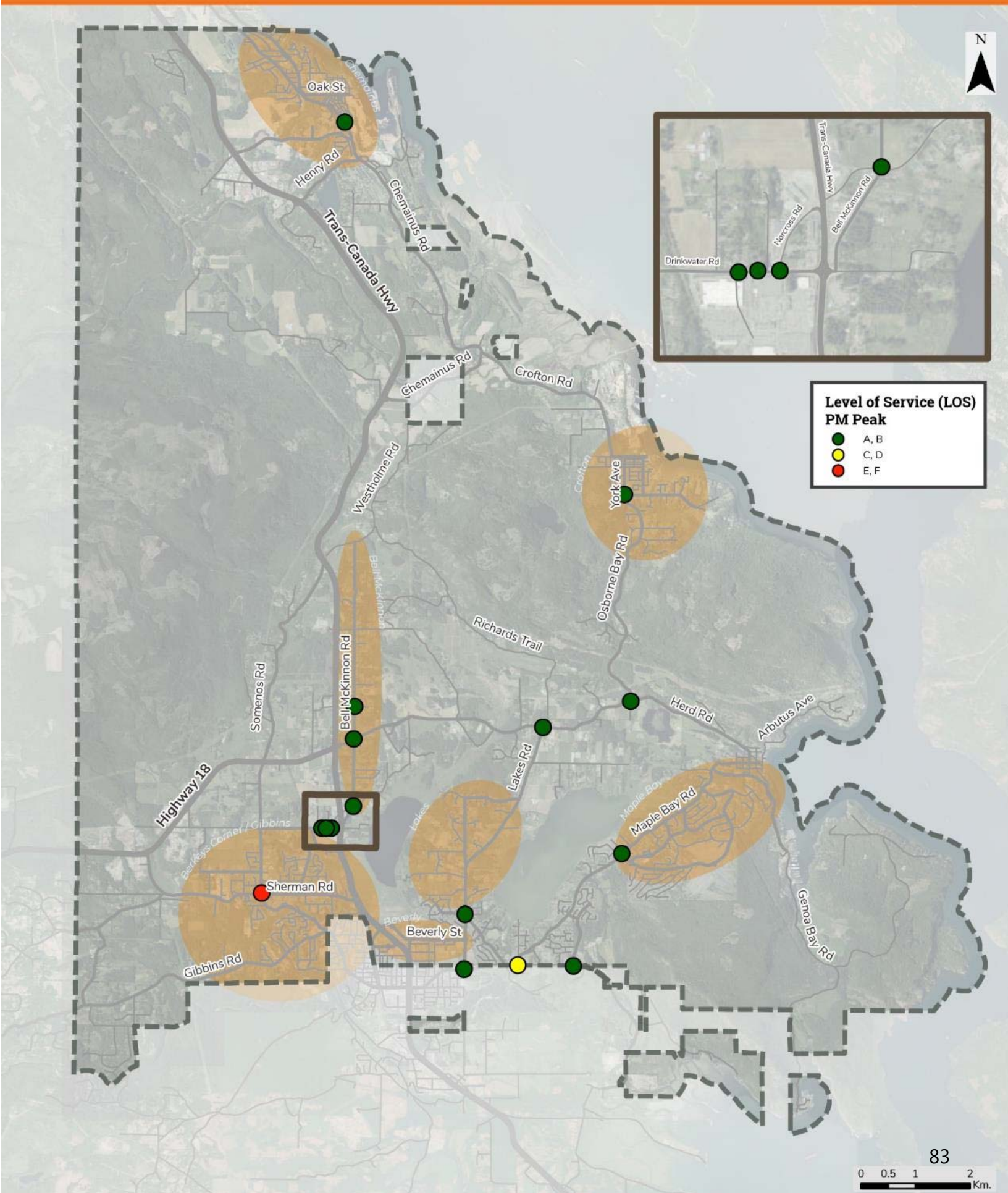
## 8.4 TRAFFIC CONDITIONS

**Map 9** shows existing levels of service (LOS) in the District of North Cowichan's key intersections during the afternoon (PM) peak hours.

Level of service (LOS) is a measure of effectiveness that is used to characterize and evaluate the traffic operations at intersection locations based on average delay per vehicle and type of traffic control. LOS breaks delay into a six-point scale ranging from LOS A (excellent conditions with minimal or no delay) to LOS F (poor conditions with extensive delay).

Overall, most intersections in the District's road network are currently operating in good conditions with operations at a LOS C or better (less than 30 seconds of average delay) except for Somenos Road/Cowichan Lake Road/Sherman Road in the PM and Tzouhalem Road / Maple Bay Road in the AM. The eastbound movement at Somenos Road/Cowichan Lake Road/Sherman Road and southbound movement at Tzouhalem Road / Maple Bay Road are currently at a LOS E. Mitigation measures for these two locations will be reviewed in Phase 2.

# Map 9. Level of Service - PM Peak Hour



## 8.5 TRAFFIC COLLISIONS

Traffic collision data can be one indicator of a safety issue at a location. Collision statistics are obtained from Insurance Corporation of British Columbia (ICBC). **Map 10** shows the total number of collisions at intersections in North Cowichan from 2015-2019. **Table 11** shows the top 10 collision locations on District's roads based on total collisions.

### TABLE 11. TOP 10 HIGHEST COLLISION LOCATIONS IN NORTH COWICHAN

| Rating | Location | 5-year Total Collisions | Average Collisions per year |
|---|---|---|---|
| 1 | Cowichan Lake Rd/Gibbins Rd/Government St | 45 | 9 |
| 2 | Lakes Rd/Trunk Rd/Tzouhalem Rd | 43 | 8.6 |
| 3 | Beverly St/Canada Ave | 42 | 8.4 |
| 4 | Cowichan Lake Rd/Sherman Rd/Somenos Rd | 35 | 7 |
| 5 | Alington Rd/Canada Ave/Sherman Rd | 33 | 6.6 |
| 6 | Drinkwater Rd/Somenos Rd | 28 | 5.6 |
| 7 | Chemainus Rd/Oak St/Victoria Rd | 27 | 5.4 |
| 8 | Herd Rd/Lakes Rd | 24 | 4.8 |
| 9 | Beverly St/York Rd | 22 | 4.4 |
| 10 | Canada Ave/James St | 21 | 4.2 |

**Map 11** shows the range of collision rates for 2015-2019. Collision rates are calculated by dividing the total collisions in 5 years with the total entering traffic volumes at the intersection. This rate is used to illustrate locations where there may be high collisions for a lower amount of traffic. This can identify locations where collisions are occurring more than expected. Collision rates are used identify where collisions are occurring where there is lower exposure (i.e. lower volumes).

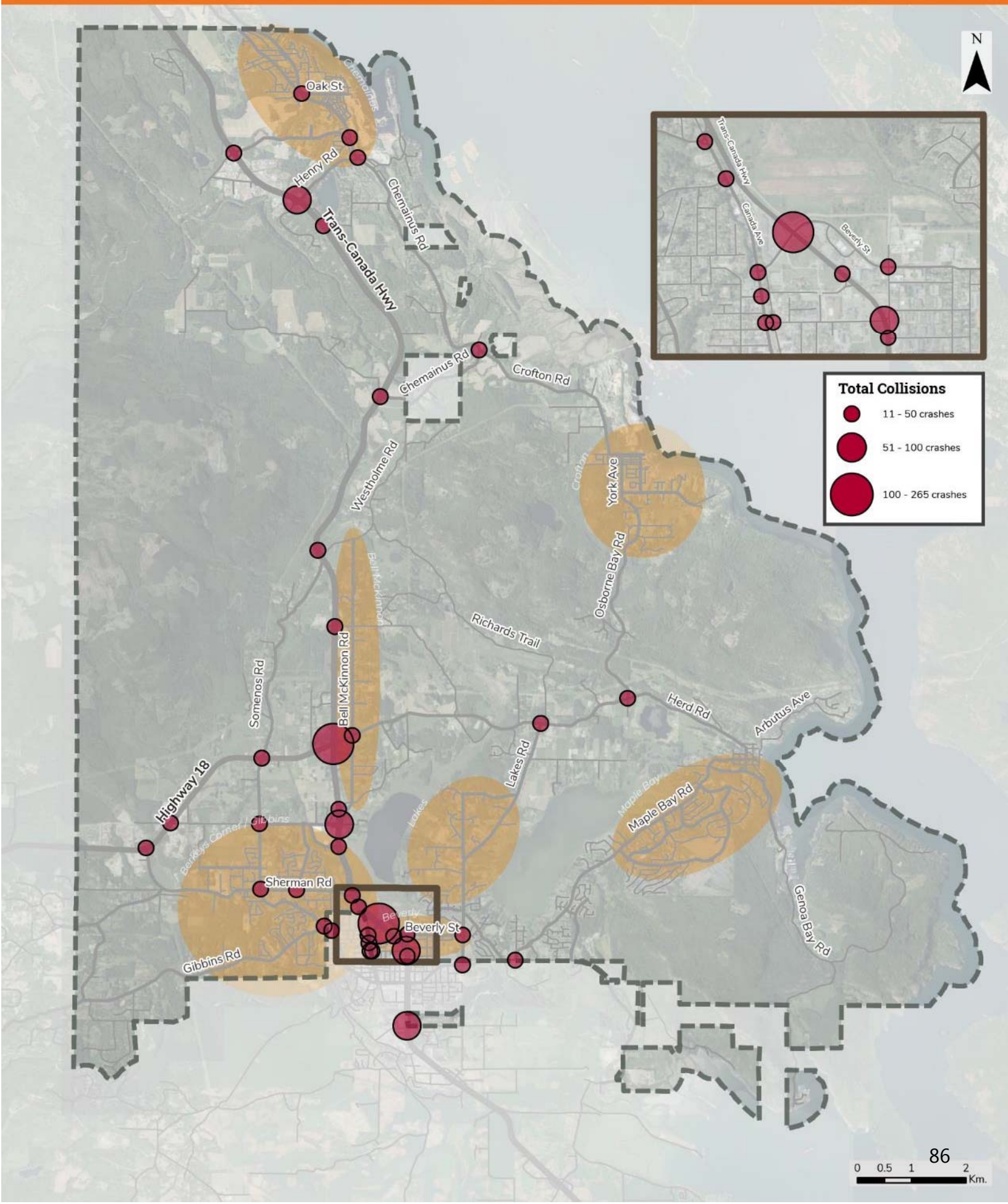
**Table 12** shows the top 10 collision locations based on collision rates.

### TABLE 12. TOP 10 COLLISION RATE LOCATIONS IN NORTH COWICHAN

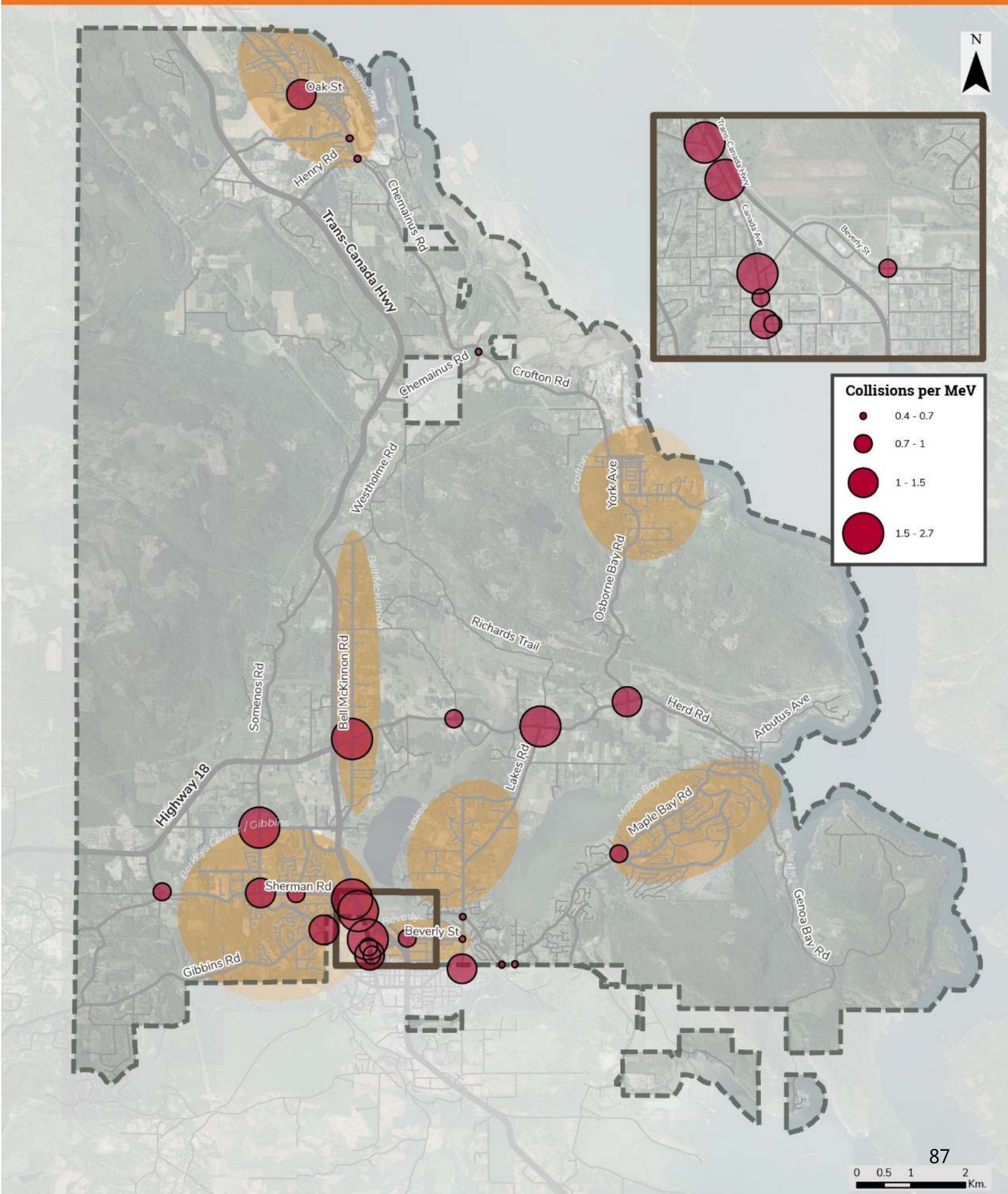
| Rating | Location | Collision Rate |
|---|---|---|
| 1 | Alington Rd/Canada Ave/Sherman Rd | 2.72 |
| 2 | Drinkwater Rd/Somenos Rd | 2.09 |
| 3 | Bell McKinnon Rd/Herd Rd | 1.96 |
| 4 | Herd Rd/Lakes Rd | 1.86 |
| 5 | Canada Ave/Philip St | 1.85 |
| 6 | Beverly St/Canada Ave | 1.78 |
| 7 | Lakes Rd/Trunk Rd/Tzouhalem Rd | 1.47 |
| 8 | Cowichan Lake Rd/Gibbins Rd/Government St | 1.45 |
| 9 | Chemainus Rd/Oak St/Victoria Rd | 1.46 |
| 10 | Flett Rd/Herd Rd/Osborne Bay Rd | 1.42 |

Many of the same intersections are in the highest average number of collisions as are identified by the highest collision rate. A number of these locations are at the roundabouts and it is expected that these collisions are less severe than at the unsignalized and signalized intersections; however, the type of collisions is not available in the online data. Each of the top ten locations will be reviewed to determine if changes to the intersections are required to improve safety and / or operations.

# Map 10. Total Vehicle Collisions (2015 - 2019)



# Map 11. Collision Rates (2015 - 2019)



## 8.6 TRAFFIC SPEEDS

**Map 12** shows the posted speed limits for all roads in the District. Speed data collected between 2018 and 2020 was obtained from the District of North Cowichan. Existing vehicle speeds were analyzed by comparing posted speed limits with the 85$^{th}$ percentile speeds of roadway segments. The 85$^{th}$ percentile speed is considered the speed at which a reasonable driver travels. This speed indicates the general speed that drivers feel comfortable driving on the corridor. **Table 13** shows the locations where operating speeds are currently 20% greater than the posted speed limit.

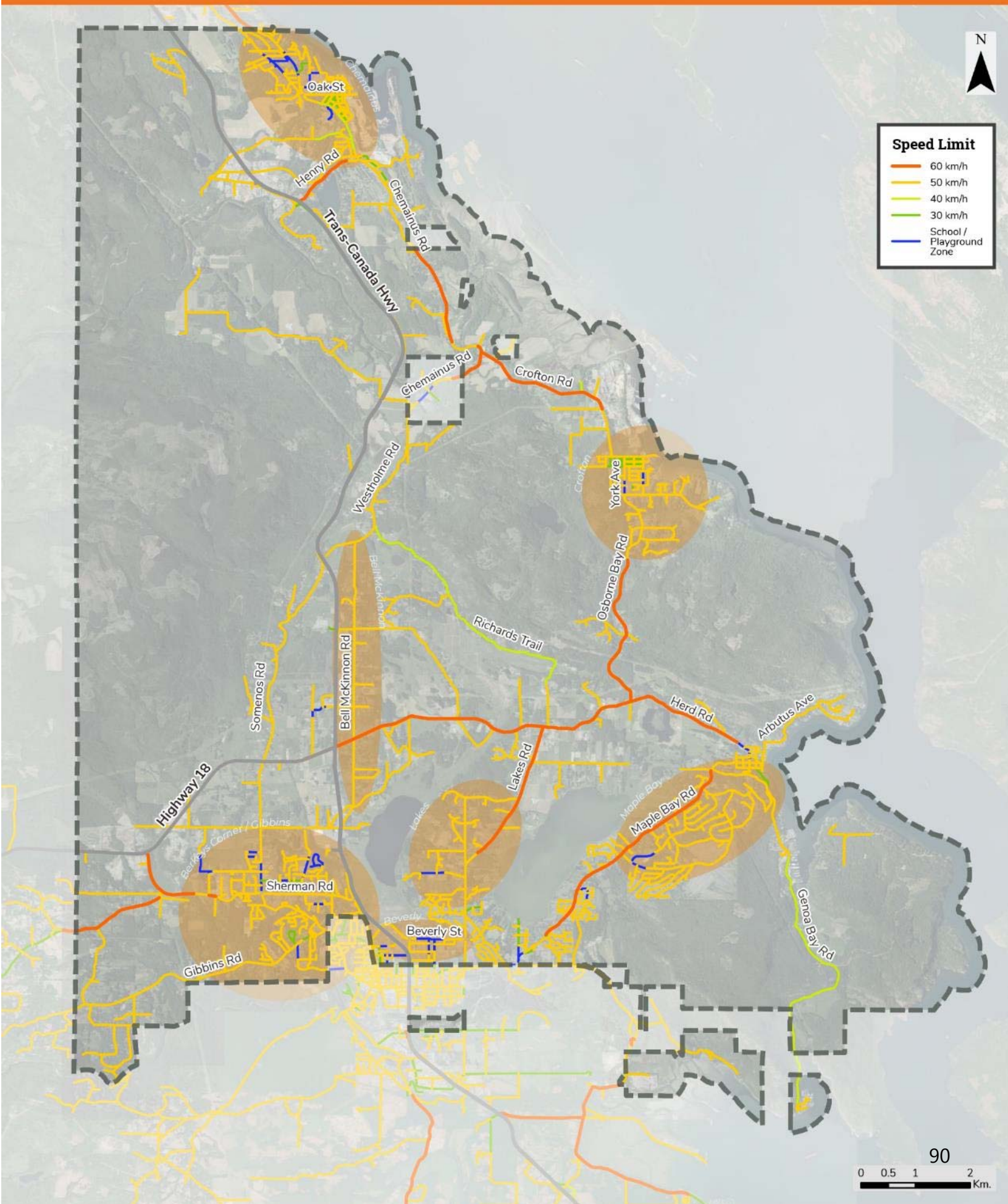
The top 4 locations with high operating speeds are noted along segments on Herd Road, River Road, Moorfield Road, and Genoa Bay Road. These road segments have a posted speed limit of 40km/h or less. However, operating speeds at these locations are approximately 40-85% greater than the posted speed limits. These roads should be reviewed to determine if [a] the posted speed limit is correct for the geometrics of the road, [b] if traffic calming measures are appropriate for the road classification, [c] other factors that may be influencing speed (rural nature, lack of density, road widths, etc.) need to be addressed, and [d] is the posted speed appropriate for the classification of road. The arbitrary placement of lower speed limit signs without changes to road geometrics or surrounding land use (i.e. densification of land use) will lead to poor compliance with the posted speed limit and complaints. Therefore, the character and geometrics of the road need to match the posted speed limit. If lower (30-40km/h) posted speed limits are desired, then the roadways need to be more constrained. Phase 2 will identify considerations for lower posted speed limits along with traffic calming policy to align posted speeds with operating speeds.

## TABLE 13. EXISTING TRAFFIC SPEED DIFFERENTIALS

| Rating | Roadway | 85th Percentile Speed (km/h) | Posted Speed Limit (km/h) | Difference (km/h) | > Posted Speed Limit |
|---|---|---|---|---|---|
| 1 | **Herd Rd** b/w Walcot St & Southview Tr | 56 | 30*/60 | 26 / under | 86%* |
| 2 | **River Rd** b/w Askew Creek Dr & Cecelia St | 65 | 40 | 25 | 62% |
| 3 | **Moorfield Rd** b/w Somenos Rd & Palahi Rd | 45 | 30 | 15 | 51% |
| 4 | **Genoa Bay Rd** b/w Shore Pine Cl & Salt Spring Rd | 57 | 40 | 17 | 42% |
| 5 | **Lakes Rd** b/w Stanhope Rd & Woodland Dr | 79 | 60 | 19 | 32% |
| 6 | **Bell McKinnon Rd** b/w Drinkwater Rd & Sprott Rd | 65 | 50 | 15 | 31% |
| 7 | **Cowichan Lake Rd** b/w Avondale Pl & Stonehaven Dr | 64 | 50 | 14 | 28% |
| 8 | **Drinkwater Rd** b/w Somenos Rd & Lane Rd | 63 | 50 | 13 | 26% |
| 9 | **Lakes Rd** b/w Jaynes Rd & Arnhem Rd | 63 | 50 | 13 | 26% |
| 10 | **Maple Bay Rd** b/w Genoa Bay Rd & Considine Ave | 63 | 50 | 13 | 26% |
| 11 | **Somenos Rd** b/w Drinkwater Rd & Johnston Rd | 62 | 50 | 12 | 24% |
| 12 | **Maple Bay Rd** b/w Grant Rd & McKenzie Dr | 74 | 60 | 14 | 24% |
| 13 | **Genoa Bay Rd** b/w Maple Bay Rd & Grandview St | 61 | 50 | 11 | 22% |
| 14 | **Gibbins Rd** b/w Carmel Dr & Curry Rd | 61 | 50 | 11 | 22% |
| 15 | **Kingsview Rd** b/w Algonkin Rd & Belcarra Rd | 60 | 50 | 10 | 21% |

* playground zone period from dawn to dusk. Speeding issue only during playground hours

# Map 12. Posted Speed Limits



## 8.7 TRAFFIC CALMING

The District has an existing Traffic Calming Policy that was developed in June 2005. The policy consists of reviewing requests for the installation of traffic calming devices from three different contexts: from residents; from new development applications; and from new roads and capital improvement projects.

The process for reviewing requests is based on a Traffic Calming Qualification Matrix. The Matrix includes thresholds for vehicle volumes and speeds relative to the road classification. The road under review will trigger a traffic calming study if it exceeds the thresholds. Several traffic calming measures are listed for each road classification. Since 2005 there have been advances and additional traffic calming options that can be deployed. The existing Traffic Calming Policy will be reviewed and updated to reflect an updated traffic calming matrix and appropriate devices for each road classification in North Cowichan. Traffic calming will be tied together with speed limit assessments.

## 8.8 GOODS MOVEMENT

The District of North Cowichan currently only restricts heavy vehicles on

- Drinkwater Road from Ford Road to Highway 18
- North Road from Drinkwater Road to Highway 18
- North Road from Auchinachie Road to Drinkwater Road
- Evans Road from Cowichan Lake Road to Auchinachie Road
- Somenos Road from Sherman Road to Highway 18
- Lane Road from Sherman Road to Drinkwater Road
- Bell McKinnon Road from Mays Road to Herd Road
- Smiley Road/River Road from Hope Place to M&B Haul Road

The majority of these 'No Heavy Truck' routes seem to be intended to direct trucks to stay on Highway 1 and Highway 18 rather than use the District's network to 'short cut' between the two highways. Similarly, the exclusion of Bell McKinnon Road may also be an attempt to direct Herd Road traffic to Highway 1 rather than using Bell McKinnon to parallel the highway.

Goods movement and truck routes maybe in the Traffic Bylaw or be a separate Truck Route Bylaw. In either case, typically the allowed routes for trucks to be utilizing. By telling trucks where the roads they should be on reduces the number of trucks spread throughout the region. By designating truck routes, this does not preclude trucks from deviating from the truck route to reach their destination/delivery location; however, they can only take the shortest path from the truck route to reach their destination. The restriction of trucks on routes should be based on the need to restrict trucks due to weight concerns. These could be a bridge that is unable to handle repeated loading over a specific weight or roads that don't have the structural road base to handle the repeated heavy loads. Truck route restrictions due to weight can be in addition to designated truck routes.

In Phase 2 key trucking origins and destinations will be reviewed, along with road classifications to determine the truck routes for North Cowichan. Updated Traffic Bylaw materials will be provided. The current 'No Heavy Truck' roads will be reviewed to determine if there is a reason to maintain the truck restriction on these roads following the creation of truck route.

## 8.9 WHAT WE HEARD FROM THE COMMUNITY

Both the online survey and stakeholder interviews reported several findings relevant to the transit service and the transit network more broadly, as follows:

- Overall, the online survey reported that the community has relatively higher satisfaction with the existing road network compared to other transportation modes / infrastructure. About 46% and 41% indicated 'very satisfied' or 'satisfied' with 'residential streets' and 'major streets', respectively. These options, along with the trail network, had the highest levels of satisfaction compared to
- Approximately 52% indicated 'very satisfied' or 'satisfied' with 'connectivity of the road network', which was the ***highest*** among all the options presented.
- Qualitative comments from the online survey reported two specific findings relevant to the road network: (1) the inability to bypass Duncan while traveling on the Trans-Canada Highway and (2) vehicle congestion, primarily along Maple

Bay Road and Herd Road, and anticipation of future congestion near the new hospital site

- Online survey respondents were asked, “What makes driving within and through North Cowichan difficult for you?”. Many respondents (38%) indicated that there is too much traffic congestion when they need to travel. However, the second-most common response to this question was that respondents did not have any driving-related challenges (35%).
- Online survey respondents were asked, “What could we do to make it easier to drive within and through North Cowichan?”. The top action to make driving easier according to respondents is to create physical separation between vehicles and cyclists (47%) followed by providing more off-street parking at key destinations (32%) and intersection safety improvements (31%).
- The stakeholder interviews reported three specific findings pertaining to the road network, as follows.
    1. **Major Roadway Safety**. Safety concerns were raised around intersections along Highway 1 and Highway 18, especially at major collectors such as Drinkwater Road and Beverly Street where local traffic is distributed onto these highways. More frequent, controlled intersections along Highway 1 were suggested to mitigate vehicle collisions and promote safe pedestrian crossing. Speed limits, protected sidewalks and road widening was suggested for roadways, like Crofton Road and Maple Bay Road.
    2. **Limited Travel Routes**. Some interviewees indicated that travel was constrained by access to only a few major routes, including in and out of Chemainus and Maple Bay, limiting general travel during high traffic periods and raising concerns around emergency access routes as vehicle congestion grows.
    3. **Vehicle Congestion**. Interviewees were concerned about the growing vehicle congestion as a result of new housing developments like Kingsview, increased demand for outdoor recreation access in North Cowichan and a growing population.

# 9.0 PARKING

## 9.1 OFF-STREET PARKING

The District's Zoning Bylaw includes the requirements for off-street parking. Section 17 of the Zoning Bylaw includes the specific parking supply rates, design standards for off-street parking areas, and the loading requirements. Based on a high-level review of the off-street parking requirements, there are a several potential amendments that could be made to align the requirements with best practices and current trends. This may include the following:

- **Bicycle Parking** | With the exception of the Chemainus Artisan Village Comprehensive Development Zone (CD6), proposed developments in the District are not required to provide any short-term or long-term bicycle parking. Bicycle parking requirements are common in many other municipalities on Vancouver Island. Both the Town of Ladysmith and City of Duncan have requirements for bicycle parking. The provision of bicycle parking is important for supporting and facilitating bike trips for residents, employees, and visitors.
- **Accessible Parking** | There are no explicit requirements for accessible parking spaces. Further, there are no design requirements for these stalls including dimensions for the stalls, access aisles, signage, and pavement markings. A requirement for accessible parking is important for meeting the needs of the community.
- **Uniform Rate for Multi-Family, Apartment** | the parking requirement for 'Multi-Family, Apartment' is 1.5 spaces per dwelling unit plus 15% of the total number of units designated as visitor parking. This requirement does not reflect the dynamic nature of multi-family residential uses. Research has found that parking demand for multi-family uses varies depending on location, the housing tenure (e.g., strata owned condo, rental apartment, affordable), and the size of the unit. In light of this research, municipalities have updated their Zoning Bylaws / Parking Bylaws to create a scale of parking rates for multi-family residential. Examples include:
    - The City of Nanaimo has different requirements for multiple family dwellings based on number of bedrooms and geographic location. Proposed developments in "Area 5", which encompasses the downtown,

require less parking than “Area 1”, which is the more suburban areas of the City.[4]

- The City of Victoria also differentiates its multi-family parking requirements by location and unit size, but also includes different requirements for condominium, apartment, and affordable housing uses.[5]

## 9.2 ON-STREET PARKING

On-street parking is regulated by the Traffic Bylaw (2276). Section 7, of the bylaw, outlines the parking restrictions for trucks and Section 8 outlines the general parking restrictions. Section 8 specifically indicates that vehicles cannot park on highways under the following regulations:

- within 6 m of any intersecting highway other than a lane, unless otherwise permitted by a traffic control device
- within 2 m of any intersecting lane
- in such a manner as to leave unobstructed less than 3 m of the width of the roadway, or opposite to or in such close proximity to another vehicle already stopped or parked in that highway as to obstruct the movement of vehicular traffic on the roadway
- at an angle to the street line except where authorized by an "angle parking" sign
- for a consecutive period longer than 24 hour, or
- in such a manner as to block the exit of a vehicle already parked.

[4] https://www.nanaimo.ca/bylaws/ViewBylaw/7266.pdf

[5] https://www.victoria.ca/assets/Departments/Planning~Development/Development~Services/Zoning/Bylaws/Schedule%20C.pdf

Except for angle parking, the Traffic Bylaw does not provide requirements for parking signage. There are two on-street parking management considerations that will be explored as part of the Master Transportation Plan process, as follows:

1. **Residential Parking Restrictions**
2. **Time Limited Parking**

These on-street parking management options will include considerations on when they may be triggered, in what situations, and the impacts to budgets (staffing needs, equipment, and technology) to implement these types of parking strategies.

## 10.0 DRAFT VISION & GOALS

Based on the public and stakeholder engagement feedback and the technical findings outlined in this report, a draft vision statement and goals for the Master Transportation Plan have been included below.

### 10.1 DRAFT VISION FOR THE MASTER TRANSPORTATION PLAN

The vision statement provides the overall vision for what North Cowichan's transportation network aspires to be in 30 years from now. It builds on and aligns with other important community planning processes including the ongoing OCP update and the Climate Action and Energy Plan. The following is the draft vision statement for input / consultation with Staff, Council, and ultimately the community.

"*North Cowichan is a connected community, where residents, employees, businesses, and visitors have transportation choices when deciding how to move around their network. Each transportation choice is supported with safe infrastructure. North Cowichan vehicle travel has become electrified to reduce impacts on the environment and align with the community's desire to be more sustainable.*"

## 10.2 GOALS FOR MASTER TRANSPORTATION PLAN

The following are the proposed goals that will also guide the development of the master plan.

**Safety for All Modes**

Streets are redesigned to support all modes especially active transportation.

**Connectivity**

A connected network allows residents to travel to where they need to go, for any trip purpose.

**Reduce Impact on Environment**

The transportation network gradually reduces its greenhouse gas emissions over time.

# APPENDIX A: PHASE 1 CONSULTATION REPORT

MODUS

from insight to impact

# PHASE 1 ENGAGEMENT SUMMARY REPORT

## MUNICIPALITY OF NORTH COWICHAN, MASTER TRANSPORTATION PLAN

Prepared by: MODUS Planning, Design & Engagement Inc.
Version: v3.0
Date: 14 May 2021

DRAFT

# TABLE OF CONTENTS

# 1 PROJECT OVERVIEW

The Municipality of North Cowichan is developing a Master Transportation Plan (MTP) to guide transportation decision-making and implementation in the Municipality over the next 20 years. North Cowichan residents, business owners, community organizations, local First Nations, institutional stakeholders, Ministries from other levels of government, and all others who live, work and play in the Municipality were invited to share their perspectives on the current challenges, opportunities and future priorities for North Cowichan's transportation network in this first phase of engagement.

## 1.1 OBJECTIVES

The key objectives of engagement in Phase 1 were:

- To understand existing barriers to walking, cycling, driving and taking transit in North Cowichan;
- To understand opportunities to reduce barriers and improve walking, cycling, driving and taking transit in North Cowichan; and
- To understand community priorities and visions for a future transportation network

# 2 WHAT WE DID

Engagement activities in Phase 1 involved:

- **A public online survey**, made available to all members of the public from April 1 to April 22, 2021.
- **Informant interviews** with key institutional partners and stakeholders, resident groups, business groups, and community-based organizations selected from a stakeholder mapping exercise between Municipal staff and the consultant team. Interviews were conducted virtually via Google Meet between April 12 to April 22, 2021.
- **Letters to each of the First Nations** listed below were sent on May 7. The letters shared background information on the project, asked whether each Nation was interested in participating in the process and provided each Nation the opportunity to share how they would like to participate.
    - Halalt First Nation
    - Lyackson First Nation
    - Penelakut First Nation
    - Snuneymuxw First Nation
    - Stz'uminus First Nation
    - Cowichan Tribes
- **Letters to the City of Duncan and respective councils in the CVRD** were sent on May 7.

# 3 WHAT WE HEARD

## 3.1 ONLINE SURVEY

A total of 448 respondents submitted answers to the online survey. Respondents were asked for their perspectives on the following topics:

- Existing conditions of North Cowichan's transportation network;
- Active transportation patterns;
- Barriers to walking, cycling, driving and taking transit;
- Opportunities to improve travel by these modes;
- Top transportation issues they would like to see addressed in the (MTP); and
- Visions for a future transportation network.

It is important to note that this survey was not a statistically valid survey but rather was intended to understand the breadth of community perspectives and priorities needing to be considered during policy and concept development.

See **Appendix A** for the full set of survey questions.

### 3.1.1 PARTICIPANTS

**Location**
Many respondents hailed from a rural area (17%), Maple Bay (16%), or Chemainus (14%), while few indicated living in Bell McKinnon (2%). Figure 1 presents the respondent neighbourhood breakdown.

Of those who selected "Other"(8%), some specified Duncan and Ladysmith and most specified street names like Lakes Road, Sherman Road and Beverly Street.

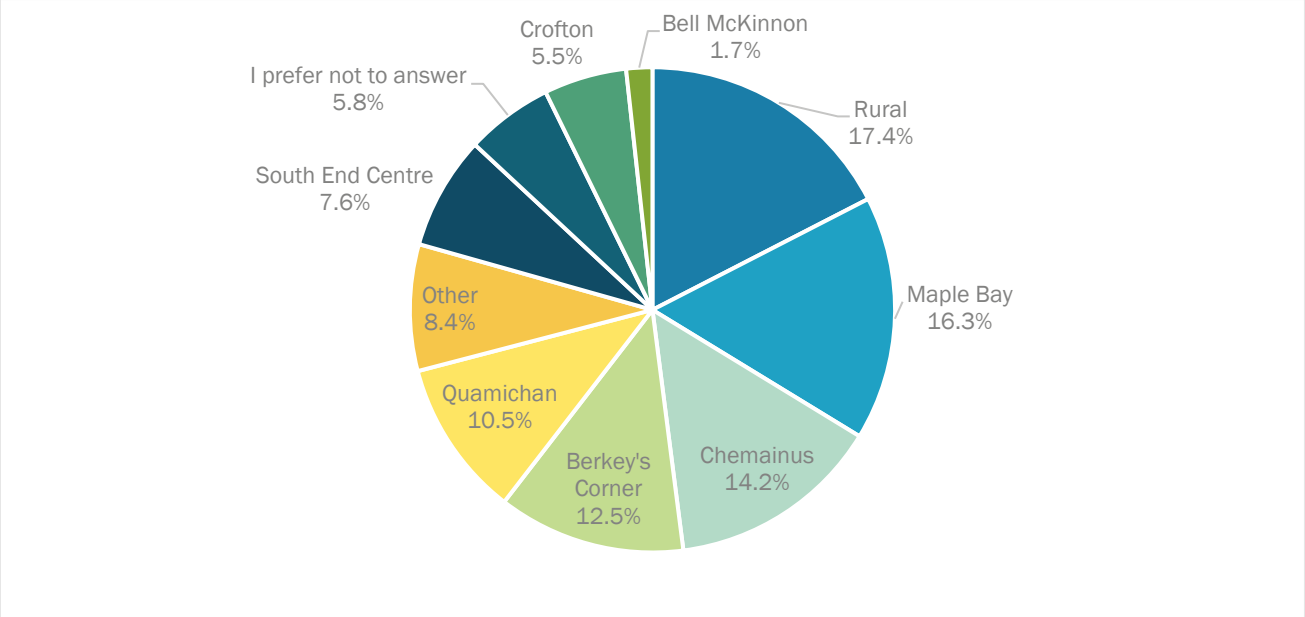



*Figure 1. Respondent home location.*

**Age**

The majority of respondents were aged 60-69 (28%) with an equal amount of representation from the 50-59 and 70-79 age groups (17%). Less than 1% of respondents were under 19 and just under 5% were aged 20-29. Figure 2 presents the respondent age breakdown.

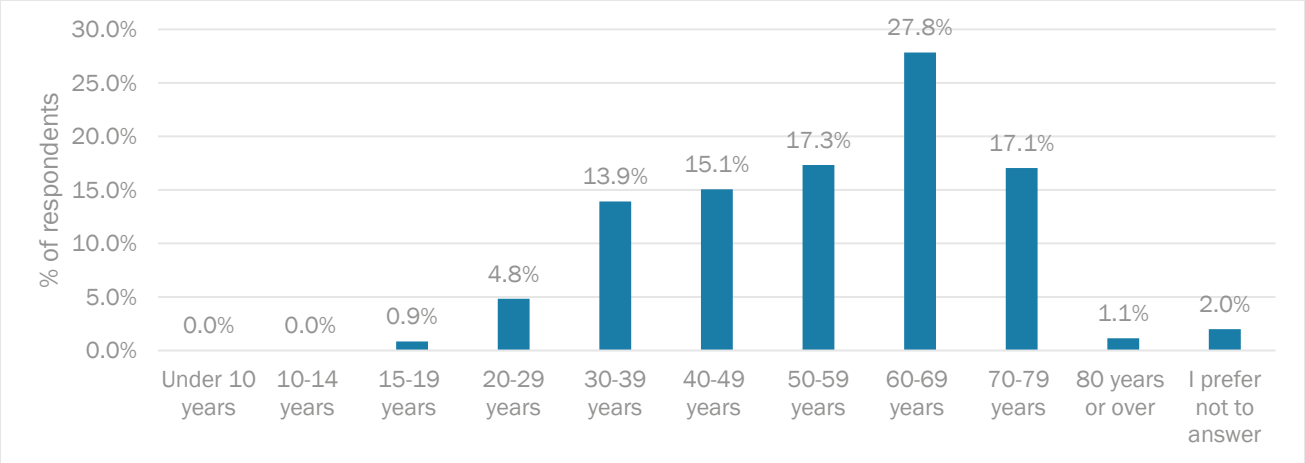



*Figure 2. Respondent age.*

**Gender**

49.8% of respondents self-identified as women while 41.6% self-identified as men. 0.9% of respondents self-identified as being non-binary and 0.6% self-identified as two-spirit.

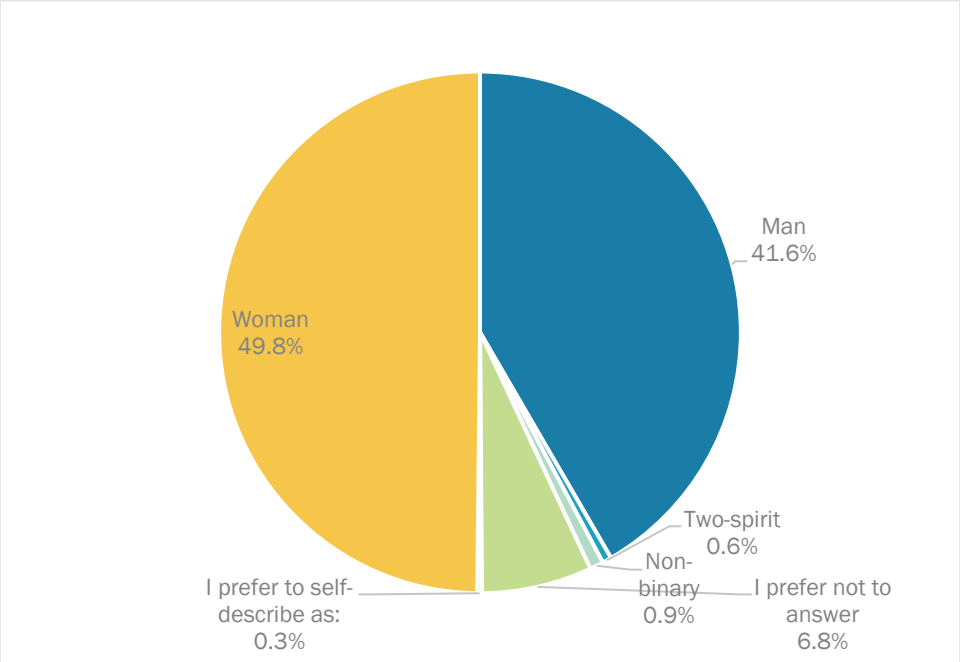



*Figure 3. Respondent gender*

**Living with a disability that impact mobility or accessibility**

13 % of respondents indicated that they live with a disability that impacts their mobility or accessibility.

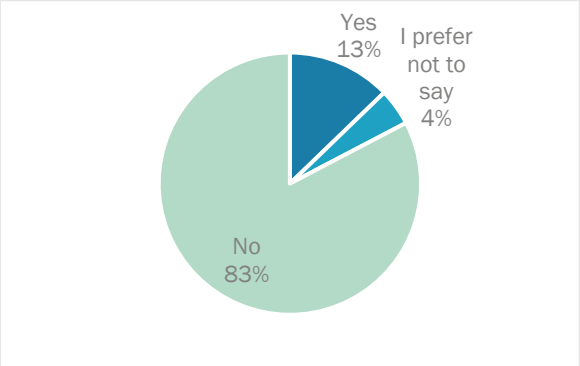



*Figure 4. Respondent identification as having a disability that impacts their mobility or accessibility*

### 3.1.2 EXISTING CONDITIONS

**Transportation Infrastructure Satisfaction**

Respondents were asked to indicate their satisfaction with the quality (e.g., conditions and maintenance) of the existing transportation infrastructure in North Cowichan. Respondents were most satisfied with the quality of the trail network followed by residential streets but least satisfied with the cycling network and the pedestrian network. While nearly 30% of respondents were unsatisfied or very unsatisfied with the transit network, 40% of respondents did not know about the quality of transit. Figure 5 presents the results.

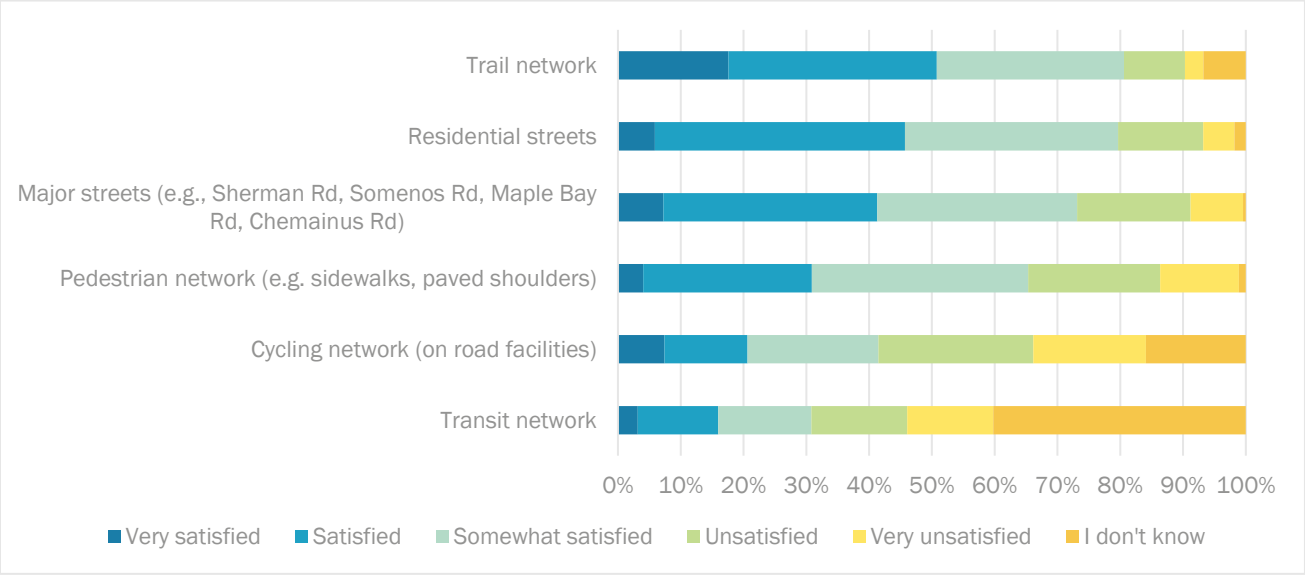



*Figure 5. Satisfaction with quality of existing transportation infrastructure.*

**Transportation Network Satisfaction**

Respondents were asked to indicate their satisfaction with various aspects of the existing transportation network in North Cowichan. Respondents were most satisfied with the connectivity of the road network,

convenience (ease of getting to where they need to go), and connections to destinations outside of North Cowichan. Respondents were least satisfied with connectivity of the cycling network and many were only somewhat satisfied with the connectivity of the walking network. 45% of respondents did not know about the connectivity of the transit network. The results are illustrated in Figure 6.

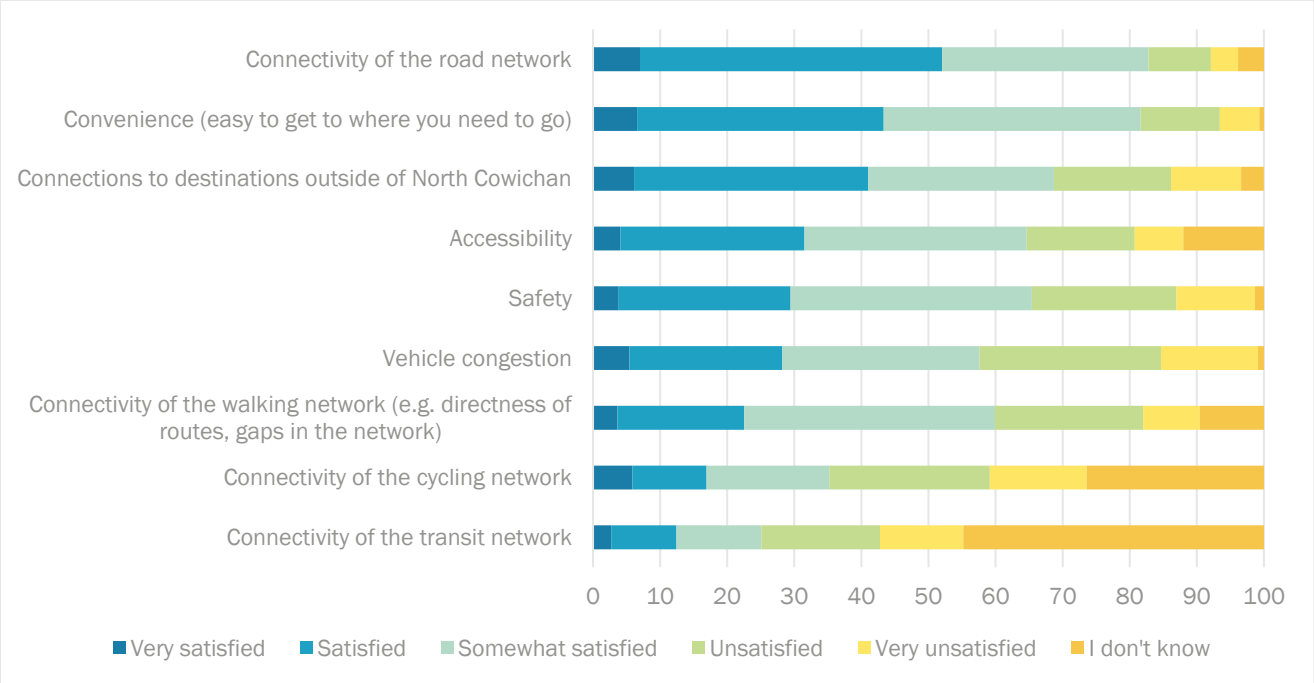



*Figure 6. Satisfaction with aspects of existing transportation network.*

**Additional Comments**

Respondents were provided an opportunity to describe any other components of the North Cowichan transportation network that they are satisfied or not satisfied with. Of the 184 additional comments the top themes that surfaced were:

- Low level of pedestrian network safety, specifically a lack of sidewalks, in particular along Maple Bay Road, unsafe crossings, and lack of wheelchair accessibility.
- Lack of cycling network continuity, lack of separated bike lanes and bike lane/shoulder debris.
- Limited transit network hours and range, and excessive bus size (regular bus sizes are never full which is seen as a waste. Participants perceive that smaller buses may mean more frequent service)
- Inability to bypass Duncan while traveling on the Trans-Canada Highway
- Vehicle congestion, primarily along Maple Bay Road, Herd Road, and anticipation of future congestion near the new hospital site

### 3.1.3 ACTIVE TRANSPORTATION PATTERNS

**Active Transportation Pre-COVID-19**

Respondents were asked, “If you regularly (at least once a week) chose active transportation options like walking, cycling, skateboarding…etc. to travel prior to COVID-19, what were your reason(s) for doing so?”. Health and fitness was the top reason (87%) for respondents to choose an active transportation mode, followed by fun and general enjoyment. Figure 7 presents the results.

Of those who selected “Other” (8%), the majority indicated fun/general enjoyment, dog walking and convenience.

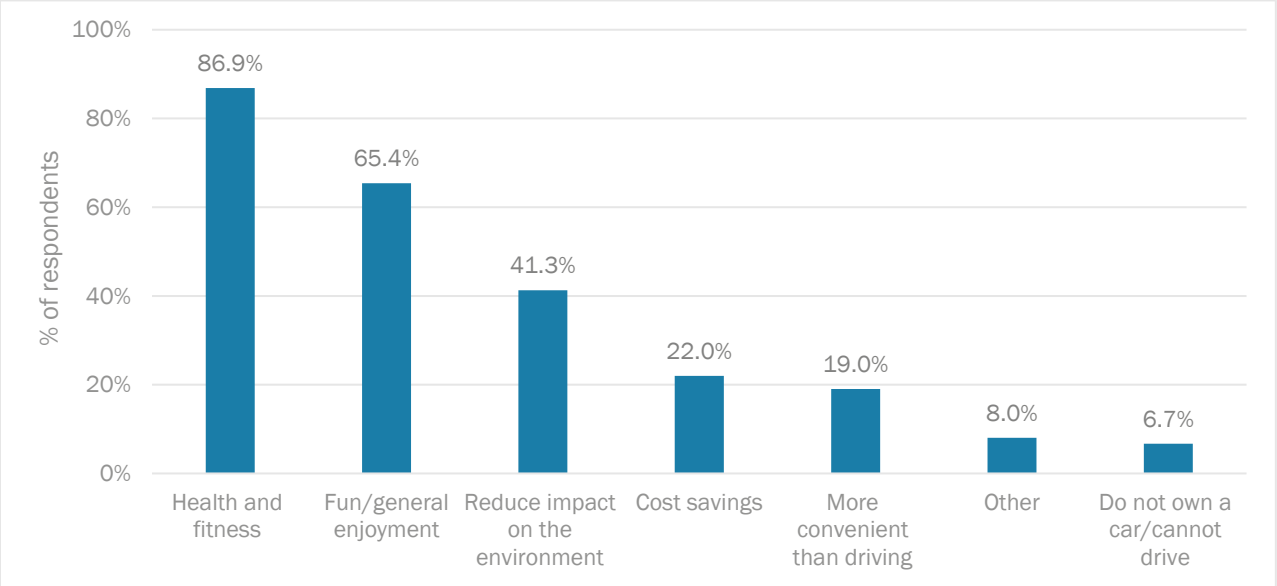



*Figure 7. Reasons for choosing active transportation modes.*

**Active Transportation Changes due to COVID-19**

Respondents were asked, “Pre-COVID-19, would you regularly (at least once a week) choose active transportation options like walking, cycling, skateboarding…etc. to travel? In this survey, ‘walking’ includes the use of a mobility such as a walker, scooter or wheelchair.”. A majority of respondents indicated that they did regularly choose active transportation pre-COVID-19 (77%). The remaining 23% selected “No”.

Respondents were asked “Has your use of active transportation changed as a result of COVID-19?”. Most respondents (60%) did not change their participation in active transportation modes due to COVID-19. The results are presented in Figure 8.

Of those who selected “Other” (5%) the majority indicating travelling less overall as a result of working from home and some indicated not feeling safe walking.

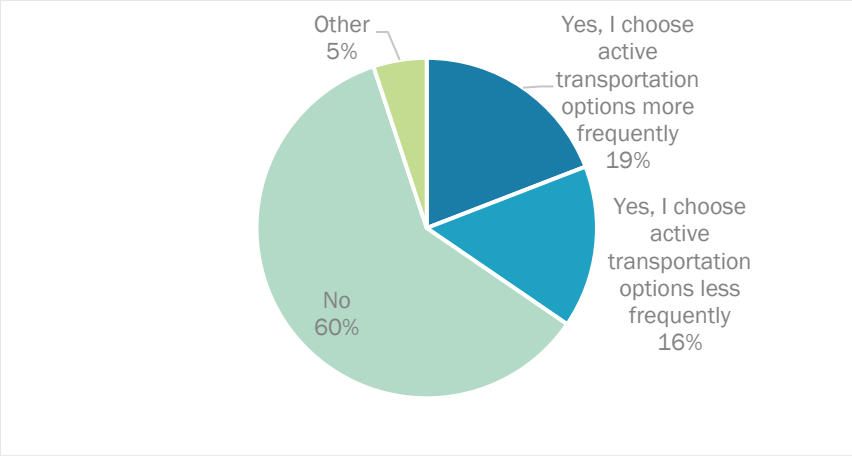



*Figure 8. Change in active transportation use due to COVID-19.*

### 3.1.4 WALKING | BARRIERS & OPPORTUNITIES

**Barriers to Walking**

Respondents were asked, "What makes walking within and through North Cowichan difficult for you? In this survey, "walking" includes the use of a mobility such as a walker, scooter or wheelchair." The top barrier to walking according to survey participants is the lack of space or buffer between sidewalks and

motor vehicle traffic (46%), followed by the lack of sidewalks and other infrastructure to respondent's usual destinations (44%). Figure 9 illustrates the results.

Of those who selected “Other” (10%), the top themes that surfaced were:

- Sidewalk obstacles like poles, snow and gravel
- Perceived lack of personal safety
- Close proximity to vehicles
- Inadequate hiking trail maintenance and lack of washrooms

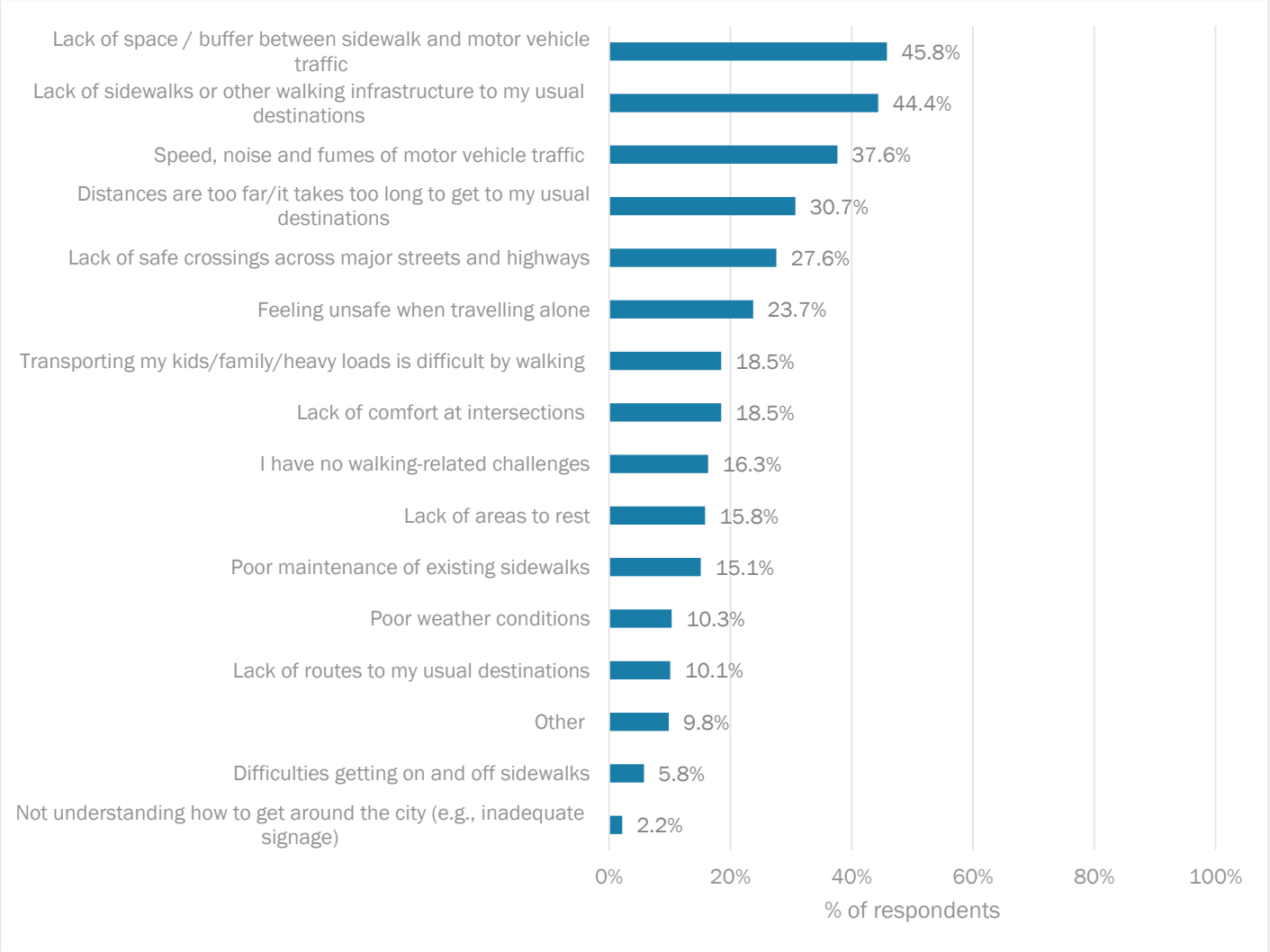



*Figure 9. Barriers to walking.*

**Pedestrian Improvements**

Respondents were asked, "What could we do to make it easier to walk within and through North Cowichan?" A majority of respondents (68%) indicated that improving pedestrian network connections would make walking easier. This was followed by implementing vehicle speed reductions (37%) sidewalk maintenance (34%) and streetscape enhancements (34%). The results are presented in Figure 10.

Of those who selected "Other" (16%), the top themes that emerged were:

- Enhancing personal safety
- Sidewalk safety improvements
- Development of housing and amenities within walking distance
- Increased pedestrian accessibility including paving paths and ensuring wheelchair access
- Vehicle speed limit enforcement

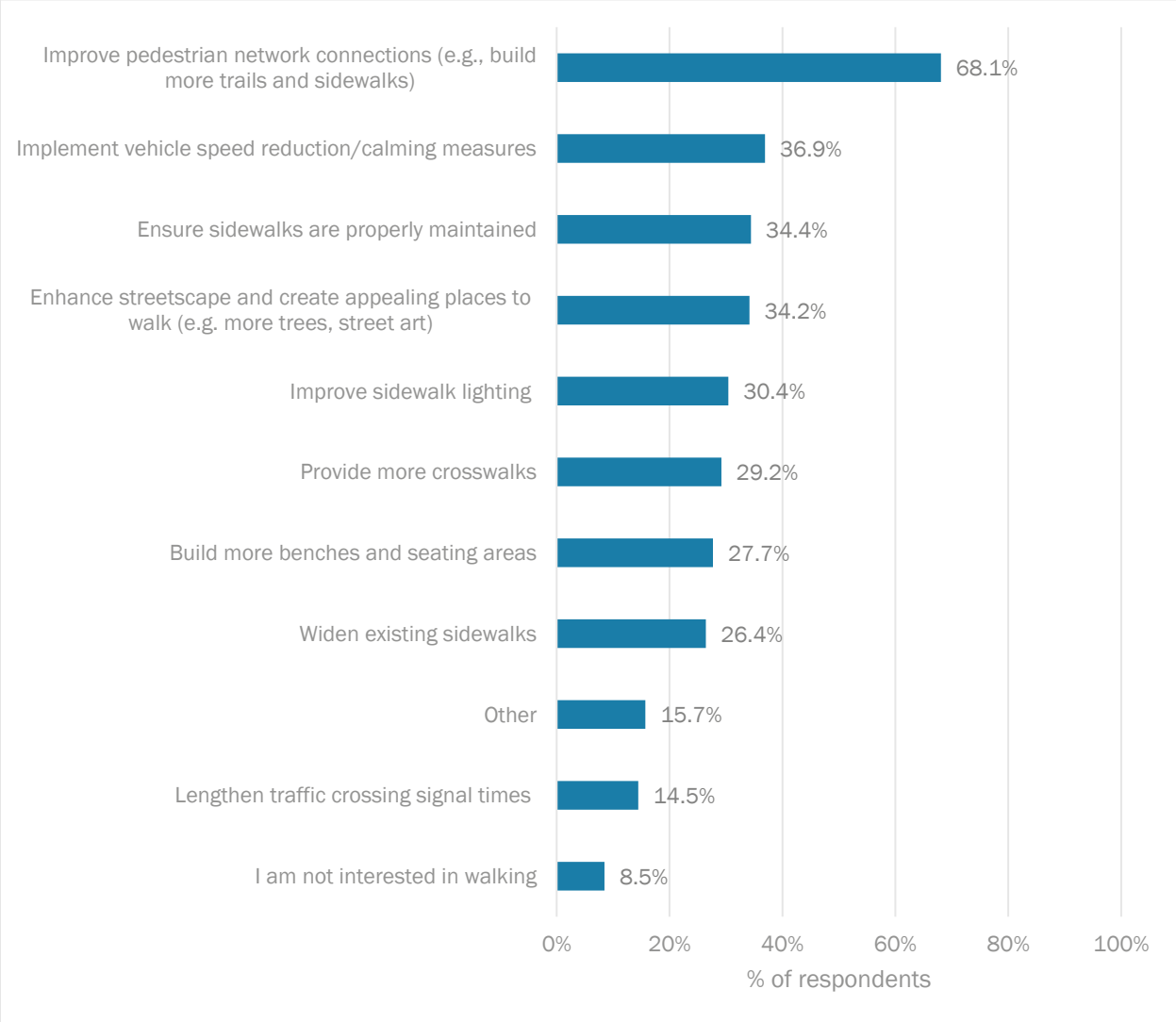



*Figure 10. Actions to make walking easier.*

### 3.1.5 CYCLING | BARRIERS & OPPORTUNITIES

**Barriers to Cycling**

Respondents were asked, “What makes cycling within and through North Cowichan difficult for you?”. The top barrier to cycling according to respondents is the lack of bike lanes, trails and other cycling infrastructure to respondents’ usual destinations (49%). A lack of bike racks and other secure bike parking/concerns about bike theft (38%) as well as speed, noise and fumes from motor vehicle traffic (35%) were also identified as barriers to many respondents. Figure 11 illustrates the results.

Of those who selected “Other” (18%), a majority indicated that they do not cycle. Additional barriers included:

- Lack of bike lanes generally and a lack of existing bike network connectivity
- Proximity to vehicles and vehicle speed, especially along narrow roads
- Presence of dirt and debris on bike lane or shoulder

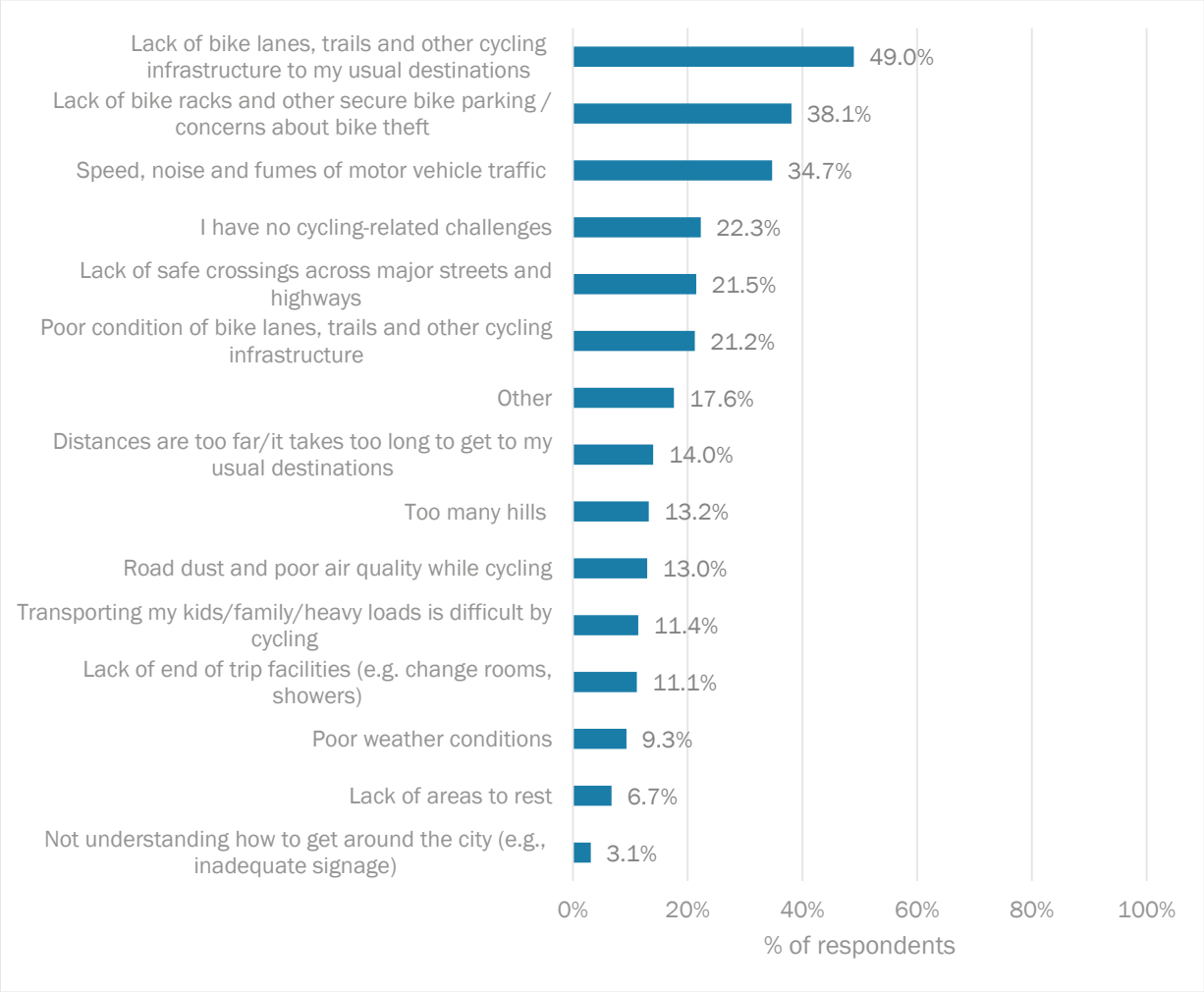



*Figure 11. Barriers to cycling.*

**Cycling Improvements**

Respondents were asked, “What could we do to make it easier to cycle within and through North Cowichan?”. Improvements to cycling network connections, such as building more lanes, trails and pathways was identified as the top action by over half of respondents (58%), followed by building bike

lanes that are physically protected from vehicle traffic (49%) and providing more secure bike parking (40%). The results are presented in Figure 12.

Of those who selected "Other" (11%), a majority indicated that they do not cycle. Additional actions to improve cycling included:

- Increased bike lane connectivity and expand bike lane network
- Consideration of cycling needs in road infrastructure, e.g., bike traffic lights and traffic circles
- Physically separated bike lanes

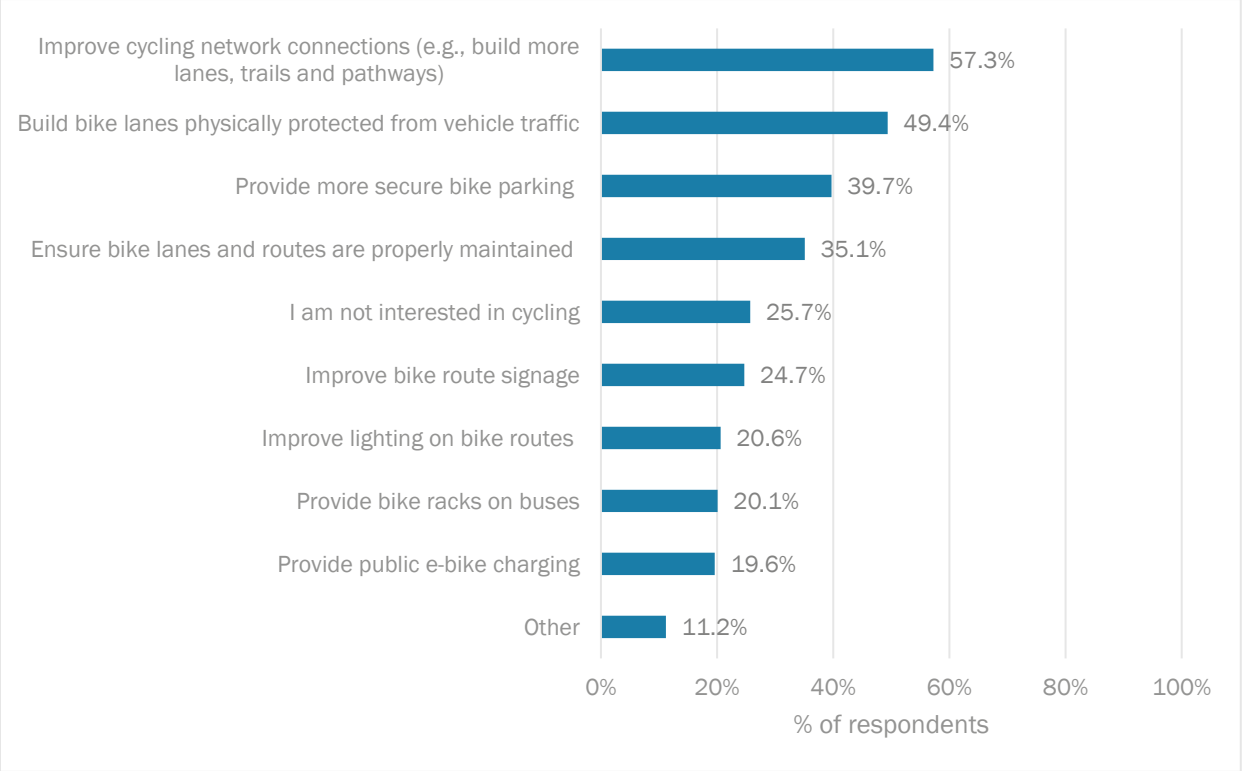



*Figure 12. Actions to make cycling easier.*

### 3.1.6 TRANSIT | BARRIERS & OPPORTUNITIES

**Barriers to Transit**

Respondents were asked, "What makes using transit within and through North Cowichan difficult for you?" The most cited barrier was that transit service is too infrequent (43%), followed by a lack of transit service (34%) and a lack of familiarity with the transit system (34%). Figure 13 illustrates the results.

Of those who selected "Other" (10%), respondents indicated that:

- Transit does not serve their community
- Transit is too infrequent and takes too long
- There is a lack of routes to where they need to go

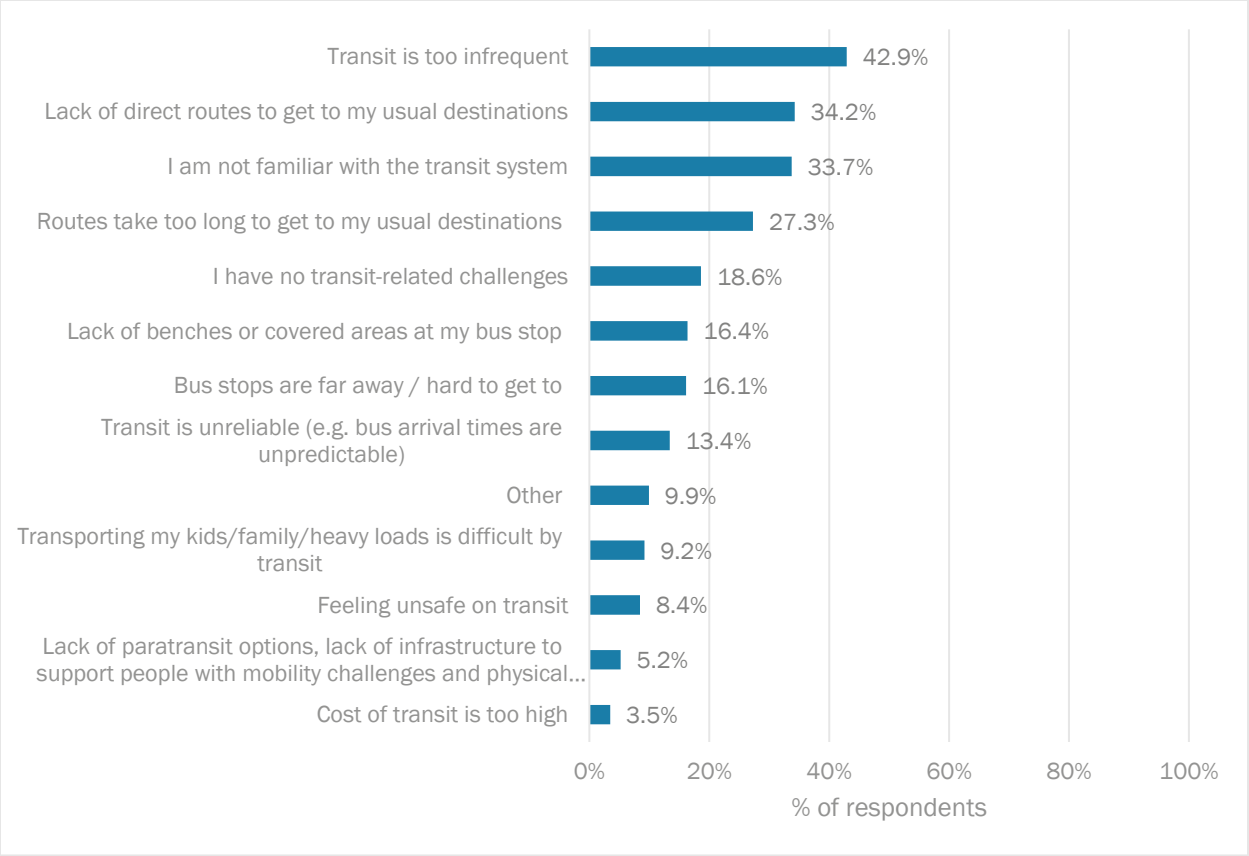



*Figure 13. Barriers to taking transit.*

**Transit Improvements**

Respondents were asked, "Recognizing that transit service is largely under the jurisdiction of BC Transit/CVRD, what could we do to make it easier to use transit within and through North Cowichan?". The top action to make taking transit easier is to increase transit frequency. Almost 40% of respondents are not interested in taking transit. The results are illustrated in Figure 14.

Of those who selected "Other" (9%), the main actions suggested were:

- Reduction of bus size
- Multi-modal transportation e.g., enhancing walking and cycling options to bus
- More "on-demand" HandiDart-style service
- Express routes and more service to major cities and transit hubs

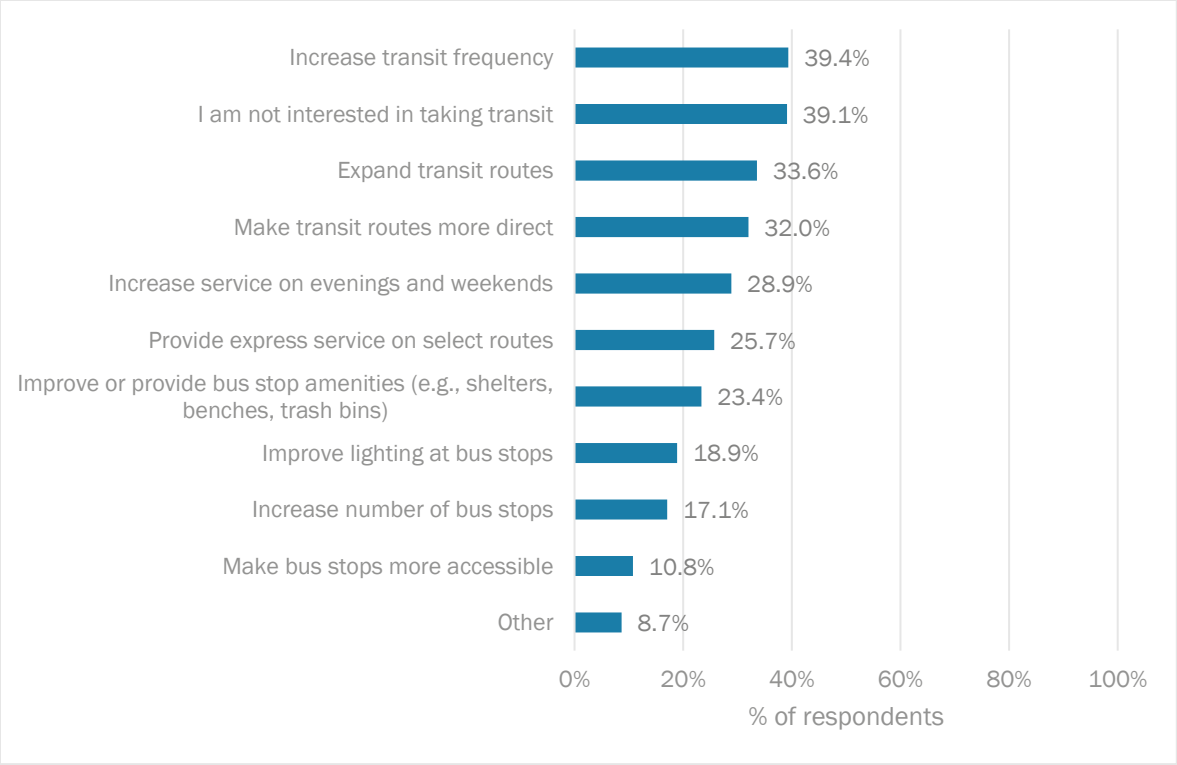



*Figure 14. Actions to make taking transit easier.*

### 3.1.7 DRIVING | BARRIERS & OPPORTUNITIES

**Driving Challenges**

Respondents were asked, "What makes driving within and through North Cowichan difficult for you?" Many respondents (38%) indicated that there is too much traffic congestion when they need to travel. The second-most common response was that respondents did not have any driving-related challenges (35%). The results are presented in Figure 15.

Of those who selected "Other" (12%), the most common driving challenges were:

- Vehicle speeding
- Other road user behaviour
- Misuse of roundabouts by other drivers and roundabouts not appropriate for road width
- Road congestion, including a strong desire to bypass Duncan and general congestion along Highway 1 and Maple Bay Road

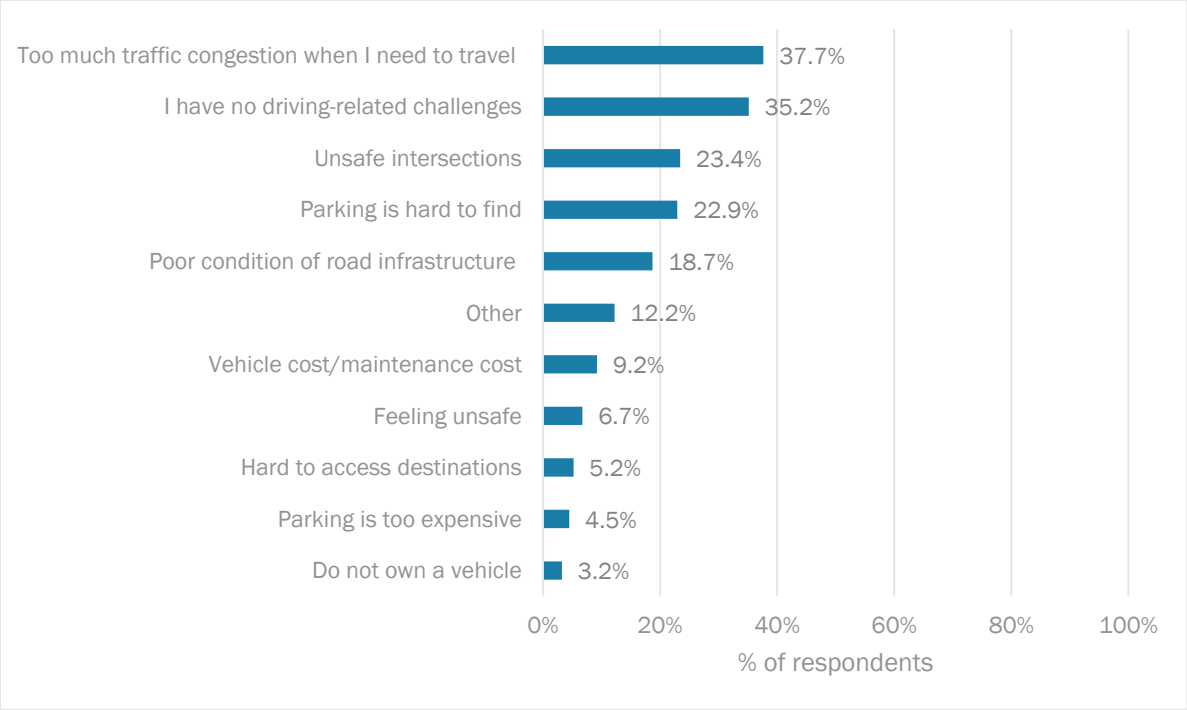



*Figure 15. Challenges for drivers.*

**Improvements**

Respondents were asked, "What could we do to make it easier to drive within and through North Cowichan?". The top action to make driving easier according to respondents is to create physical separation between vehicles and cyclists (47%) followed by providing more off-street parking at key destinations (32%) and intersection safety improvements (31%). Figure 16 displays respondent results.

Of those who selected "Other" (17%), the majority indicated that they had no driving challenges. Other key themes included:

- Traffic calming and enforcement of speed limits
- Highway congestion reduction, including the ability to bypass Duncan and better traffic light synchronization
- Road safety improvements to address potholes and enhance road and intersection sightlines

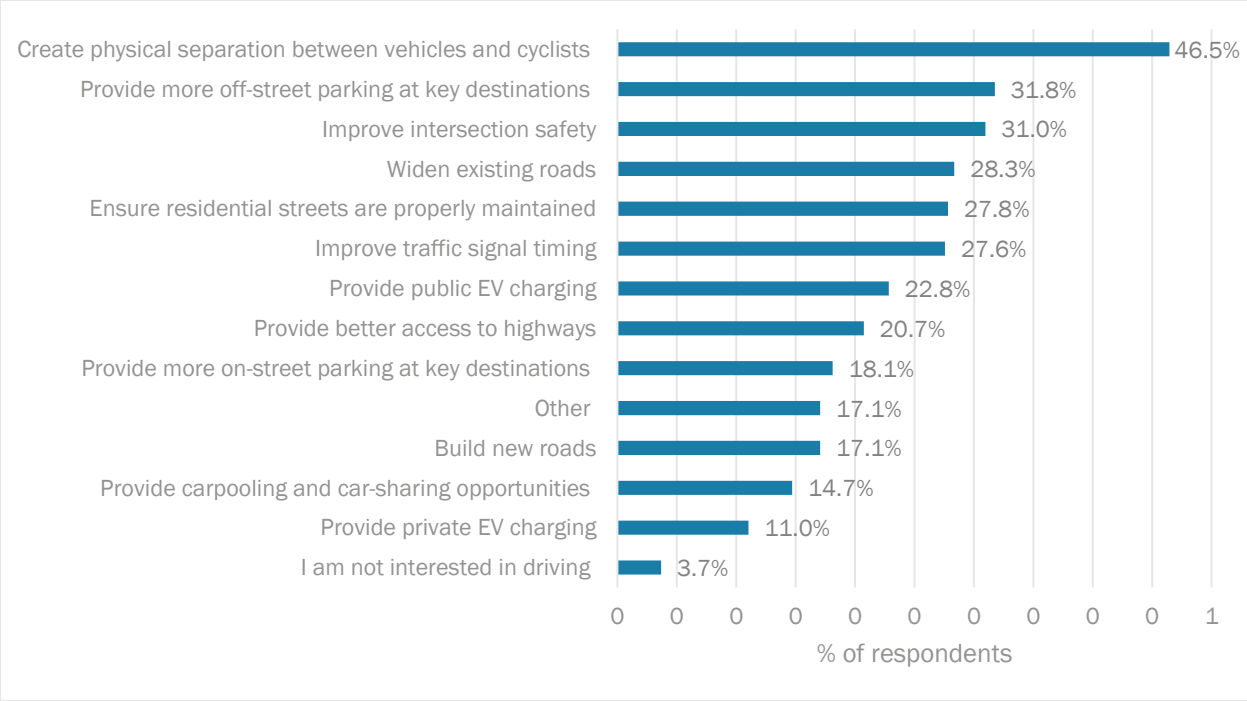



*Figure 16. Actions to make driving easier.*

### 3.1.8 OTHER ISSUES

Respondents were asked to provide additional information about any other transportation issues that they think the Master Transportation Plan should consider. Safety was a key theme that surfaced across various modes of transportation. Respondents highlighted the need to prioritize safe, active transportation through infrastructure and education, exemplified by the quotes below: .

- "Tzouhalem Road is diabolical for pedestrians and bikes. Partner with Tribes for safe paths now."
- "With mountain biking and road cycling a draw here we need safe cycle space on main connecting roads"

Some suggested expanding the sidewalk network, enhancing intersection safety, and creating separated bike lanes. Respondents suggested addressing vehicle safety through traffic calming, speed limit enforcement and improved intersection safety.

- "Major roads big concern from perspective of safety: too narrow, soft shoulders, speeding, distracted"
- "A sidewalk on Arbutus Avenue, Maple Bay...(dangerous for lots of walkers.)"
- "All road infrastructure projects should include cycling/sidewalks as part of the project, not extras"
- "Sidewalk should be extended from Timbercrest to Roome Road for elementary school kids."
- "BETTER SIDEWALKS; MORE SIDEWALKS"
- "More controlled intersections/ crosswalks"
- "Separated bike lanes, Gibbins and Sherman and cow lake road"
- "INSTALL PROTECTED BIKE LANES ON SHERMAN, MAPLE BAY, COW LAKE ROADS, CANADA AVE CONNECT WITH TRAILS"
- "Whoever we can do to get less people driving or driving less often. I would bike but too dangerous."

Respondents felt that transit improvements were critical to address, including the exploration of transit on demand and smaller bus sizes to increase frequency, connectivity improvements to commuter lines and key locations (schools, hospital), and aligning with other transit schedules (e.g., BC Ferries' schedule).

- "Better public transport is the most important issue on here"
- "More frequent buses! I will probably never use a bus that runs once per day"
- "A creative system with option to use small vans for busses in hard-access areas"

Traffic calming was cited by many respondents as a key issue, including the need for roundabouts and speed limit enforcement in key areas:

- Cowichan Bay Road
- Maple Bay Road
- Sherman Road
- Herd Road
- Osborne Bay Road

Some quotes illustrating this theme include:

- "On Cowichan bay rd. No cars adhere to sped limits. There is a 30 km zone. It's totally ignored"
- "More roundabouts and less signalized intersections."
- "Please put in roundabouts on Tanser/Cowichan and Kingsview/Maple bay intersections"

Highway congestion was raised as a concern, and many indicated a strong desire to bypass Duncan.

- "Consider the long overdue bypass to reduce congestion resulting from through- traffic."

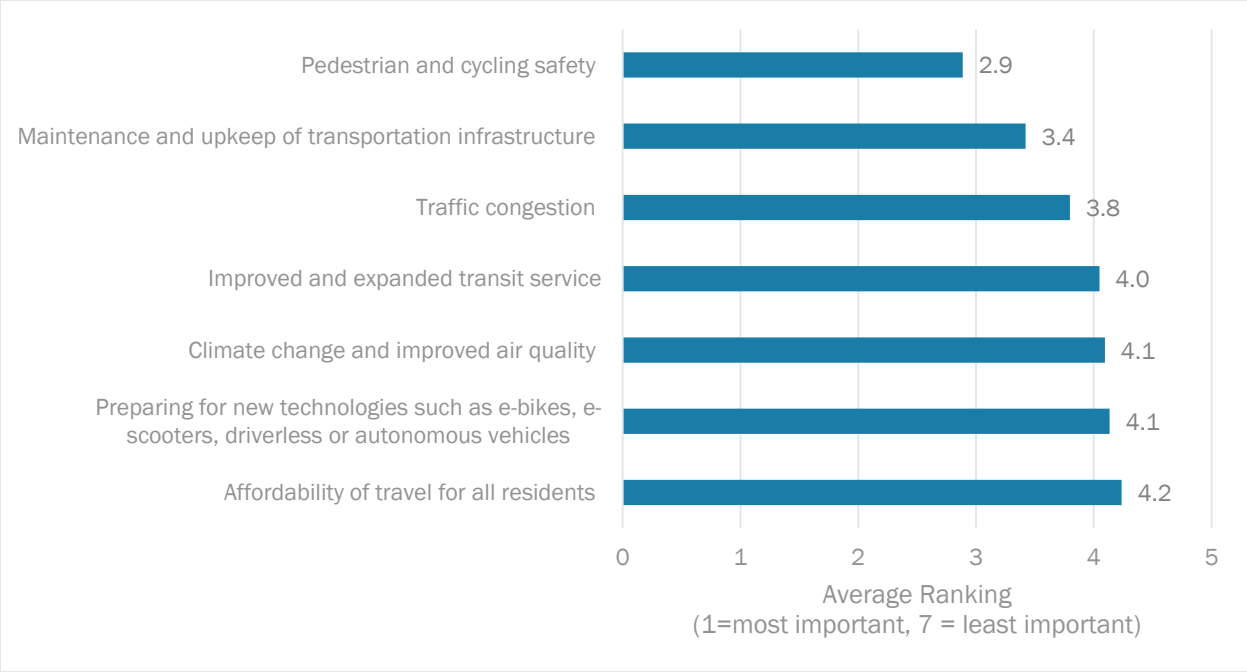
### 3.1.9 FUTURE OF TRANSPORTATION

**Key Issues**

Respondents were asked, "The Master Transportation Plan will guide our transportation-related decisions over the next 20 years. Looking forward, what are the most important issues the updated Plan should address?". Respondents were provided seven choices to rank from most important (1) to least important (7).

Overall, pedestrian and cycling safety was the top issue respondents wanted to see addressed in the Master Transportation Plan, followed by maintenance and upkeep of transportation infrastructure and traffic congestion.

It is worthwhile noting that traffic congestion received the second-most "most important" votes while also receiving the second-most "least important" votes, indicating a lack of consensus around the importance of this issue.  Figure 17 illustrates respondent results.




**GHG Emissions**

In 2019, the Municipality of North Cowichan acknowledged a Climate Emergency and committed the Municipality to look at all decisions through a climate lens. Transportation is a major contributor to GHG emissions and reduction of emissions is a key factor in meeting the targets of the Municipality's Climate Action and Energy Plan. Respondents were provided with this information and asked, "How important do you think it is for the Municipality to address climate change and reduce GHG emissions from transportation?"

Just under half of respondents (46%) considered reducing transportation-related GHG emissions as very important and 24% considered it important. See Figure 17 below for results.

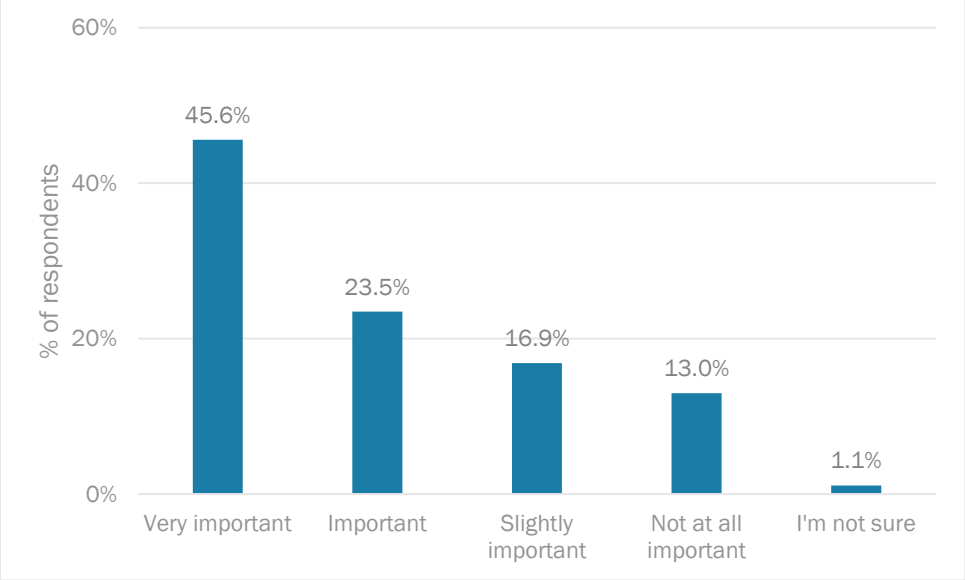



*Figure 17. Importance of reducing GHG Emissions in the Master Transportation Plan.*

Respondents were asked, “What solutions do you think are most important to reducing transportation-related GHG emissions in North Cowichan?” Respondents were asked to rank their top three solutions out of seven available options. According to respondents, developing the pedestrian network with more sidewalks and trails (54%), and developing the cycling network with more on-road bike facilities (53%) were the top two solutions to reduce transportation-related GHG emissions. Figure 18 illustrates the results.

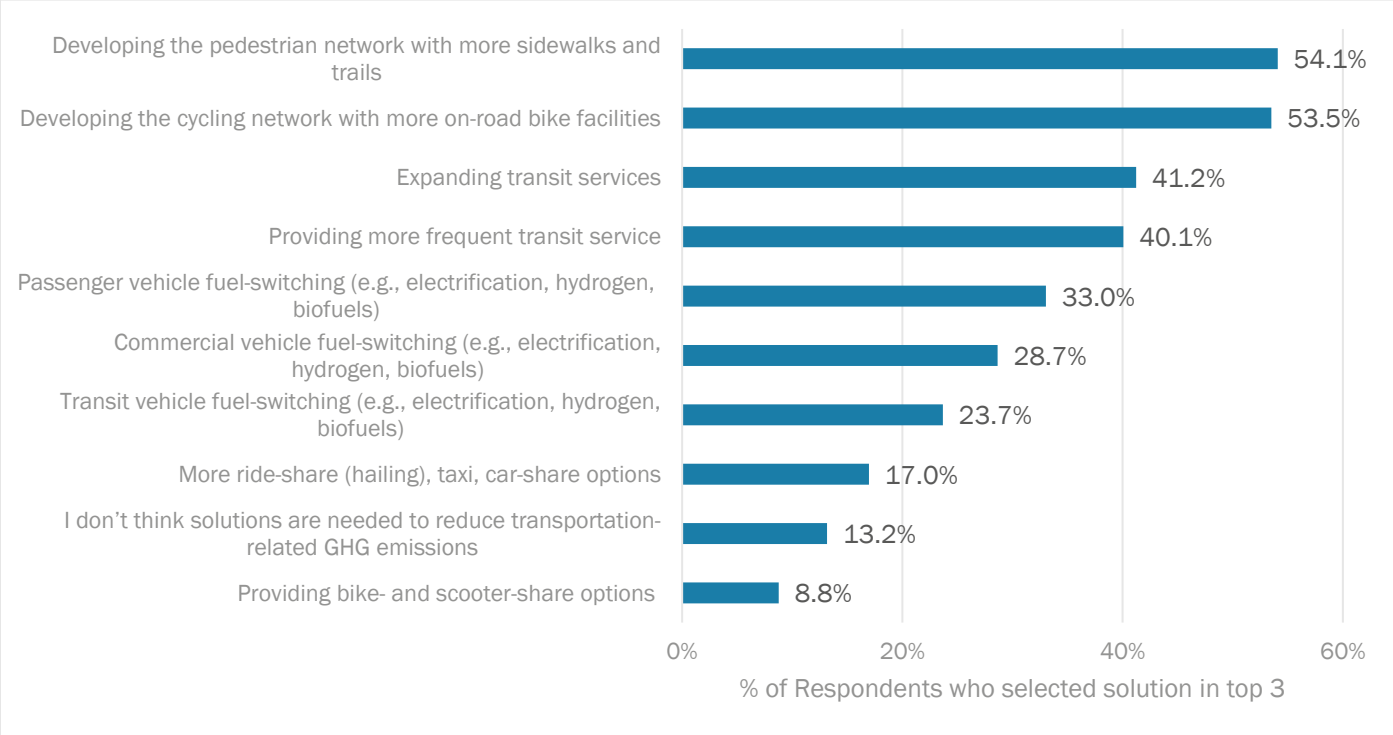
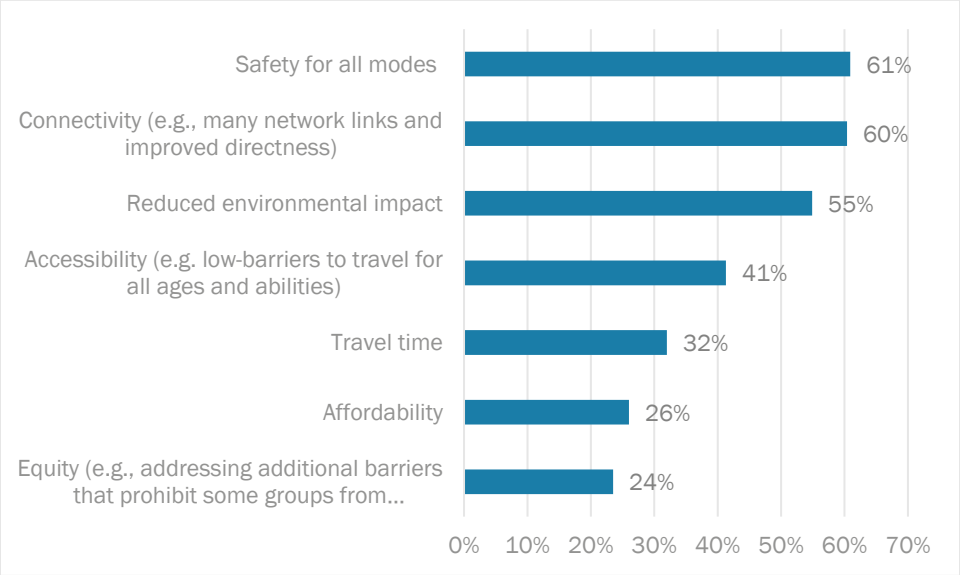



*Figure 18. Top three solutions to reduce GHG emissions.*

**Visions and Aspirations for a Future Transportation Network - Top Network Features**

Respondents were asked to envision features of their ideal future transportation network. Respondents were provided seven options and asked to select their top three options. Safety for all modes and connectivity (e.g. many network links and improved directness) were the top features of respondents' ideal future transportation network. Figure 19 displays results to this question.




**Visions and Aspirations for a Future Transportation Network - One Bold Move**

Respondents were asked to "Imagine North Cowichan in 20 years. We have successfully implemented the Master Transportation Plan. One bold, ambitious part of the plan stands out. What is it?". Some of the top bold moves indicated by respondents included:

- Prioritizing safe, connected active transportation networks and deprioritizing vehicle dependance. This would stand out as a means to reduce environmental impacts and increase community wellbeing.
- Desire to generally reduce transportation-related GHG emissions and environmental impacts through actions like expansion of safe and accessible cycling and pedestrian transportation networks
- Expanding and increasing the convenience of the transit network
- Reducing traffic congestion, e.g., building a Duncan bypass

Below are examples quotes taken directly from the survey that help to illustrate the findings above:

- "Cycling infrastructure and walkable neighborhoods, allows NC to thrive /fastest growing city in Can"
- "Safe connectivity of North Cowichan amenities/communities through protected well planned cycling"
- "Primary highway through the region bypasses the core. Traffic flow is a problem."
- "An equitable and accessible switch to majority cycling/bus/EV transportation"
- "The forward-thinking solutions embraced to reduce transportation-related GHG emissions"
- "A better community, more livable, more walkable, more people friendly."

- "You can walk, cycle, or e-bike anywhere in Cowichan and avoid roads, thanks to a robust trail system"
- "Improve active transportation connection and safety so it becomes a viable alternative and choice"
- "A quieter road network with good air quality, beauty and lots of opportunity for all modes"
- "Connected, well marked sidewalks, trails, cut-throughs, & bike lanes. Pedestrian friendly development."
- "Small capacity electric buses moving people cheaply and possibly more frequently if popular."
- "Transition of 50% of vehicle transportation to active or transit transportation"
- "A multi-use path and trail network including the E&N corridor."
- "Reduce GHG through modal shift. When I refer to transit I am including rail as a part of transit"

## 3.2 STAKEHOLDER INTERVIEWS

Seventeen stakeholders representing a diversity of transportation-related interests were interviewed to provide in-depth insights into current transportation-related challenges, potential solutions and long-term priorities and aspirations for North Cowichan's transportation network in the future. These stakeholders were selected based on a stakeholder mapping exercise conducted between Municipality of North Cowichan staff and the consultant team. Below is the full list of organizations interviewed:

- Chemainus Chamber of Commerce
- Chemainus Residents Association
- City of Duncan
- Clements Centre Society
- Cowichan Action Team/Our Health Network
- Cowichan Intercultural Society
- Cowichan Trail Stewardship Society
- Cowichan Valley Regional District
- Crofton Community Centre Society
- Crofton Mill
- Cycle Cowichan
- District Student Advisory Committee
- Duncan Cowichan Chamber of Commerce
- Island Corridor Foundation
- Quamichan Lake Neighbourhood Association
- Maple Bay Community Association

A summary of the interview results is provided below. For a detailed description of interview questions, please see **Appendix B**.

### 3.2.1 CURRENT TRANSPORTATION CHALLENGES

**Inadequate Pedestrian Infrastructure**
Interviewees indicated that safe sidewalks are lacking in North Cowichan. Narrow rural roads lack sidewalks as do busy highway roads that often lack safe crosswalks. Soft gravel shoulders are typically the only option for pedestrians, putting them in proximity with traffic. Some felt that existing sidewalks were not accessible. Some interviewees were concerned about personal safety when walking.

**Inadequate Cycling Supports**
Interviewees identified a lack of safe, continuous cycling infrastructure like separated lanes as a major barrier to cycling. One interviewee indicated that while there were many trail users, many were hesitant to use unprotected bike lanes out of safety concerns. Interviewees felt that there was a lack of signage and maps to inform cyclists of safe, bike-accessible routes.

**Inconvenient Transit Services**
Interviewees expressed a need to increase the frequency and number of transit routes in more communities. This would better meet the needs of residents and connect residents with local businesses, especially as some residents travel exclusively by public transit. Some mentioned that the bus schedules do not meet the needs of those commuting to and from work.

**Lack of Complete, Walkable Communities**
Interviewees indicated that there was a desire for more compact, complete neighbourhoods where services and amenities were located within walking distance from homes. Interviewees felt that this would allow people to be less dependent on their cars, as shops and services are often too far away to access on foot. This issue is especially prevalent in remote and First Nation communities.

**Major Roadway Safety**
Interviewees raised safety concerns around intersections along Highway 1 and Highway 18, especially at major collectors such as Drinkwater Road and Beverly Street where local traffic is distributed onto these highways. Controlled intersections were suggested to mitigate vehicle collisions. Some interviewees raised concerns around excessive speeds along main arterials like Maple Bay Road, Herd Road and Lakes Road.

Road safety was also addressed as the movement of goods and services grows, resulting in more large vehicles and logging trucks interacting with light vehicles. One interviewee noted a lack of appropriate connectivity between industrial areas.

**Access to Healthcare Services**
Interviewees explained that healthcare services are not easily accessible to those in rural communities as many services are located in urban areas like Duncan or Victoria. Senior residents, young women or those with physical or cognitive disabilities in smaller communities who are unable to drive cannot rely on transit to access medical, dental and other health appointments. Buses either do not service their area or take too long to reach destinations. Specialized buses may not be available to them. Many are forced to rely on non-profits for costly taxis, or family members for transportation.

**Limited Travel Routes**
Some interviewees indicated that travel was constrained by access to only a few major routes, including in and out of Chemainus and Maple Bay, limiting general travel during high traffic periods and raising concerns around emergency access routes as vehicle congestion grows. One interviewee mentioned that travel route location and congestion impacted the ability of consumers and deliveries to reach businesses.

**Vehicle Congestion**
Interviewees were concerned about the growing vehicle congestion as a result of new housing developments like Kingsview, increased demand for outdoor recreation access in North Cowichan and a growing population. Some felt that trailhead parking was no longer sufficient to meet demand.

### 3.2.2 SOLUTIONS TO ADDRESS CHALLENGES

**Transit Improvements**
Interviewees felt it was important to consider the rural context of North Cowichan and tailor the transit network to it. Smaller bus sizes, increased express service, increased frequency and on-demand transit, like HandyDart, were proposed to increase ridership. Extending transit hours, especially to accommodate people's varying working hours, was also identified critical to connect employees to their place of work. Some safer bus stops and improved maps would enhance the transit experience, especially for young people and those new to transit like seniors who can no longer drive, new immigrants and people with disabilities.

**Improving Pedestrian Infrastructure**
Interviewees had a strong desire to promote and prioritize safe pedestrian movement through sidewalk enhancement, placemaking, lighting and wayfinding signage. Safer intersection crossings were desired by many. Interviewees felt it was important to foster a pedestrian-friendly environment, which can help create a safer community. Many interviewees spoke to the excellent trail network and suggested continued work to connect and enhance the network.

**Major Roadway Safety**
Interviewees identified a need to increase highway safety for all modes of transit. More frequent, controlled intersections along Highway 1 were suggested to mitigate vehicle collisions and promote safe pedestrian crossings. Speed limits, protected sidewalks and road widening was suggested for roadways, like Crofton Road and Maple bay Road.

**Multijurisdictional Partnerships**
Interviewees indicated a need for a more collaborative regional transportation network where a diversity of partners contributed to transportation initiatives. Some interviewees emphasized the importance of First Nation involvement, especially relating to goods movement through Nation territory and one interview suggested designated transit service to serve industrial areas

**Planning for Growth**
Interviewees felt that it was important to consider new housing and development in North Cowichan, like the future Cowichan District Hospital, and plan for transportation options that will mitigate congestion and encourage active transportation. Some felt that the District was already growing and that the effects of growth manifested in increasing vehicle congestion. Some felt it was important to plan for more complete, compact communities.

**Innovative Transportation Options**
Some interviewees felt that more modes of transportation should be explored to meet community needs. Many proposed a rail or light rail commuter service between major population centres like Victoria, Nanaimo, Comox and Duncan, with the potential to revitalize the E&N rail line. Some suggested connecting the rail line smaller communities like Chemainus. Others suggested transforming the unused rail line into a multi-use path. One interviewee suggested short-distance ferries to connect coastal communities.

**Improving Cycling Infrastructure**
There was a strong desire from interviewees to enhance the cycling infrastructure and general visibility of cycling culture in North Cowichan. Separated, continuous bike lanes were proposed to enhance cyclist safety, as well as controlled crossings and signage for cyclists to alert drivers of shared roads. The need for more bike racks was identified, as was the need for bike sharing programs and e-bikes. Some highlighted the need for a regional transportation strategy, and another mentioned the need to partner with non-profits currently providing transportation services.

**Multi-Modal Connectivity**
Interviewees felt that “mobility hubs” would be important components of the transportation network to support multi-modal transportation. Park and ride services, commuter rail service, and expansion of air and water transportation were suggested to better connect the region, with contact points linking to smaller communities.

**Efficient Road Corridors**
Interviewees felt that improving roadway efficiency and providing alternative routes was important to ensure more efficient travel between destinations not using the highway and to reduce congestion.

**Ridesharing**
Implementation of a ridesharing service was supported by some interviewees.

### 3.2.3 TOP ISSUES THE PLAN SHOULD ADDRESS

**Make Active Transportation and Transit Appealing**
Interviews felt it was important to take action to make active transportation and transit attractive and convenient choices. Some suggested increasing bus frequency and decreasing bus sizes, and others suggested park and ride as a means to support rural community access to transit. One interviewee indicated that there is a lack of infrastructure to support a shift away from vehicle dependence. They suggested starting with flexible, basic infrastructure to support active transportation that can be expanded and improved.

**Climate Change**
Interviewees agreed that the climate emergency needed to be addressed in the Master Transportation Plan and that a climate action lens should be applied to all aspects of the Plan. Many felt that adequate supports were needed to incentivize and positively catalyze community behaviour change towards more sustainable modes of transportation.

**Future Development**
Many felt that it would be critical to consider the location and scale of new housing and development that is currently being planned for in North Cowichan, like the future Cowichan District Hospital. Interviewees hoped that future plans could include more transportation options that will mitigate congestion and encourage active transportation, including the development of more compact, complete communities. Some felt that effective transportation options were critical to support housing and populations who are homeless if planned in conjunction with social housing projects. Having accessible transportation options close to social housing development could facilitate enhanced access to support services.

**Inclusivity/Fair Impact**
Interviewees emphasized the need to ensure that transportation options are accessible for all abilities, that infrastructure supports all movement types and that modal shifts do not negatively impact businesses.

**Transportation Electrification**
Interviews expressed the need to electrify transportation on the whole, including transit electrification, EV charging infrastructure and incentivization/encouragement of EV adoption.

**Planning for Emerging Technology**
Some interviewees mentioned that it would be beneficial to anticipate how transportation technology will evolve in the next 20 years and plan for that, including integration of new and emerging technologies like autonomous vehicles.

### 3.2.4 VISIONS FOR THE FUTURE

**Reduced Vehicle Dependence**
Interviewees envisioned a transportation landscape where cars are replaced by walking, cycling and rolling as the primary mode of movement. They described a network emphasizing and investing in active transportation and convenient transit options including bus and rail, where community members are less reliant on cars. Interviewees described communities where shops and services were within walking distance. One interviewee suggested converting the existing E&N rail line into a multi-use trail.

**Multi-Modal Connectivity**
Interviewees felt that "mobility hubs" would be important components of the transportation network to support multi-modal transportation. Park and ride services, commuter rail service, and expansion of air and water transportation were suggested to better connect the region, with contact points linking to smaller communities.

**Vehicle Travel**
Some interviewees felt that vehicles would still be a part of the transportation landscape in the next 20 years, but that there was an opportunity to lessen their impact through sustainable advancements. Some proposed EV adoption and others proposed car sharing and self-driving vehicles to reduce reliance on personal vehicles and parking.

# APPENDIX A: ONLINE SURVEY QUESTIONS

TO BE ADDED

# APPENDIX B: INTERVIEW GUIDE

TO BE ADDED

# Biodiversity Protection Policy for North Cowichan

MUNICIPALITY OF NORTH Cowichan

Dave Preikshot, PhD, RPBio
Senior Environmental Specialist

# Outline

- Strategic context and assumptions
- Overview of biodiversity
- Existing biodiversity programs and resources in North Cowichan
- Scoping a Biodiversity Protection Policy for North Cowichan
- Next steps

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# 2019-2022 Council Strategic Plan

- Environment Strategic Pillar
  - *"We lead in environmental policies and practices to support the future health of our community."*
- Strategic Priority Project (2021 Business Plan)
  - *Create a Biodiversity Protection Policy*

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# Staff Assumptions

- Staff have been tasked with developing a Council Policy (vs creating an additional program, strategy, or plan)
- Once developed, the policy will provide practical guidance:
  - to staff and Council on biodiversity decision-making,
  - to the operational achievement of the policy's purpose statement (i.e. definitions, roles and responsibilities, budgeting, etc.).
- Input and comments from CoW tonight will inform policy development

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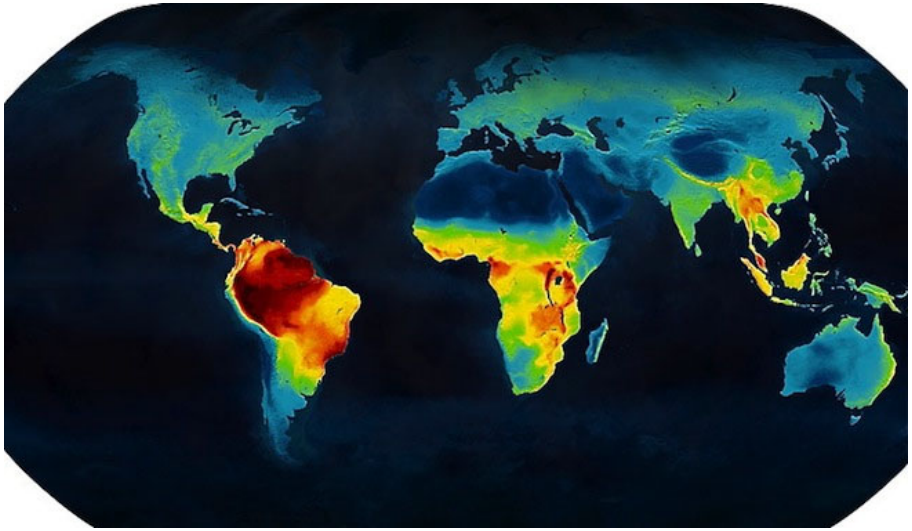
# What is Biodiversity?

- The variety of genes, species, and ecosystems in a place



Global Animal Biodiversity,
Red = More Blue = Less

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# Why is Biodiversity Important?

- Biodiversity usually, *but not always*, has a positive effect on ecosystem services.
- For example:
  - ***Provisioning services;*** *yields of fodder, plants, wood*
  - ***Regulating services;*** *fish production stability, insect pests, plant disease, invasive species, $CO_2$ sequestration, improved soil organic matter, remediation from climate change effects*
  - ***Cultural Services;*** *landscape aesthetics, cultural values, recreation opportunities*

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# Canada's Goals and Targets

- Better land use planning management
- Environmentally sustainable management across sectors
- Improving information about biodiversity ecosystem services
- Raising awareness of biodiversity, and encouraging participation in conservation

Source: biodivcanada, Canada's national biodiversity clearing-house, https://biodivcanada.chm-cbd.net/2020-biodiversity-goals-and-targets-canada

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# BiodiversityBC: 1 Vision, 3 Goals

- *British Columbia is a spectacular place with healthy, natural and diverse ecosystems that sustain and enrich the lives of all.*

1. Conserve the elements of biodiversity
2. Increase awareness of the importance of biodiversity and respect for the natural environment
3. Providing tools and incentives to enable biodiversity conservation

Source: http://www.biodiversitybc.org/

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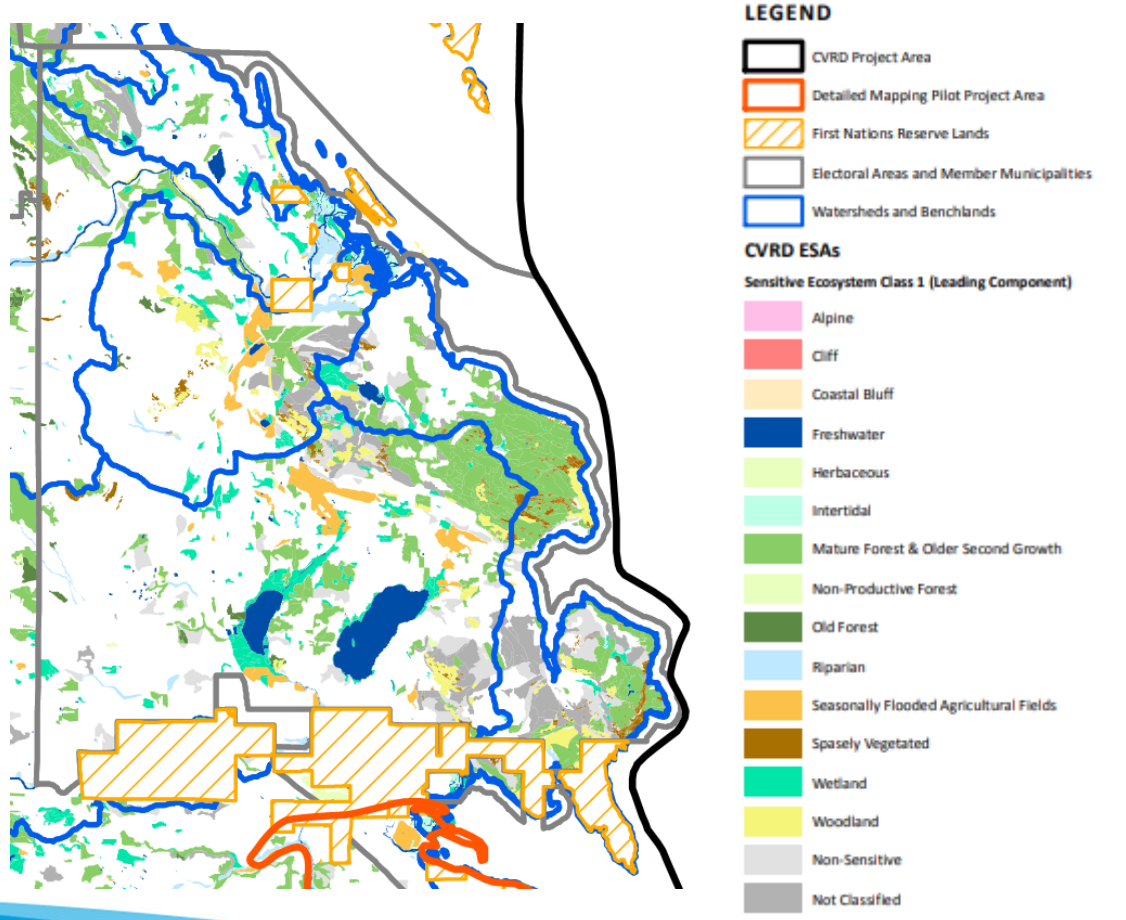
# CVRD

## Environmentally Sensitive Areas

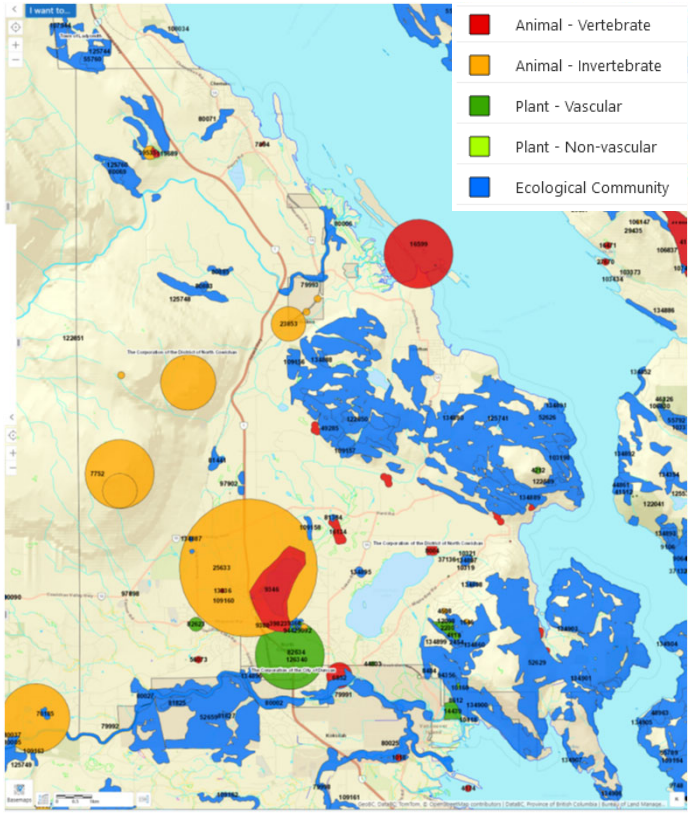
- Mapping
- Inventory
- Strategy

Figure shows MNC portion of ESA map prepared by Madrone Environmental for the CVRD



# Species/Ecosystems in North Cowichan

- BC Conservation Data Centre identifies over 350 species and ecosystems of interest in North Cowichan
- Management: e.g. Somenos Conservation Area, stream flow augmentation
- Protection: e.g. Riparian Area Protection Regulations
- Enhancement: e.g. Wetland construction, Quamichan Lake Bluegreen Algae control

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# Natural Assets in North Cowichan

- Municipal Forest, Urban Forest
- Lakes and Reservoirs
- Streams and Wetlands
- Parks, Covenant Areas, Conservation Areas

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# Work Underway at North Cowichan to Protect Biodiversity

- Invasive and Noxious Weeds, Parrot's Feather management
- Collaboration with stewardship groups
- Riparian Area protection regulations
- Environmental review of development applications
- Municipal Forest management
- Wetland enhancement
- Wetland development
- Lake monitoring
- Invasive plant control
- Conservation areas and covenants
- Recommendations of Diamond Head Consulting report

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# Invasive and Noxious Weeds Managed

- Blueweed (*Echium vulgare*)
- Garlic Mustard (*Alliaria petiolata*)
- Giant Hogweed (*Heracleum mantegazzianum*)
- Gorse (*Ulex Europaeus*)
- Knotweeds (*Fallopia spp*. and *Polygonum spp*.)
- Poison Hemlock (*Conium maculatum*)
- Wild Chervil (*Anthriscus sylvestris*)

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# Parrot's Feather

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# Lake Monitoring and Remediation

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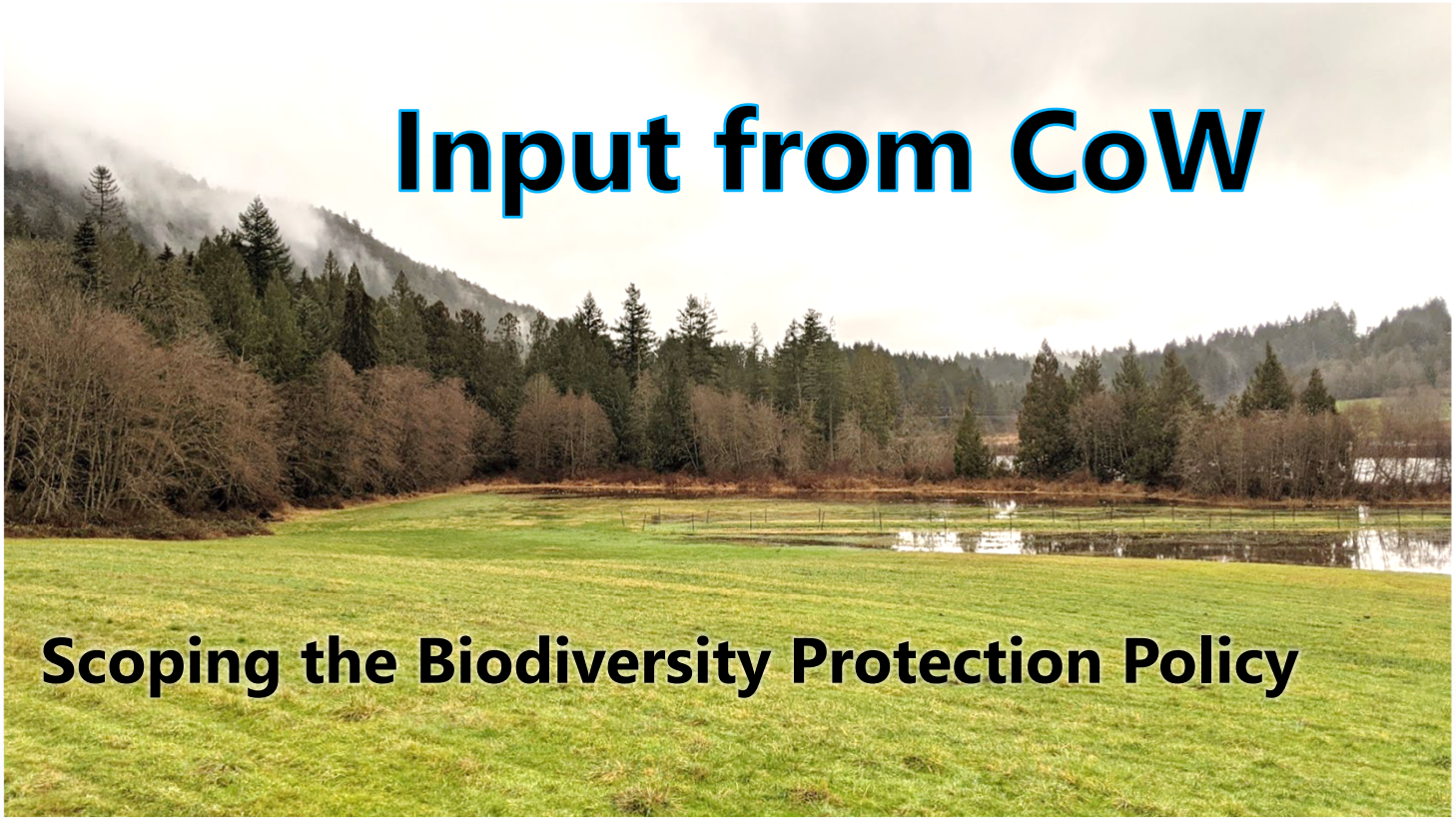

# Input from CoW

## Scoping the Biodiversity Protection Policy

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# Existing Biodiversity Action

- Reactions to existing programs/services:
  - Satisfied?
  - Gaps?
- What elements of biodiversity protection should North Cowichan leave for senior governments?
- What will a Council Biodiversity Protection Policy add in Council's view?

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# Purpose Statement Development

- What does Council want a biodiversity policy to address?
- What does Council want the policy to add to existing actions?
- What might be added to existing areas of focus for biodiversity?

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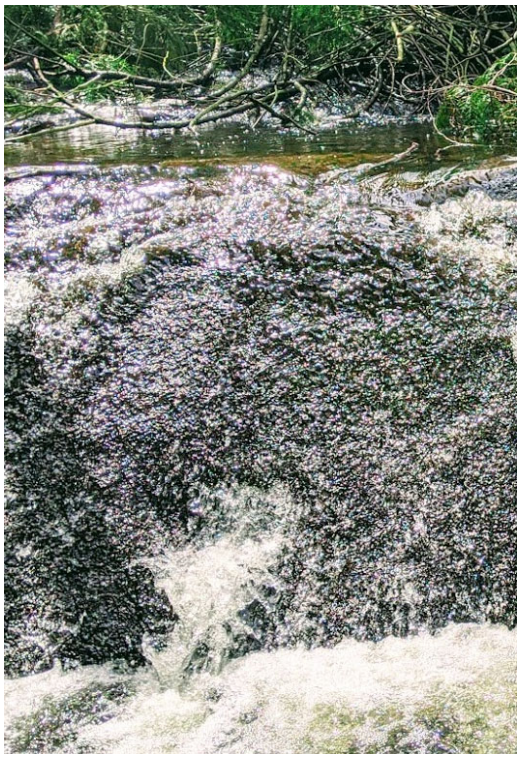
# Scoping a Biodiversity Protection Policy

- Accounting of species, in general, and at risk
- Accounting of ecosystems
- Tracking of significant invasive species
- Identification of significant ecological assets
- Monitoring environmental health indicators
- Biodiversity lens on development
- Watercourse protection
- Tree protection



*What else might be considered within scope of the policy?*

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# Policy Development Process

- EAC Involvement?
- Stakeholders?
  - *Stewardship groups?*
  - *Developers?*
  - *Others?*

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# Anticipated Next Steps

1. Staff to retain consultant

2. Engagement

3. Report to Council with Draft Policy for feedback

4. Council adopts policy

5. Staff return with resourcing requests for implementation during Budget and Business Planning 2022 (if required)

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# Other Suggestions? Ideas?

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# Report

| | | |
|---|---|---|
| Date | June 21, 2021 | File: 6480-30 2019.01<br>Prospero No: SPP00040 |
| To | Committee of the Whole | |
| From | Chris Hutton, Community Planning Coordinator | Endorsed: |
| Subject | OCP Update Project – Community Character Profiles | |

**Purpose**

To present the OCP Community Character Engagement results and receive input on the draft OCP Community Character Profiles.

**Background**

One of the OCP update objectives established by Council is to 'Respect Individual Community Character.' Within the planning context, community character refers to the built environment (buildings, street design, pathways, etc.) and natural environment (landscapes, views, etc.) found in each community. It comprises the unique features and attributes that collectively establish the identity and sense of place of individual communities.

Community character is not easily captured in policy or land use plans, but the protection and enhancement of character elements is a hallmark of successful community planning. The community character profiles ("the Profiles") presented in this report are intended to describe the different communities within North Cowichan and what makes them unique and special. They are not meant to be an exhaustive inventory of character assets or actions to preserve those assets. These profiles are to be used in OCP policy development and as a reference for future community-level projects.

Building on the North Cowichan OCP Engagement Strategy, the OCP Update project has identified eight distinct communities. Each of these communities has it's own natural and built elements, history, and demographic makeup. These define the character of that community, which subsequent policies will generally seek to preserve and enhance. It should be noted that the community boundaries are built from sub-areas generated by Statistics Canada and may not fully align with community-defined boundaries. It should also be acknowledged that community character boundaries are "fuzzy" and somewhat subjective.

Early drafts of the Profiles were prepared by the OCP consultants (MODUS) shortly after public engagement concluded in mid-February. Since then, the Profiles have been edited to merge the early MODUS products with input from the Community Ambassador Teams.

**Discussion**

The draft Profiles in Attachment 1 will inform the OCP policy development process and provide local knowledge for other community planning initiatives such as local area planning, development permit design guidelines and zoning bylaw updates.

*Engagement*

The community profiles were developed based on input received from the community and committee engagement processes consistent with the OCP Engagement Strategy. These included a survey and workshops with the public and meetings with the Community Ambassadors.

*Community Survey*

The community character survey, open from November 23, 2020 until February 1, 2021, and garnered input from 92 community members across North Cowichan.

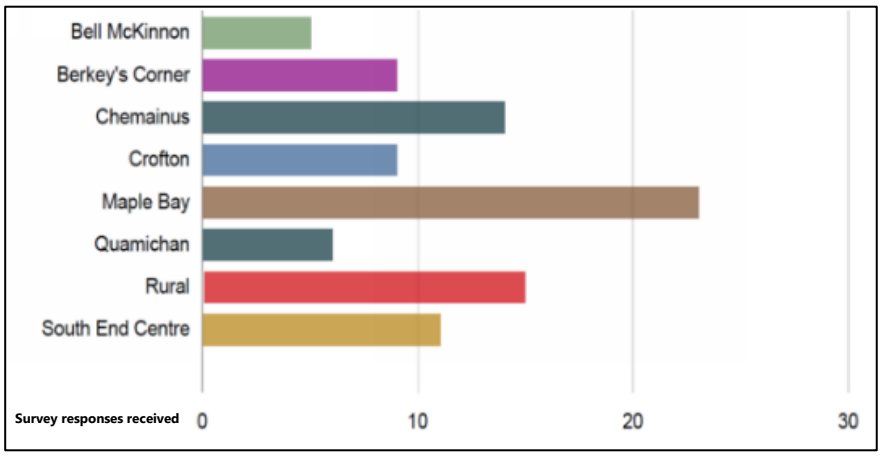



*Figure 1: Number of Survey Responses Received by Community*

Residents answered questions about the built form and natural features that exist where they live, providing values-based feedback about the places and features that make their community unique and which invoke a sense of place.

Respondents were asked to pin a location on a map denoting valued community landmarks. Residents were encouraged to submit photos further identifying preferred built form styles, important community landmarks and natural areas.

The survey also asked questions about elements that were out of character in the community. These are reflected in some Profiles through comments about traffic safety and visible impacts from the ongoing opioid epidemic. Relevant to this was a question on what would benefit each community in the future ("Thinking Forward" about community). This section was removed from the profiles for two important reasons:

1. The Profiles are primarily intended to identify and document existing community character. The engagement process on OCP Principles, Goals and Vision identified community aspirations for the future, and there will be further opportunity to do so in the policy development phase.

2. In the community dialogues and the ambassador sessions, some concerns were expressed about the low participation rate for the survey and the validity of the results for future decision-making.

Staff believe that master plan documents like the Parks and Trails Master Plan, Local Area Plans and the upcoming Master Transportation Plan, as well as community engagement that has occurred and will occur with other phases of the OCP Update, are better tools for identifying community priorities for the future.

Participants were able to complete the survey online, over the phone, or submit it in hardcopy. Email input was also accepted. Participant breakdown by community is shown in Figure 1.

*Community Dialogues*

Through Zoom, community dialogues were held on January 26 and January 27, 2021, facilitated by MODUS and North Cowichan staff. A total of 60 people attended the two sessions. The majority of attendees were from Maple Bay, Berkey's Corner, Quamichan and the rural areas.

The attendees were split into break-out rooms based on their community. A facilitator and note-taker used a Google Jamboard (see example in Figure 2) to guide the discussion on a series of questions related to the built and natural environment. The sessions were further documented by MODUS' graphic illustrators. These illustrations are included in the Community Profiles, and an overall graphic is included in Attachment 2.

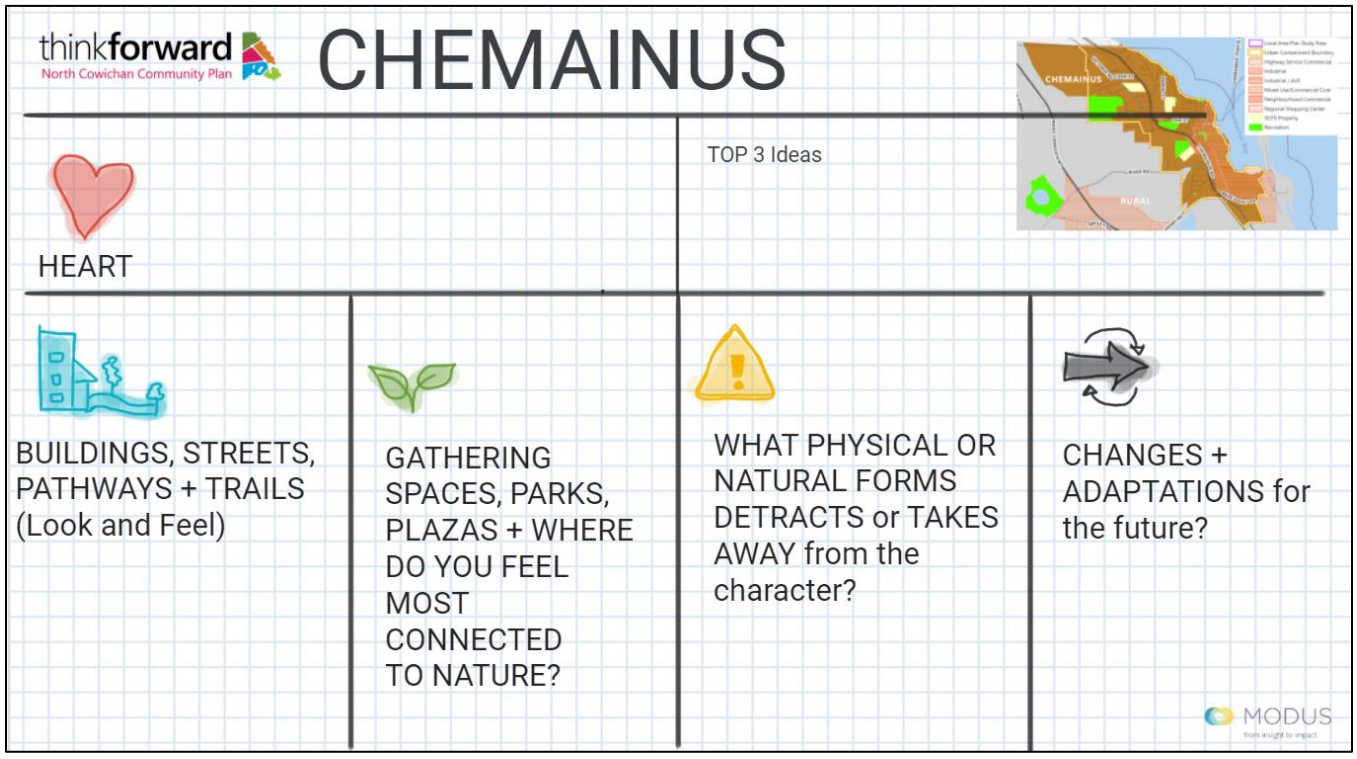



*Figure 2*

*Community Ambassador Engagement*

Staff met with the Community Ambassadors to review the draft Community Profiles over two evenings on May 12 and May 13, 2021, with four communities invited to attend each night. The Ambassadors were also given the draft profiles two weeks before the meeting and were invited to provide written comments. Following the meetings, many ambassadors provided additional materials, including extra photos for use in the profiles. These comments, feedback, and photos have been incorporated into the revised profiles.

*Community Character Profiles*

The draft Profiles are made up of photos taken by survey respondents, supplemented by Ambassador and staff-collected photos to reflect the content, based on input received. In addition to photographs, each profile includes:

- a brief physical description of the community and basic statistical profile;
- a summary of the local planning context;
- a geographic representation of the community's heart or centre;
- a description from the community's perspective of the local character of the buildings, streets and pathways, community spaces, natural places and views; and,
- the graphic facilitator's illustrations from the Community Dialogue sessions.

*Challenges*

A number of challenges were encountered with engaging the public and preparing the Community Character Profiles.

The COVID-19 pandemic restricted options for engaging the public and required that community engagement processes for identifying community character be conducted digitally and remotely. While some innovative approaches for engaging the public were tried, they did not provide the same opportunity for information sharing and collaboration that would have occurred with in-person workshops. In response to concerns about the constraints with the format of the community character survey, community dialogue sessions were scheduled to provide an additional way to provide input.

Despite allowing various ways of completing the survey and the lengthy period for which it was open, the response rate was lower than hoped. However, given the subjective and non-quantifiable nature of the survey (the purpose was to identify character features and themes), the input received can still be relied upon. Despite the limited response rate, the engagement methods used have achieved this, with corroboration through the community dialogues and ambassador groups.

A significant challenge with the creation of character profiles pertains to the Bell McKinnon neighbourhood. Early on, Bell McKinnon Ambassadors questioned the merit of having the community undergo a character process, given the recent completion of the Bell McKinnon Local Area Plan. The engagement process was carried out to enable the community to explore this further, and the result was the lowest community turnout with very few photos submitted. The Profile for Bell McKinnon is significantly different than the ones for other communities for this reason.

**Conclusion and Summary:**

The draft profiles may not provide a complete or universally accepted description of community character. Still, we believe they capture many of the features that make North Cowichan's communities special and unique. While the degree of community input was lower than hoped for, they provide useful background information to inform subsequent OCP policy. These draft policies will be subject to further public input as part of the overall OCP process.

**Options:**

Option 1: (Recommended Option)

THAT the Committee of the Whole recommend that Council accepts the Draft Community Character Profiles as presented in Attachment 1 to the Community Planning Coordinator's June 21, 2021 report entitled "OCP Update Project - Community Character Profiles" as background information for consideration during the drafting of the OCP.

- If Council endorses this recommendation, the Profiles will be published to the website, and the project will continue along the present timelines, using the profiles as outlined in the report.

Option 2:

THAT the Committee of the Whole recommend that Council accepts the Draft Community Profiles as presented in Attachment 1 to the Community Planning Coordinator's June 21, 2021 report entitled "OCP Update Project - Community Character Profiles" as background information for consideration during the drafting of the OCP, subject to the following amendments: [*Committee to identify what is to be changed on what page*]

- If Council endorses this option, the Profiles will be amended based on Council direction and will be made available on the website. The edited profiles will be used as outlined in the report. Should Council wish to direct changes to the community boundaries, Profile outline, or other similar substantial changes, staff recommend Council move Option 3.

Option 3:

THAT the Committee of the Whole recommend that Council increase the engagement budget for the OCP Update project by $15,000 and direct staff to amend the OCP work plan and schedule to include additional community engagement on Community Character Profiles.

- Under this option, a staff report is brought back to provide options for further engagement. This would likely result in an approximate $15,000 increase in budget and a deferral of the OCP completion date by approximately four months. One benefit of this approach is that the likely easing of COVID-19 restrictions may allow for in-person engagement activities.

Option 4:

THAT the Committee of the Whole recommend that Council dispense with the Community Profiles as a component of the new Official Community Plan.

- Under this option, the profiles would not be published or considered in the development of the new OCP. The Community Character Profiles are associated with the project objective of "Respect Individual Community Character." As noted in the report, it is the view of staff that this has been achieved. However, it may be that expectations of this deliverable are not attainable inside of this project. Council may wish to move forward with the OCP without these Profiles and resolve to focus on character through future policy initiatives alone.

- Apart from not using a product into which the community has invested considerable effort, removing the Profiles from the project would expunge the primary deliverable of the OCP Ambassadors, who have provided valuable input and community representation through this process.

**Recommendation**

That the Committee of the Whole recommend that Council accepts the Draft Community Character Profiles as presented in Attachment 1 to the Community Planning Coordinator's June 21, 2021 report entitled "OCP Update Project – Community Character Profiles" as background information for consideration during the drafting of the OCP.

Attachments:
1. Draft Community Character Profiles
2. Community Character Graphic Illustrations

# BERKEY'S CORNER

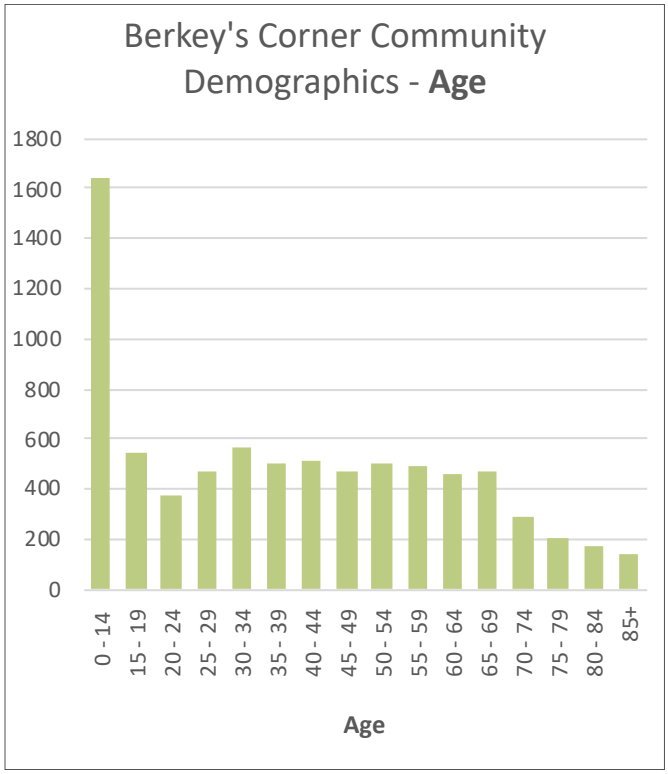
**COMMUNITY CHARACTER PROFILE**

*Berkey's Corner is situated on the traditional territory of the Coast Salish Peoples.*

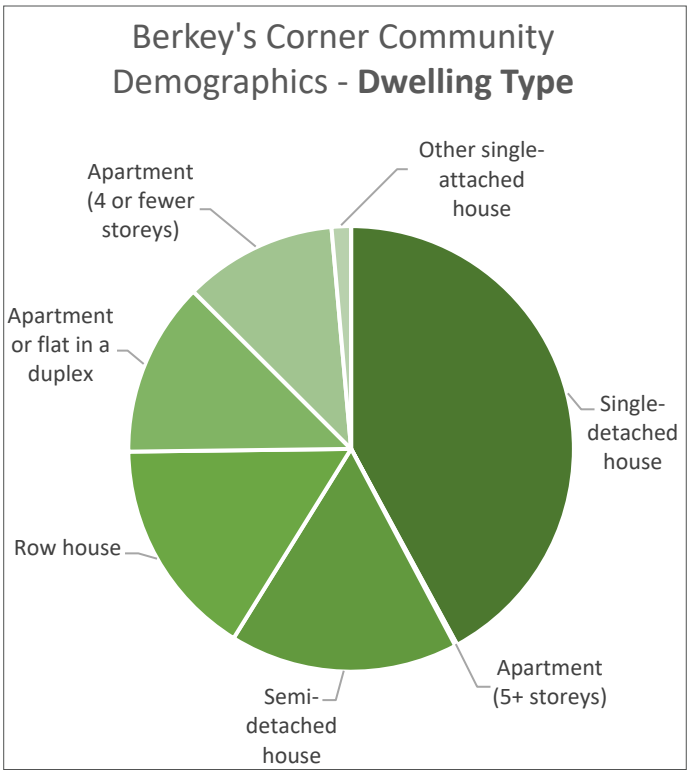
## Introduction

Berkey's Corner is named after the once popular Berkey Brothers Auto Service located at the intersection of Cowichan Lake, Somenos, and Sherman Roads.

Known to be one of the fastest growing areas in the district, Berkey's Corner is a community filled with commercial activity as well as recreational and outdoor access. The total population of the area is 7,875 people with the median age being 38.7 years. Single family dwellings make up 42% of the dwelling types with 17% being semi-detached. The remaining 41% consists of apartments, row houses, flats in a duplex, and movable dwelling types.




*Demographic information is from the 2016 Canadian Census.*




*Census Canada Dwelling Reference Guide*

## Local Planning Context

Located within the Urban Containment Boundary (UCB) as identified in the 2011 Official Community Plan, Berkey's Corner is situated west of the Trans-Canada highway and north of the City of Duncan, bordered by agricultural and industrial lands to the north and west. The area is composed of mixed density residential, recreational, religious, and education facilities. A substantial neighbourhood commercial centre and residential subdivision was recently completed near the central intersection of this community. In addition, the area is currently home to the Cowichan District Hospital, which is anticipated to be decommissioned and replaced by 2026.

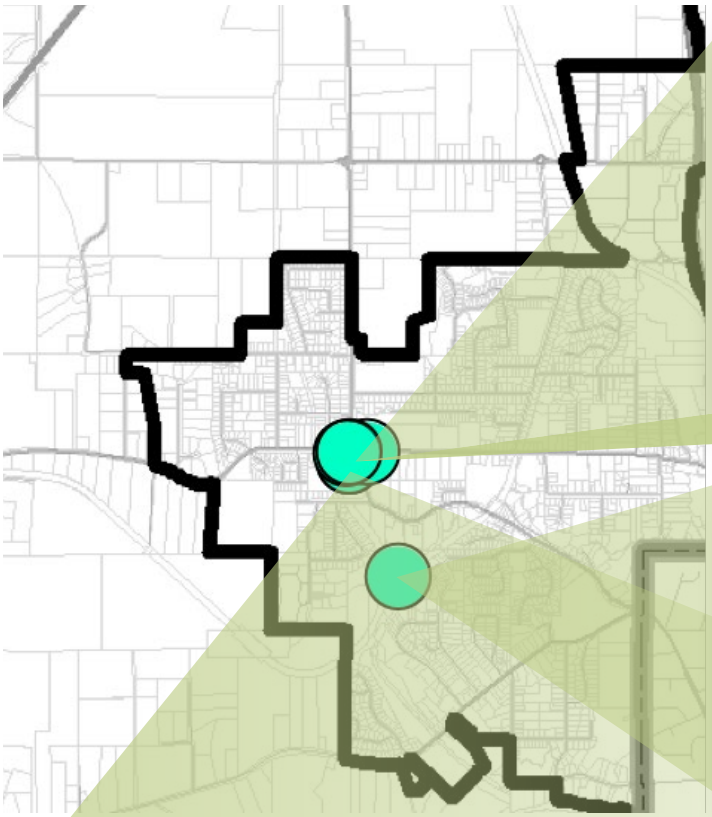
Residents indicate there is a general lack of cohesion in local community development including insufficient public and private gathering spaces such as parks and cafés. A local area plan and design guidelines would help guide the future of this community and ensure the qualities of the built and natural environment that make Berkey's Corner unique are sustained as the community evolves.


During the 2020/21 Official Community Plan update process, community members generously took time to take photos and talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

## The Heart of Berkey's Corner

Community members indicated on the map below what areas they considered to be the heart or centre (their favourite places) of Berkey's Corner. The core locations identified include:

* The commercial node at Somenos, Sherman and Cowichan Lake Road
* Recreational areas like the curling club, the Sherman Road Soccer Field, and Evans Field Baseball Park
* Sikh temple
* Three public elementary schools and one private elementary-middle school



Gathering Spaces


Trails

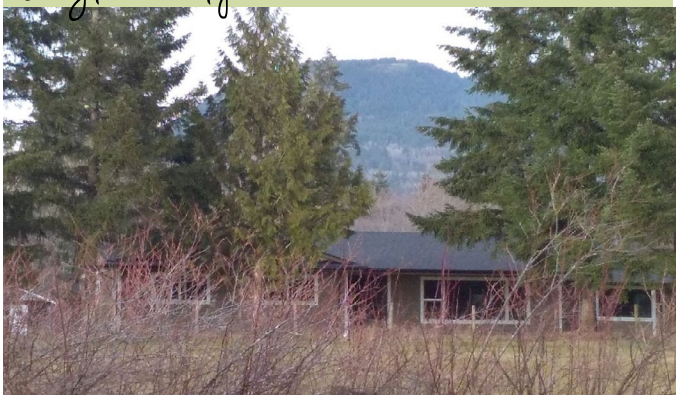
Soccer Fields

## Buildings

The built form character of Berkey's Corner is a blend of old and new, a testament to both the history of the area and changes underway. Single and two-family homes adjoin the commercial hub, surrounded by ample green space. The area is a mix of traditional pitched roof buildings complemented by low-rise, contemporary development. Newer buildings are inspired by the materials and colours of the surrounding rural lands.

### Drinkwater Elementary

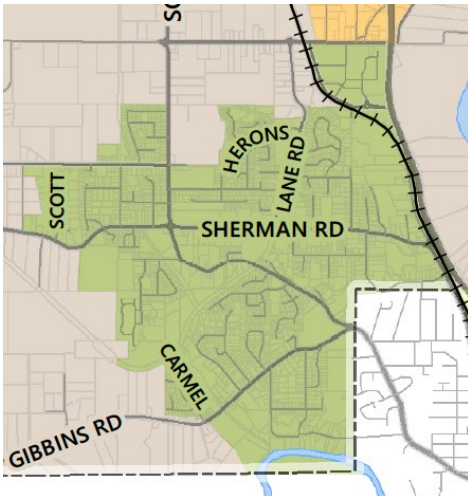

### Single-Family Home



### Multi-Family Housing

Photos included in this Community profile were provided by community members.

## Streets and Pathways

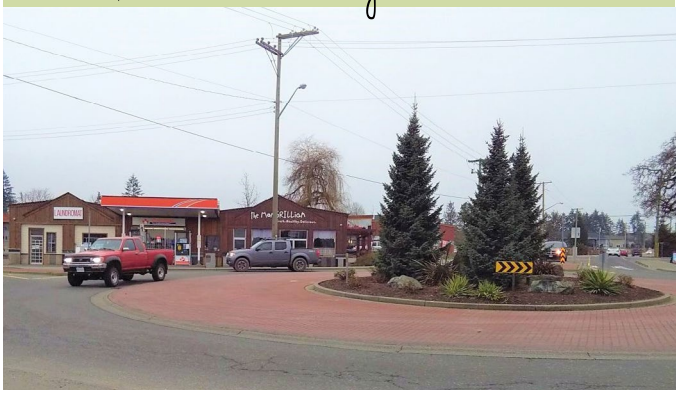



Berkey's Corner is arranged in a compact settlement pattern, characterized by a loop and cul-de-sac street network extending radially away from the central roundabout, and enclosed by agricultural land on most sides. Major roads exhibit a mix of older, narrower sidewalks with rolled curbs, and wider, updated sidewalks with barrier curbs. Residential streets tend to lack sidewalks or dedicated bike lanes, and some are bordered by ditches. The nature of streets and pathways in this community extend beyond the busy roadways, however, and are better defined by the gravel, tree-lined trails such as the Cowichan Valley Trail that offer direct access to nature.

Residents indicated that traffic-calming measures could be achieved by creating residential roads that are more intimate, thus promoting slower vehicle speeds.

> "Nature at our doorstep..."

Roundabout at Berkey's Corner




Road and Gravel Path Intersection

## Community Spaces

Berkey's Corner is filled with age-friendly indoor and outdoor community spaces that dominate the area with opportunities to gather through play, sport and recreation. These spaces are locally loved and support a larger, impermanent community. Outdoor spaces include multiple fields, playgrounds, and recreational trails - whereas indoor spaces tend to focus more on culture and entertainment.

Skatepark

Jungle Gym

Soccer Fields

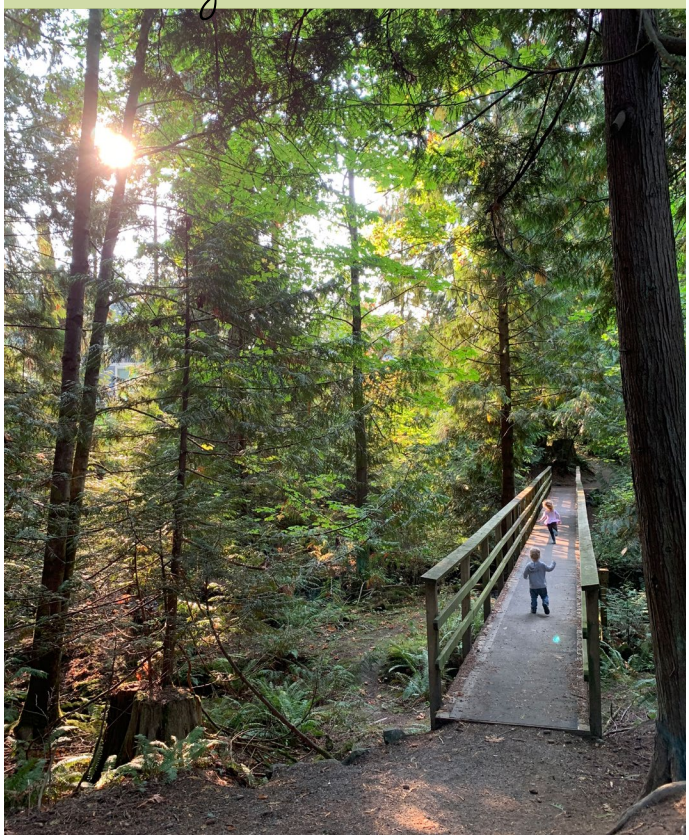
Playground

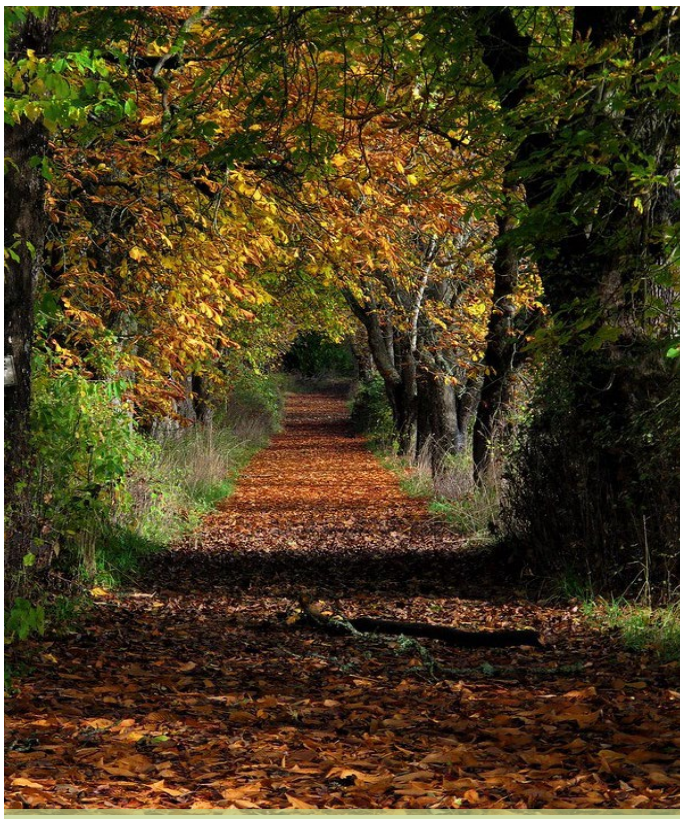
## Natural Places

Ample green space surrounds the Berkey's Corner neighbourhood. Nature is accessible and vibrant, inviting bird watching, trail walking and exploration of hidden forest bridges and winding creeks. The built environment and the natural environment overlap as trees, trails, and agricultural landscapes intersect with roadways and buildings. Naturalized spaces such as Stonehaven, Ryall, and Hillwood Parks bring trees and wildlife habitat directly into the urban areas.

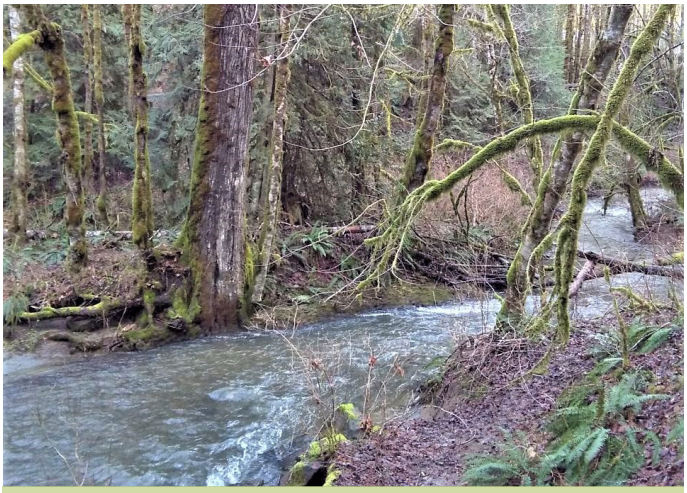
Landscape View

Forest Bridge





Autumn Driveway

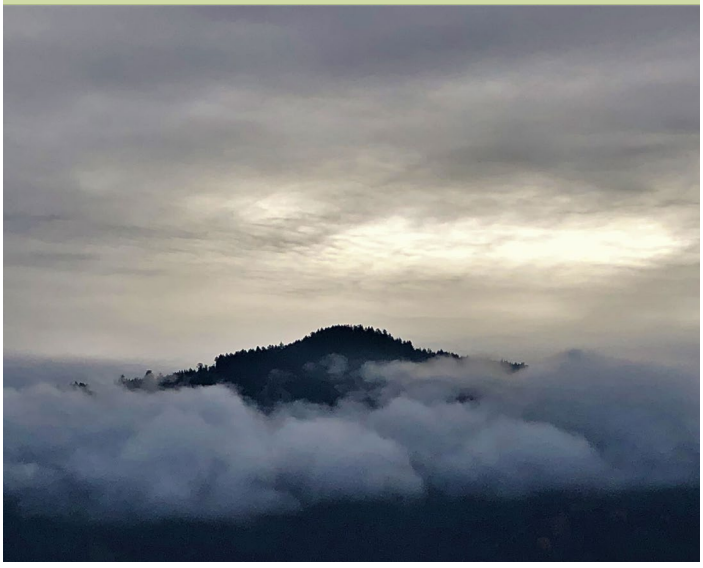


Trail Creek

## Views

Berkey's Corner is surrounded by nature with inspiring views in many directions. Agricultural lands bound the area with mountains and forest lands beyond.

Mountain Views



Farmland Views

> My favourite view is from the top of Herons Wood path looking towards Mt Tzouhalem.

New Neighbourhoods with Mountain Views

# CHEMAINUS

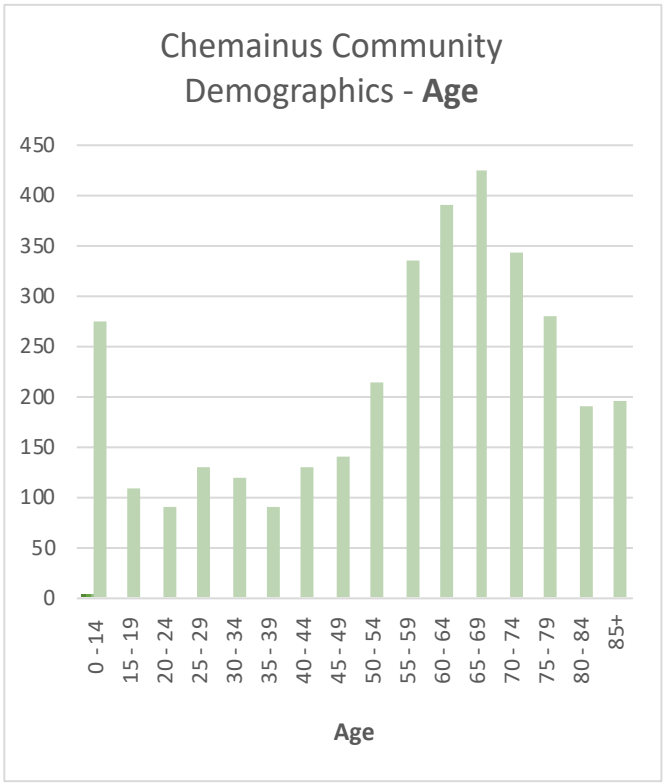
**COMMUNITY CHARACTER PROFILE**

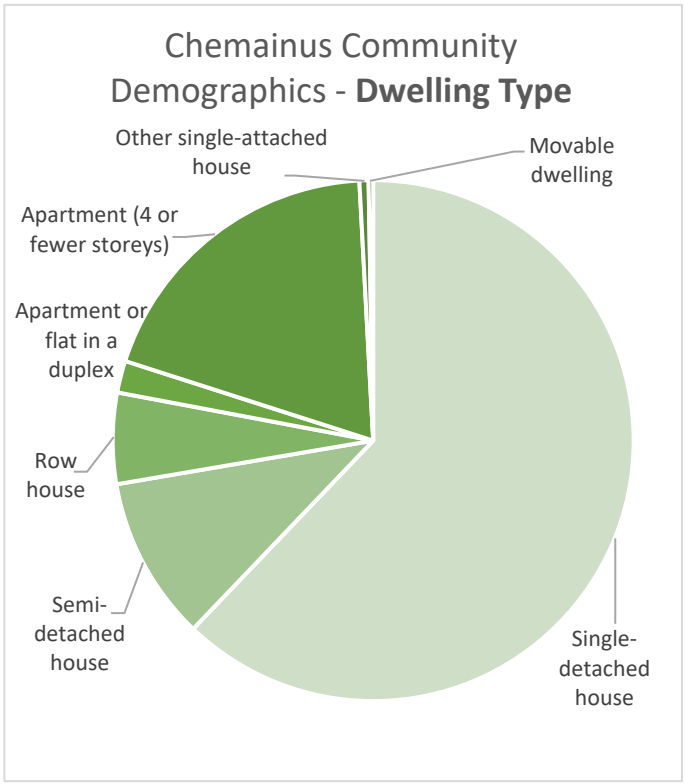
*Chemainus is situated on the traditional territory of the Coast Salish Peoples.*

## Introduction

Chemainus is located at the northern extent of North Cowichan's boundary and is a complete community recognized for its arts, theatre, and murals - making it a cultural hub and tourist destination. The coast community also contains a compact mixed-use centre with an industrial park along the Trans-Canada Highway.

The total population of Chemainus is 3,440 people with the median age being 61.5 years. Single family dwellings make up 62% of the dwelling types with 10% semi-detached. The remaining 28% consists of row houses, apartments, flats in a duplex, other single-detached, and movable dwelling types.




*Demographic information is from the 2016 Canadian Census.*

*Census Canada Dwelling Reference Guide*

## Local Planning Context

Chemainus is within the Urban Containment Boundary as identified in the 2011 Official Community Plan.

In addition to this, the 2011 Chemainus Town Centre Revitalization Plan outlined a series of themes and opportunities which support a common vision still relevant today. The plan identifies nine key ideas and revitalization projects to advance community goals.

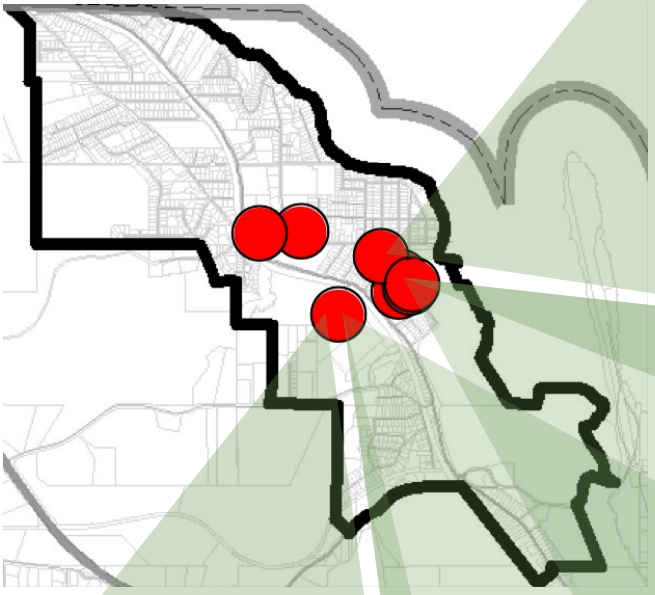
While the Revitalization Plan remains useful with many of its key actions implemented, it is however, not a true local area plan that addresses growth patterns, servicing, and other key plan elements.


Photos are provided by community members.

During the 2020/21 Official Community Plan update process, community members generously took time to take photos and talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

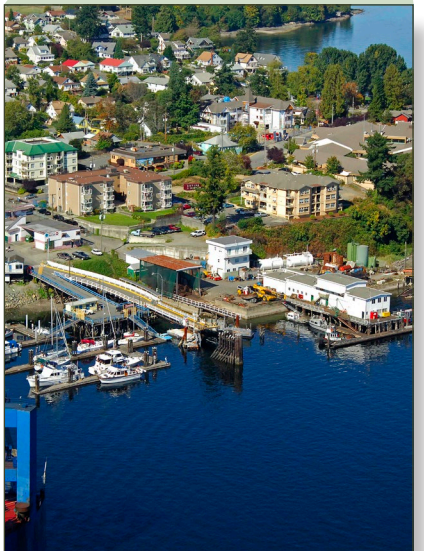
## The Heart of Chemainus

Community members indicated on the map below what areas they considered to be the heart or centre of Chemainus. Many felt it was an area where residents and tourists alike could connect and interact through the exploration of place and appreciation of local history and amenities. Generally, residents felt the heart of Chemainus was wherever arts, culture and community could converge. Specifically referenced were Waterwheel Park, Kin Beach, and the recently constructed library.




Chemainus Village Square


Willow Street



Old Town & Ferry Terminal

Waterwheel Park

## Buildings

The Victorian heritage architecture is a defining feature of Chemainus. Stacked turrets and distinctive gingerbread-style details adorn many of the welcoming, single-storey commercial buildings, complementing the murals for which this community is renowned. The Willow Street block is charming, with colourful buildings and active storefronts which add an additional layer to the town's artistic and touristic vibrancy.

Chemainus, however, is eclectic. The Victorian-era charm of the older buildings differs with contemporary buildings like the Library or modern cannery look of the Chemainus Village Square market. New development in the area draws on the texture, colours, and materials of the West Coast, making use of cedar and natural stone.

Public Library


Mural

Heritage Store Front

"Chemainus is vibrant, unique, artistic, & welcoming."


Old Town

Public Market


Chemainus Theatre

## Streets and Pathways

Chemainus is arranged in a linear settlement pattern along Chemainus Road, with arterial roads concentrated on the eastern, coastal side of the community. A grid-pattern centre makes up most of the community, with further reaches of the community offering a curvilinear street network. The street network is highly walkable, owing to sidewalks on most sides of streets in Old Town and downtown Chemainus.

Brick paths and tree-lined roads are evocative of the history of Chemainus and the proximity to nature, while functional street furniture like benches add visual appeal. Roadways like Willow Street have the added benefit of delivering pedestrians right to the edge of Kinsmen Beach, yet another reminder of the oceanfront charm of Chemainus. Wide streets with well-maintained, continuous sidewalks foster safe cycling and walking for residents of all ages. Chemainus boasts excellent walkability as well as bikeability both in town and into nature, thanks to the Trans-Canada Trail.

Many sidewalks, however, are narrow and are discontinuous along the Victoria and Chemainus Roads. Some residential streets lack sidewalks with gravel shoulders for parking and walking.

Chemainus Road & Brick Sidewalk

Street Parking

Park Trail

> The central waterwheel park is the best performing space on the West Coast

## Community Spaces

Waterwheel Park is a social mainstay in Chemainus, drawing residents and tourists alike through its wooden archway to enjoy both nature and cultural festivities. Neighbourhood parks, plazas and local market districts support a vibrant arts and culture community year-round. Chemainus is bordered by a series of well-loved beaches, including Kinsmen Beach which provide good pedestrian access to the shoreline. Many of these places are supported by amenities like washrooms and picnic tables.

At the neighbourhood level, Chemainus Village Square provides various necessary commercial services for residents. Community meeting places include the Legion, Senior's Centre and Fire Hall.

Additional parks provide urban opportunities to enjoy nature, ranging from Fuller Lake Park/arena and the smaller Daniel Street Park to the more rugged Wul'aam (Echo) Park and Askew Creek Area.

### Fuller Lake Arena

### Outdoor Theatre

### Waterwheel Park

### Chemainus Heritage Square

### Labyrinth

## Natural Places

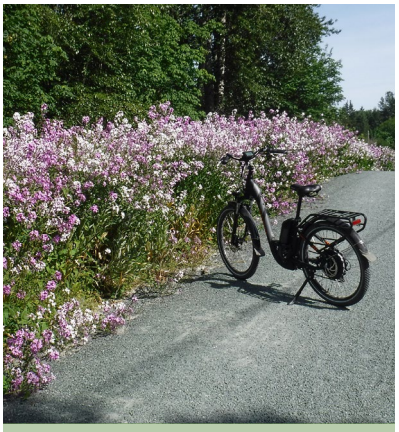
Conveniently located and publicly accessible, the shoreline parks of Chemainus are places of peace, beauty and connection to nature for many. Easily accessible trails lead down the ocean and away from the town centre to forested areas like Askew Creek Park, Fuller Lake and Wul'aam Park. Nature surrounds Chemainus, providing opportunities to hike forested trails, admire the local flora, or set sail through the Stuart Channel.

Askew Park

Golf Course

Chemainus Lake

> "The nature surrounding Chemainus is serene, quiet, beautiful, & accessible."



Trail Cycling

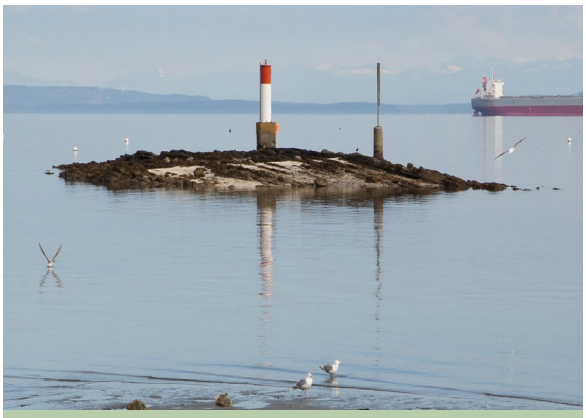
Chemainus Estuary

Beach Sunset

## Views

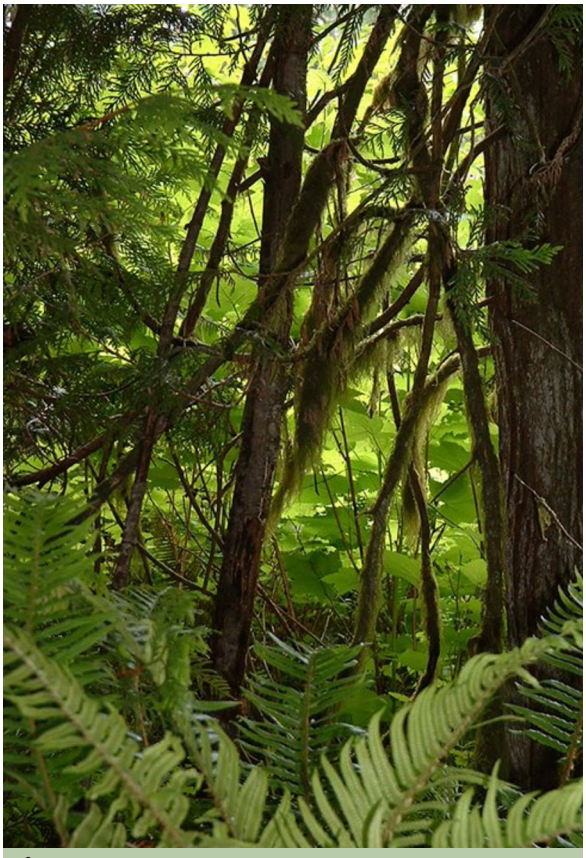
Shoreline vistas, from land or sea, are quintessentially Chemainus. Whether it is sunset at Kinsmen Beach lighthouse, the Chemainus Estuary, or the view by kayak on the Salish sea, the ocean draws the eye from every direction. Surrounding forest provide equally appealing views, such as those in Wul'aam (Echo) Park.

Kinsmen Beach Sunset



Lighthouse

Chemainus Estuary



Nature

Great Trail Overlooking Ocean

# CROFTON

**COMMUNITY CHARACTER PROFILE**

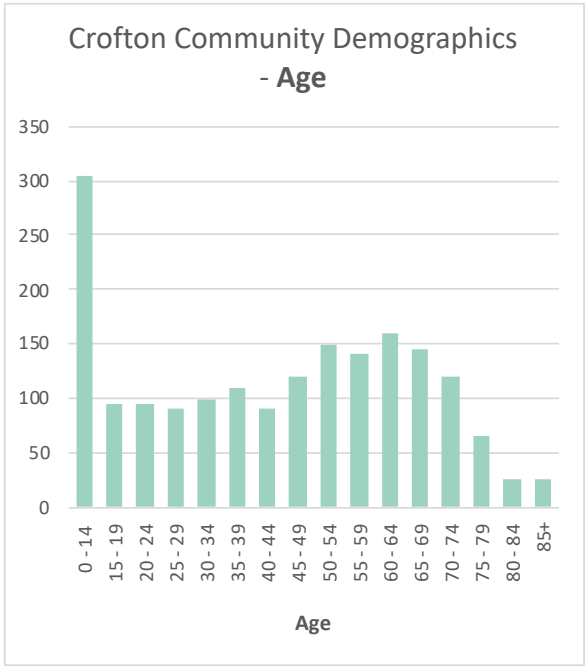
*Crofton is situated on the traditional territory of the Coast Salish Peoples.*

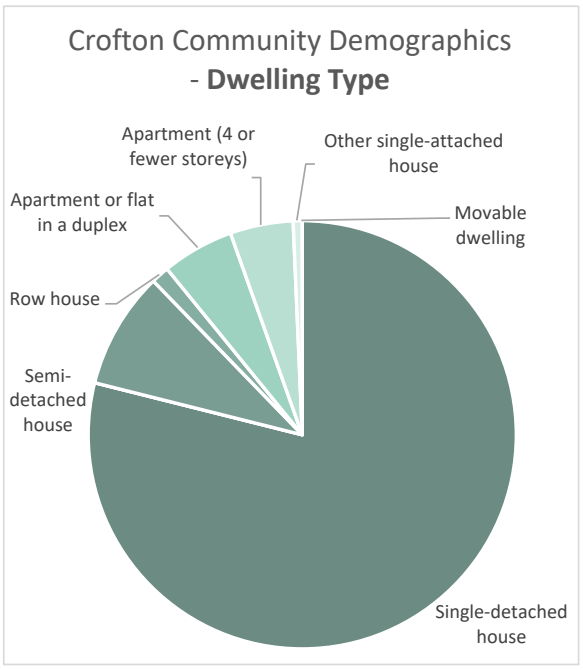
## Introduction

Crofton is a historic community nestled on the shoreline of Osborne Bay, overlooking Saltspring Island. The grid road system and gentle slopes in the developed centre of the community create a highly walkable, pedestrian friendly, village feel. Located in the centre of town is the BC Ferries Terminal that provides service to Salt Spring Island. With its sloping topography offering dramatic views and panoramic vistas, Crofton has a somewhat 'remote' feel as it is surrounded by low density rural residential and agricultural uses, the Municipal Forest Reserve, and the Agricultural Land Reserve and large industrial lands.

Historically, the community has undergone significant economic change. In its early days, Crofton was a smelting centre in support of mining on Mt. Sicker. After the smelter closed, the small harbour provided a base for commercial fishing operations. In time, forestry activities and the Crofton Pulp and Paper Mill became the predominant industry supporting the town and region.

The total population of Crofton is 1,835 people with the median age being 45.3 years; younger than most other communities in North Cowichan. Single family dwellings make up 79% of the dwelling types with the remaining 21% consisting of semi-detached houses, row houses, apartments, flats in a duplex, and other single-attached houses.




*Demographic information is from the 2016 Canadian Census.* *Census Canada Dwelling Reference Guide*

## Local Planning Context

Most of Crofton is located within the Urban Containment Boundary (UCB) as identified in the 2011 Official Community Plan. The 2015 Crofton Local Area Plan outlines the vision, goals, priorities to help shape the direction of the community as it grows and changes over the years.


## Crofton Local Area Plan Vision Statement

*"Crofton is an inclusive waterfront community, which fosters economic development, environmental stewardship, and small town values. The community prides itself on its seaside setting, small town scale, walkability and access to nature and the sea. Crofton provides affordable housing in a variety of architectural forms which are consistent with the existing small town character. Crofton has safe roads, alternative modes of transportation, with good access to the waterfront and regional trail systems. Crofton has balanced development and the natural environment with a special focus on maintaining existing educational facilities, and expanding its array of commercial and employment services. Both public and private sector investments have contributed to a beautification of the mixed use commercial core area."*

## The Heart of Crofton

Community members indicated on the map below what areas they considered to be the heart or centre of Crofton. The mixed-use commercial core surrounding the post office was identified as the heart - as was the ocean, mountains, trees, and trail systems.

Sea Walk at Crofton Beach

Pier


Crofton Elementary

Joan Avenue

## Buildings

Nautically inspired buildings reflect the deep connection to Osborne Bay and the seaside setting of Crofton.

Older buildings like the museum reference the heritage and waterfront nature of the area by embracing warm pastel colours, dormer windows, decorative hip and gable roofs, enhancing the historic charm of the area.

Newer buildings like the Osborne Bay Pub and the mixed-use Mews make use of shiplap siding as well as traditional brick with wrought iron - reflective of the nearby marine environment.

Older Multi-Family Residential

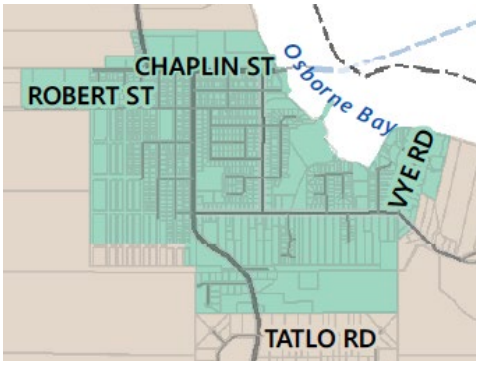
Crofton Mews over Osborne - Mixed Use

Crofton Schoolhouse & Museum

> *Crofton is a beautiful mix of old and new.*

Photos included in this Community profile have been provided by community members.

## Streets and Pathways




Crofton is unique among North Cowichan communities as it is built on a consistent grid street pattern, dissimilar to the largely curving street network of the region. It is arranged in a compact settlement pattern accessed predominantly from York Avenue. Narrow, discontinuous sidewalks featuring rolled and barrier curbs constitute the majority of pedestrian infrastructure, including along Joan Avenue which acts as the major waterfront connector. Commercial uses define Joan Avenue, as well as safe pedestrian crossings, landscaping and street furniture. Residential streets generally lack sidewalks, and some feature gravel shoulders for parking and walking.

The raised Crofton Seawalk is a pedestrian amenity bridging land and sea by providing an accessible opportunity to enjoy the seaside beauty that Crofton has to offer. In many areas of the community, the waterfront is easily visible from roads and sidewalks.

Central Crofton


Crofton Seawalk Entrance


Seawalk

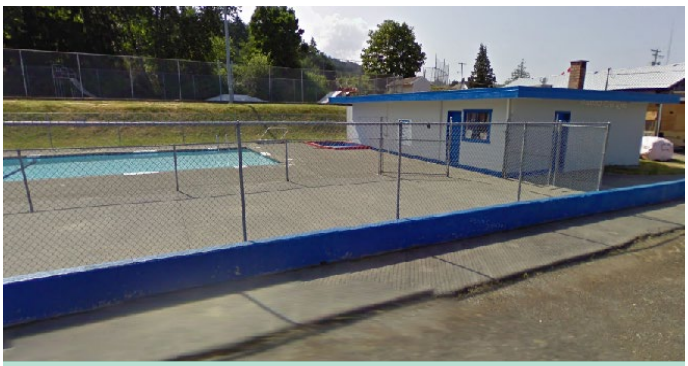
## Community Spaces

Green spaces close to home, like local parks and school playgrounds are enjoyed by many of all ages, from children and parents to dog owners. Summer is marked by community members gathering regularly at the local pool, while the popular Crofton Seawalk sees pedestrian traffic year-round. The skateboard park, boat launch, Crofton Community Centre, and the Crofton Fire Hall also serve as community gathering places.

Playground on Queen Street

Joan Avenue Park

> *Joan Avenue Park is a nice place with great views.*



Crofton Pool

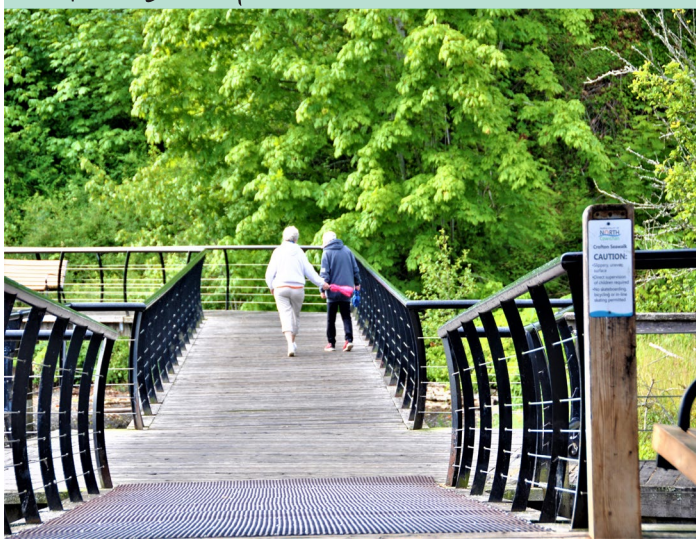

Crofton Hotel

## Natural Places

The Crofton Seawalk delivers an unparalleled elevated view of the ocean and marine activities. Access to beachside parks, the public boat launch and marina, and the BC Ferries Terminal offers everyone the ability to experience the nexus of land and sea. Crofton Lake and nearby trails to Maple Mountain and Mount Richards are used by many, with endless opportunities to stay active and explore the outdoors.

Crofton Lake

Crofton Seawalk

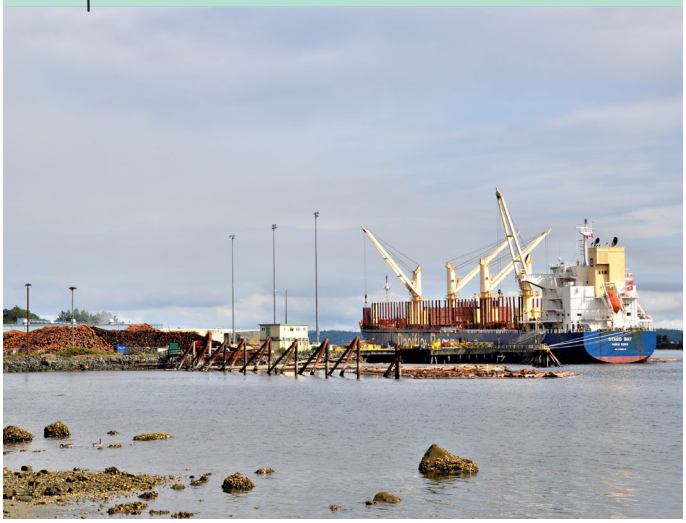


Crofton Beach Park & Seawalk

## Views

The Crofton Seawalk is a unique feature providing unobstructed ocean vistas, bordered by the seaside forest. The busy marine harbour with its deep sea port, BC Ferry Terminal, boat ramp and local marina can be viewed from many perspectives.

Deep Sea Port



BC Ferry Terminal

Crofton Harbour & Seawalk

# MAPLE BAY

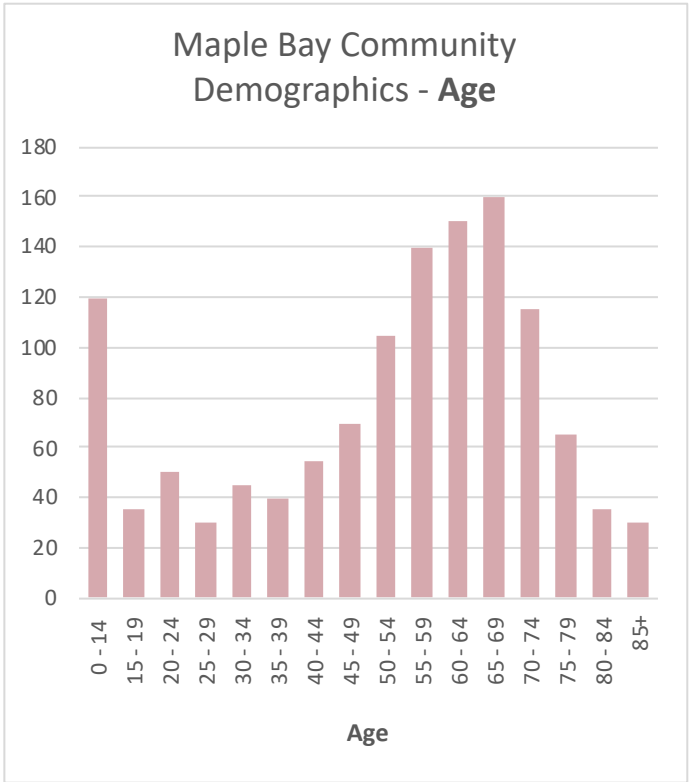
**COMMUNITY CHARACTER PROFILE**

*Maple Bay is situated on the traditional territory of the Coast Salish Peoples.*

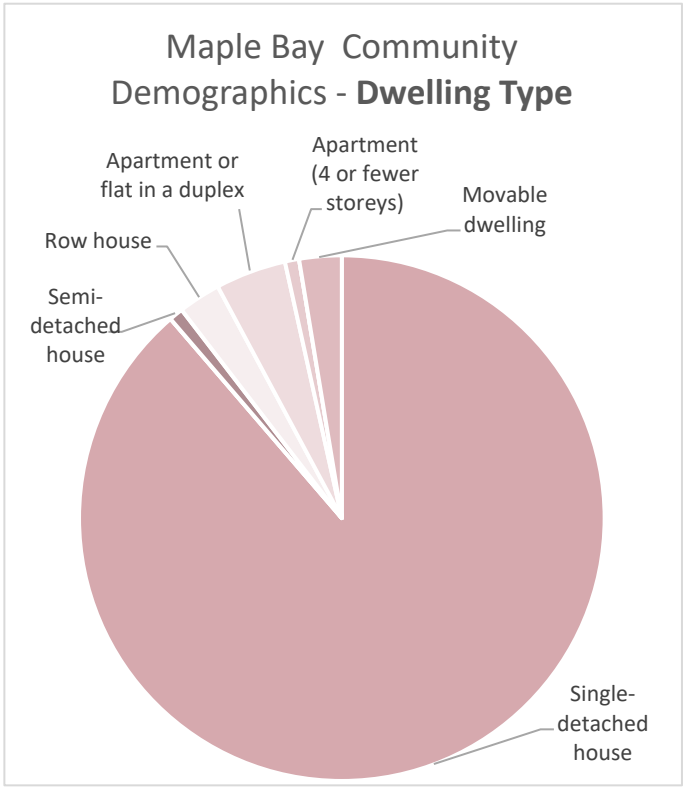
## Introduction

Maple Bay is located on the southern coast of the municipality of North Cowichan and is a small coastal hamlet that comes with a floatplane dock, marinas, pubs, and restaurants. Access is via scenic roads with a landscape that provides great cross water views along with forested mountain backdrops.

The total population of Maple Bay is 1,265 people with the median age being 57.6 years. Single family dwellings make up 89% of the dwelling types with the remaining 11% consisting of semi-detached houses, row houses, apartments, flats in a duplex, and other single-attached houses.




*Demographic information is from the 2016 Canadian Census.*




*Census Canada Dwelling Reference Guide*

The Maple Bay neighbourhood extends beyond the compact community between the terminus of Herd Road and the shore of Maple Bay. The common elements of forest, coastline, marinas, and long winding roads extend down Genoa Bay Road to the community of Genoa Bay. It includes the sub-communities of Maple Bay Marina, Genoa Bay, and the upland areas around the old Maple Bay Fire Hall and Herd Road Park.

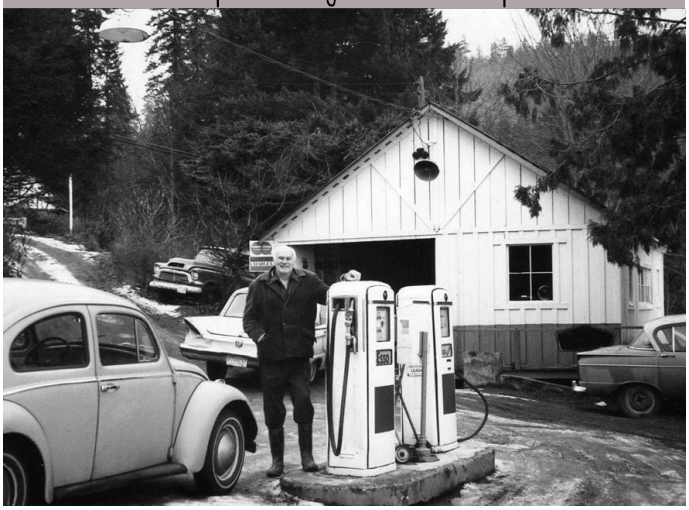

## Local Planning Context

The Maple Bay Community Association prepared the Maple Bay Area Plan in 2015 that provides further insight into the character of Maple Bay. While it is not a municipality-endorsed plan, North Cowichan may wish to consider incorporating it into a future local area plan so as to set clear land use policies for the area and ensure a livable future in Maple Bay.

The Maple Bay Community Association's Area Plan vision is:

*a rural, seaside community that values and protects its natural environment, facilitates outdoor activities, and promotes a strong community spirit for current and future generations*

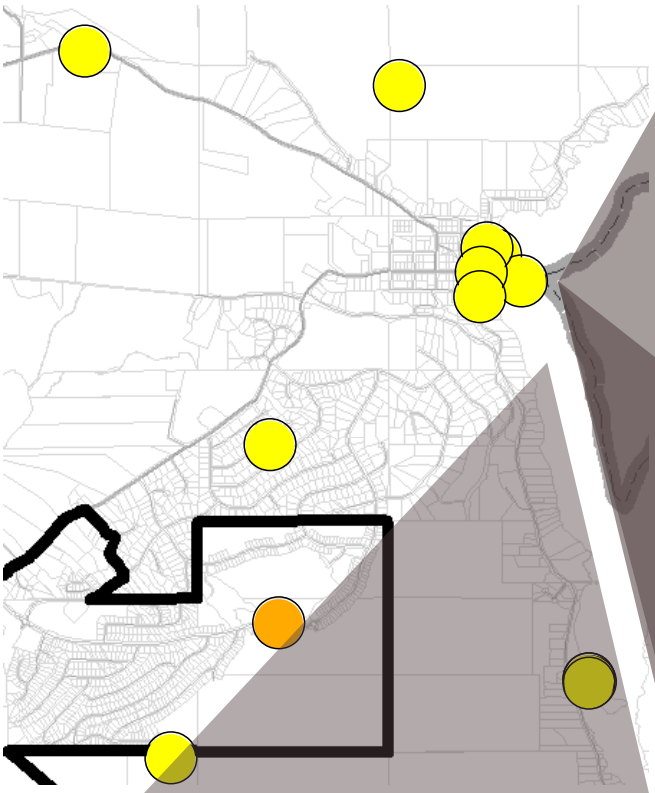
Historic Maple Bay Gas Pump



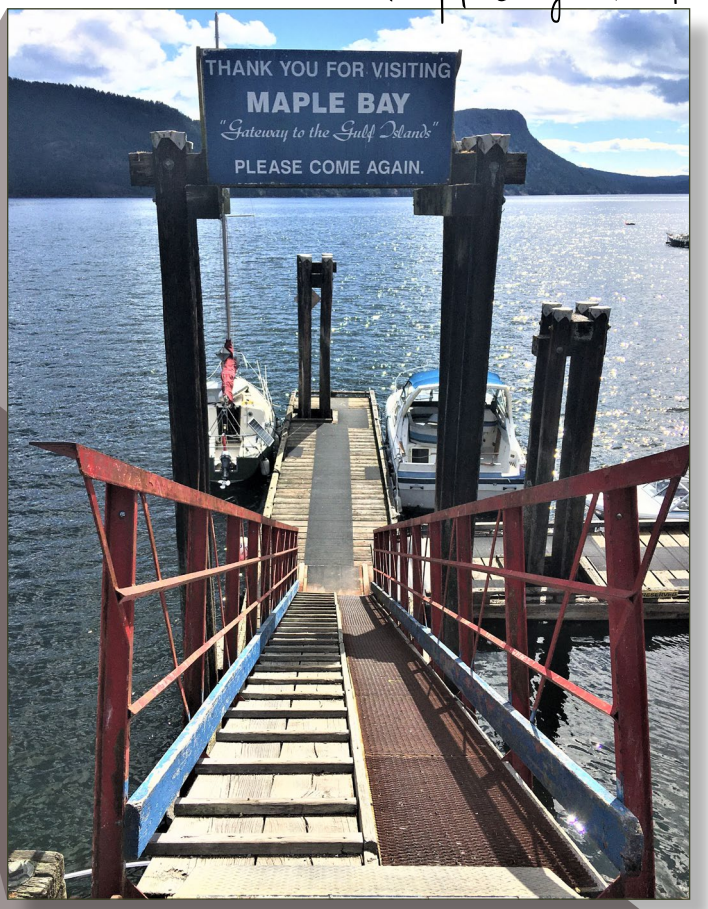
During the 2020/21 Official Community Plan update process, community members generously took time to take photos and talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

## The Heart of Maple Bay

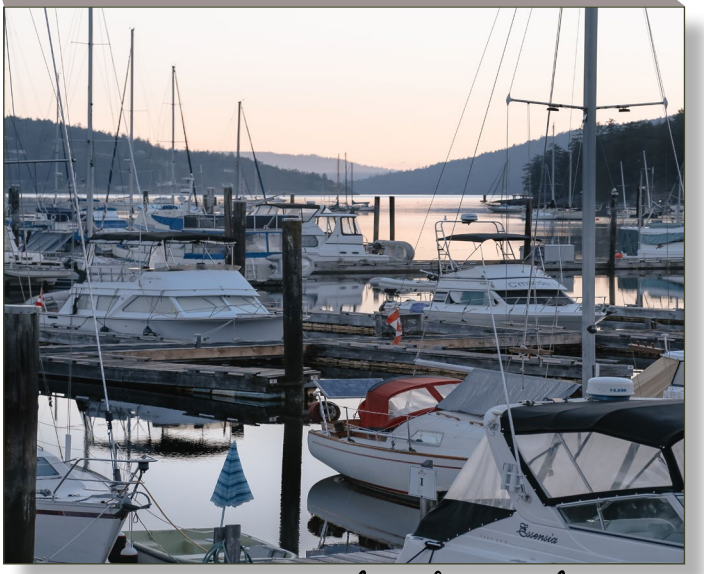
As part of the OCP update, we asked community members to indicate on a map what they considered to be the heart or centre (their favourite places) of Maple Bay. The map below details the locations that people chose. The ocean was at the core of Maple Bay for many, with references to beaches, Maple Bay Wharf, and oceanfront parks.



Maple Bay Wharf




Maple Bay Beach at Village Centre



Maple Bay Marina

## Buildings

A blend of historical buildings and modest contemporary development creates a visually appealing and architecturally rich built form in Maple Bay. Awnings and the arched shape of the Shipyard Pub reflects the maritime history of the community and the strong connection to marine recreation and commerce. The eclectic styles of floating homes connect community to the water, giving new meaning to seaside living. The airy, minimal design of West Coast modern homes, both on land and in the Bay draw inspiration from muted ocean grays and blues, while employing the heavy use of cedar and other timber.

More colourful, stout buildings contribute to the heritage nature and welcoming feeling of the community. The historical, pioneer-era character of Maple Bay is exemplified by the stately, farm-style Elkington House.

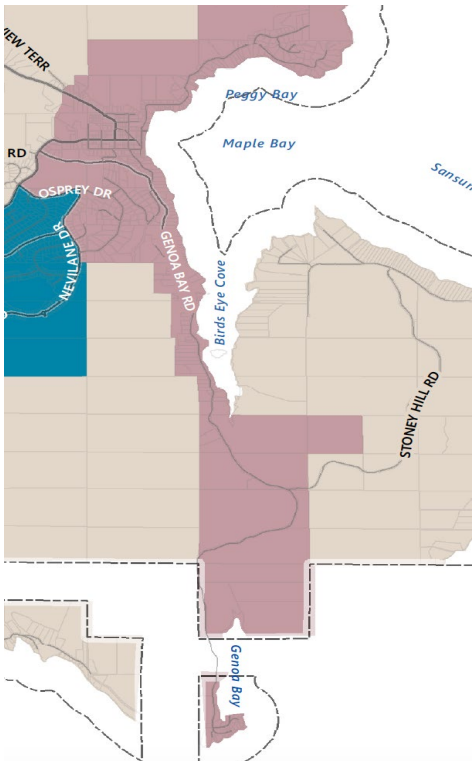
Residential lots take advantage of natural privacy screens of mature foliage, fitting in with the heavily treed surroundings. Large residential lots rely on septic systems though most are connected to municipal water service.

Marina Pub


Village Centre House

Modern Coastal Home

## Streets and Pathways

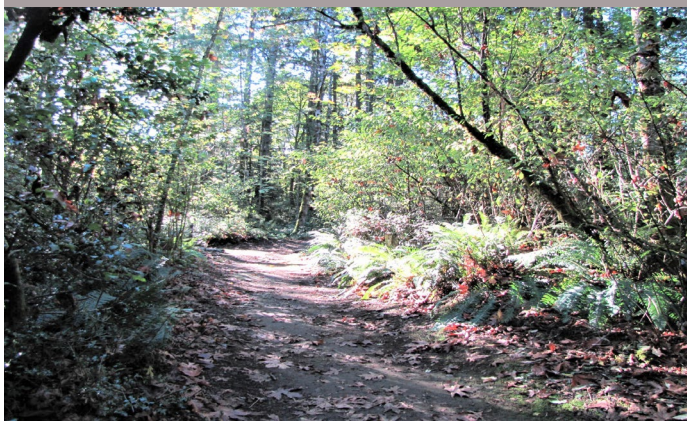



Maple Bay is arranged in a compact settlement pattern with residential areas extending north to Arbutus Road and south along Genoa bay Road. The road network pattern is mainly curvilinear, with a grid network emerging at the intersection of Herd Road and Maple Bay Road. Sidewalks are absent along most roads, including major roadways like Herd, Beaumont, and Maple Bay Roads, and adjacent to waterfront access points. A paved or gravel shoulder is typically present on major roadways and arterials.

Most roads in the area blur the line between urban settlement and nature with their winding, seaside roads thickly enclosed by trees and vegetation. Maple Bay, Genoa Bay, Beaumont, and Arbutus Roads are characteristic of the area, bordered by trees whilst offering vistas of the ocean, the meandering nature reminiscent of a country lane.

Genoa Bay Road

Trail



Road overlooking Ocean

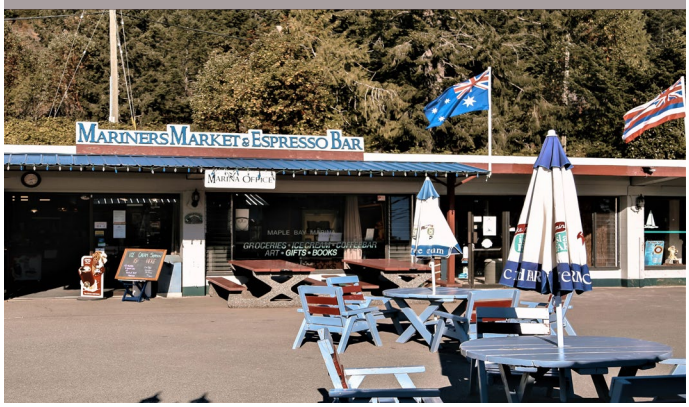
Photos included in this Community profile have been provided by the community members.

## Community Spaces

Gathering spaces in Maple Bay are anchored by the ocean, as beaches foster play, family recreation, swimming and community connection. Herd Road Park offers opportunities for many to socialize and enjoy the open green space. Trails and forests are healthy and accessible, promoting outdoor recreation. Despite a lack of designated parks, the convenient access to nature encourages people to enjoy the outdoors regularly. Lively indoor spaces like the local pubs blend the warm, welcoming atmosphere with the adjacent shoreline.

Marina Pavillion

Marina Cafe




Maple Bay Beach

Playground at Herd Road Park

Trail Head


Marina

## Natural Places

As a gateway to adventure from both land and sea, Maple Bay is graced with nature on all sides from the beaches to mountain peaks. Trails at Stoney Hill, Maple Mountain, and Mount Tzouhalem offer access to outdoor recreation, enjoyment of wildlife, and explorations of the surrounding forest. Many spaces are still untouched by development allowing natural ecosystems to flourish. Views of the ocean are uncluttered by houses, and the few that do exist blend into the greenery. The healthy marine environment located in the Bay is teeming with life and can be easily appreciated on shore or water.

Stoney Hill Park

Garry Oaks

Beach

Ecological Reserve

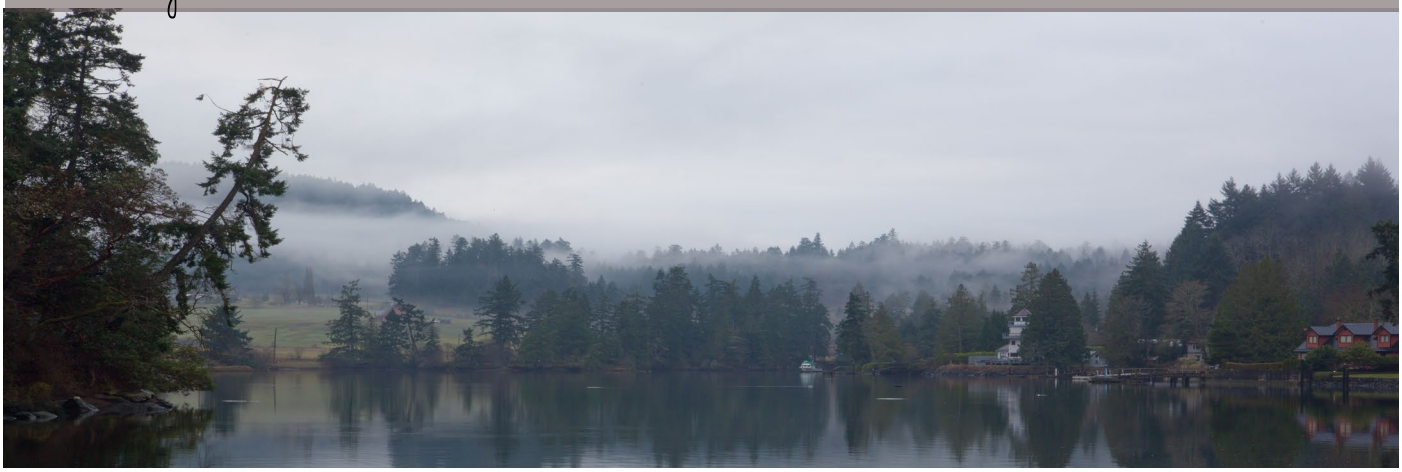
## Views

Expansive views of Maple Bay, Saltspring Island and Sansum Narrows are among the defining vistas in the community, seen from the shore, the wharf and at high points on the road. Unobstructed views of Stoney Hill, Mount Tzouhalem. Maple Mountain, and Saltspring Island are equally peaceful, providing visual appeal in all directions.

Maple Bay

View of the Bay

Community on the water



Genoa Bay

# QUAMICHAN

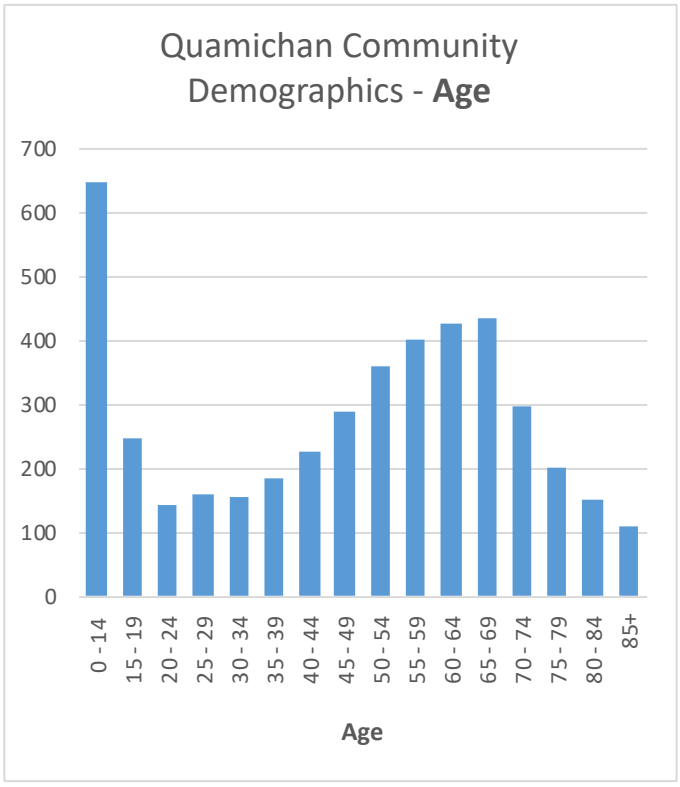
**COMMUNITY CHARACTER PROFILE**

*Quamichan is situated on the traditional territory of the Coast Salish Peoples.*

## Introduction

Quamichan is a collection of residential settlements located along the south/east shore of Quamichan Lake and includes a mix of residential, farming, and heritage lakefront properties.

The total population of Quamichan is 4,400 people with the median age being 53.0 years. Single family dwellings make up 89% of the dwelling types with 11% consisting of semi-detached houses, row houses, apartments or flats in a duplex, and other single-attached houses.

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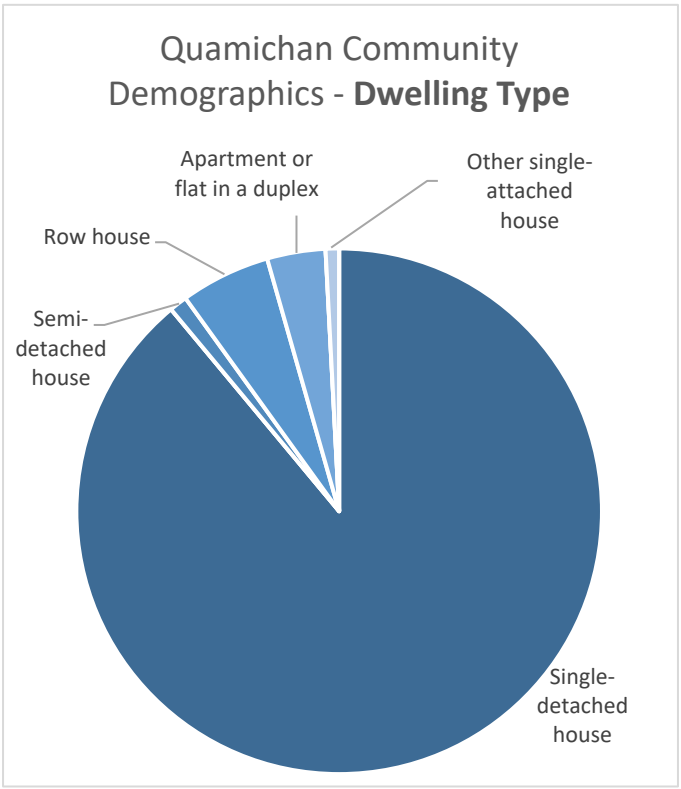



*Census Canada Dwelling Reference Guide*

## Local Planning Context

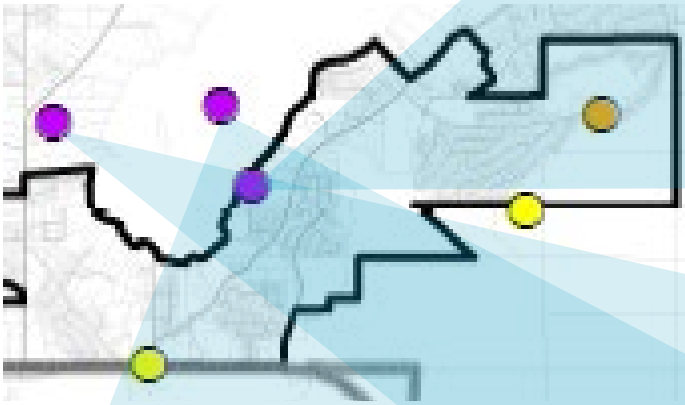
Quamichan is located within the Urban Containment Boundary (UCB) as identified in the 2011 Official Community Plan (OCP). Although it does not have a local area plan, comprehensive development plans have been adopted and appended to the OCP which guide much of the new housing being developed. Lands not covered by comprehensive development plans are administered by general provisions of the OCP and municipal development regulations.


Photos included in the Community profile have been provided by community members.

During the 2020/21 Official Community Plan update process, community members generously took time to take photos and talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

## The Heart of Quamichan

As part of the OCP update process, we asked community members to indicate on the map below what they considered to be the heart or centre of Quamichan. Many indicated Quamichan Lake was the centre, a place of both peace and recreation. For others, it was areas of convergence between heritage and nature, like the Elkington House. However, some felt the heart of Quamichan to be undefined and suggested that any future commercial development could become the future core of the community where people could gather.



Future Neighbourhood Node - Kingsview

Garry Oak Trees

Mountain and Lake Views

## Buildings

The culture and history of Quamichan is reflected broadly through heritage buildings and homes set far back on large lots. Deep eaves and dormer windows are characteristic of many buildings and farm style homes. Native vegetation, gardens and fields add to the rustic nature, while active woodshops, vineyards and farms add vibrancy to the rural landscape. Buildings generally complement the natural beauty of this area, dispersed among stands of trees and the pastoral landscape.

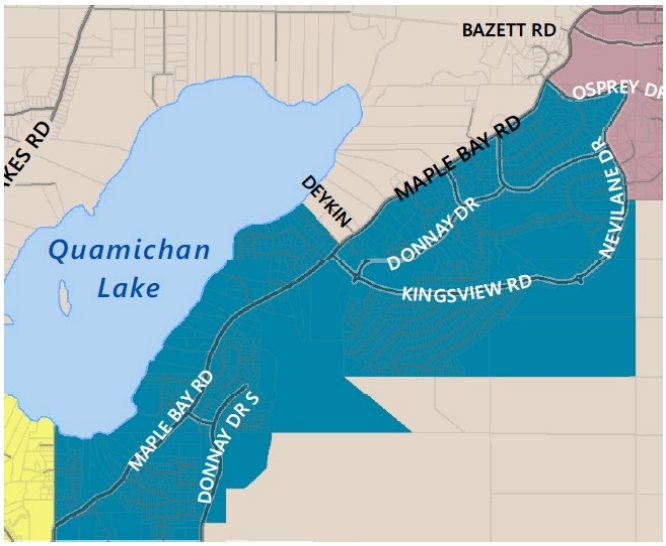
Single-Family Home

Quamichan Lake Barn

Estate House

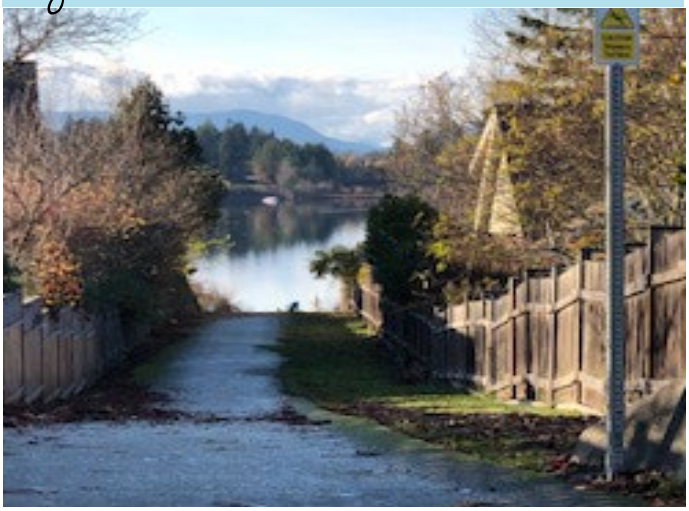
## Streets and Pathways

The Quamichan area exhibits a looping street pattern adjacent to Kingsview Road up Mount Tzouhalem and features cul-de-sacs further south towards Donnay Drive. Major roads have narrow sidewalks on one or both sides featuring barrier curbs, while others have a paved or gravel shoulder instead. Some of its residential streets lack sidewalks while some feature gravel shoulders for parking and walking. The Properties/Kingsview Development continues to develop with sidewalks, road verges and safe pedestrian crossings.




Rural roads in the area are bordered by rough gravel shoulders, many with direct sightlines to Quamichan Lake. Trails and paths create connections to the lake and forest, while providing opportunities for walking and cycling.

Sightline to Quamichan Lake



Rural Road

Kingsview Road

## Community Spaces

Quamichan provides numerous opportunities for outdoor activity and a connection to nature. Whether paddling across the water, exploring the shoreline, mountain biking, or hiking - the area is well-used by the community. The saltier waters of the adjacent Maple Bay also foster gatherings and play, as do playgrounds and park land at the Properties, Art Mann Park, and elsewhere.

Mountain Biking

Exploring the Shoreline

Maple Bay Elementary School

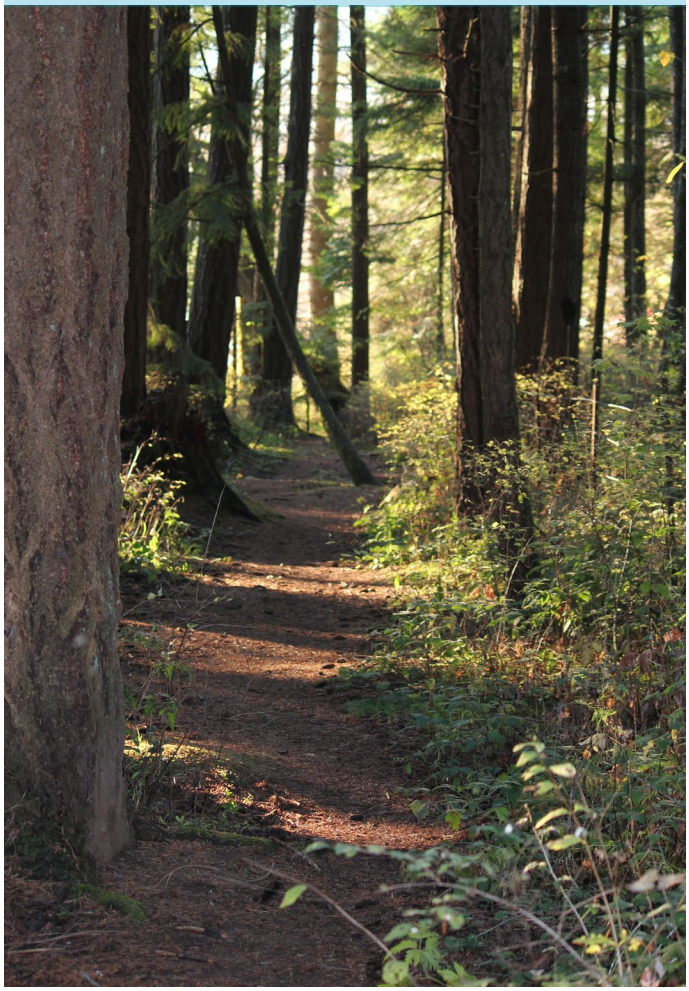
Fishing on Quamichan Lake

## Natural Places

Quamichan is blessed with an accessible natural landscape available for those seeking to hike trails, explore the forest, and enjoy the water. Nearby mountains allow access to coniferous forests, Arbutus and Garry Oak woodlands unique to this region. Winding dirt trails and wooden boardwalks blend in with nature and provide opportunities for everyone to connect with the natural environment.

Garry Oak Reserve

Trail



Quamichan Lake

Winter Ducks on Quamichan - American Coot

## Views

Views of mountains and Quamichan Lake stretch out across the forest and farmland and can be seen throughout the area.

Quamichan Lake Swan

Valley Sunset

# RURAL

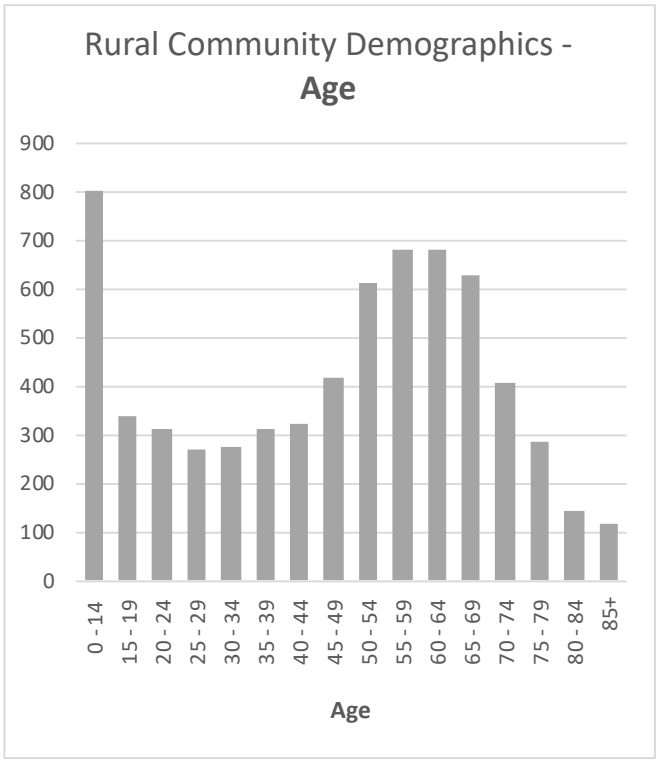
**COMMUNITY CHARACTER PROFILE**

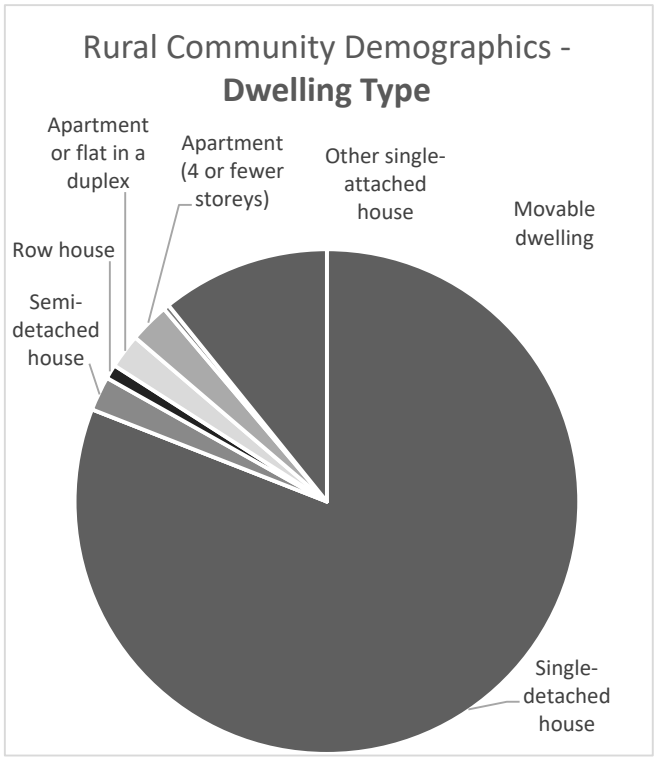
*North Cowichan's rural areas are situated on the traditional territory of the Coast Salish Peoples.*

## Introduction

The rural areas of North Cowichan contain the majority of district's substantial land base of food, forestry and recreational uses with approximately 25% located in the Agricultural Land Reserve and 25% in the Municipal Forest Reserve. Other types of forestry, farming, park, industrial, rural, and low-density suburban residential uses make up the balance. Communities within the rural area include Vimy, Stoney Hill, Westholme and Somenos among others.

The total population of the Rural area is 6,690 people with the median age being 51.8 years. Single family dwellings make up 81% of the dwelling types with the remaining 19% consisting of semi-detached houses, row houses, apartments, flat in a duplex, other single-attached houses, and movable dwellings.




*Demographic information is from the 2016 Canadian Census.*

*Census Canada Dwelling Reference Guide*

## Local Planning Context

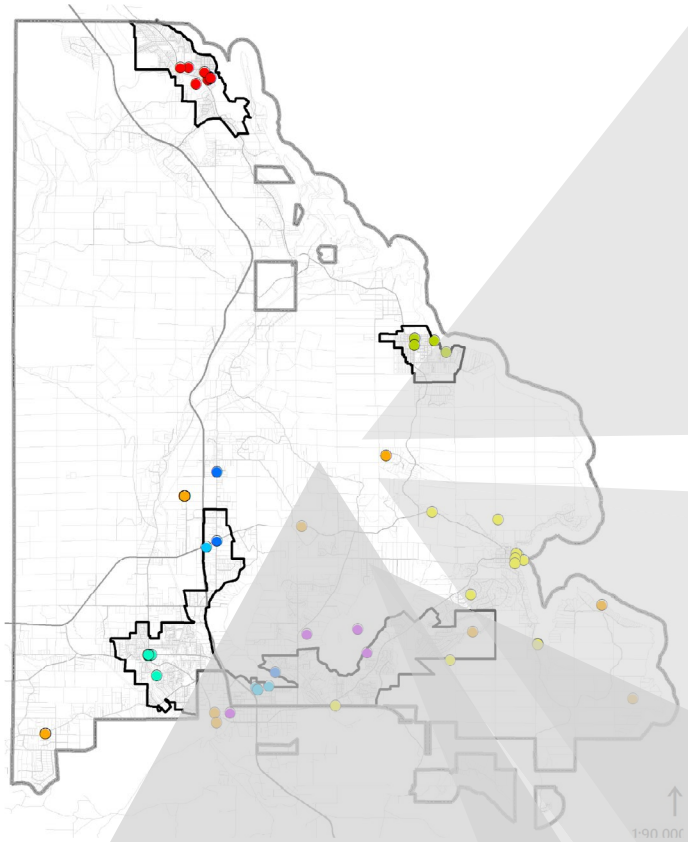
A number of plans provide guidance on development in the area, as well as extensive policy statements about rural, agricultural, and forestry lands in the 2011 Official Community Plan. These include the 2001 Strategic Agricultural Plan and Forest Management Plans.


Photos included in the Community profile are provided by community members.

During the 2020/21 Official Community Plan update process, community members generously took time to take photos and talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

## The Heart of the Rural North Cowichan

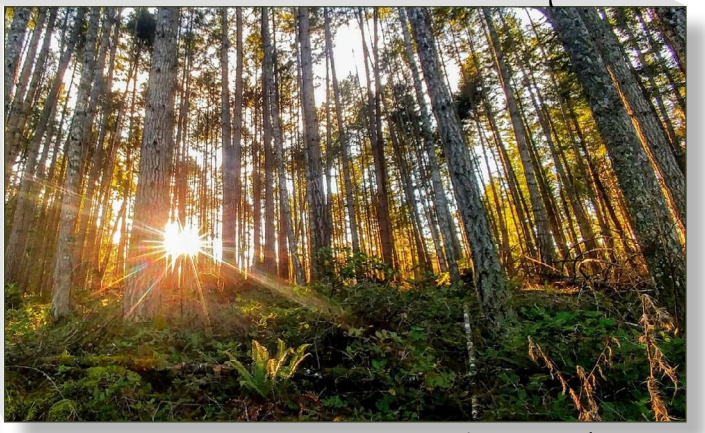
As part of the OCP update, we asked community members to indicate on the map below what they considered the heart or centre (their favourite places) of their rural community. Community halls and gathering spaces were identified as the heart for many, with Vimy Hall frequently mentioned as an important centre of their community. Some felt that the shared space between neighbours was at the heart of their community while others felt they had "arrived" on trails and along the Cowichan River. Some felt there was no definitive heart in these areas.




Vimy Hall

Equestrian

Scenic Rural



Forested Lands

## Buildings

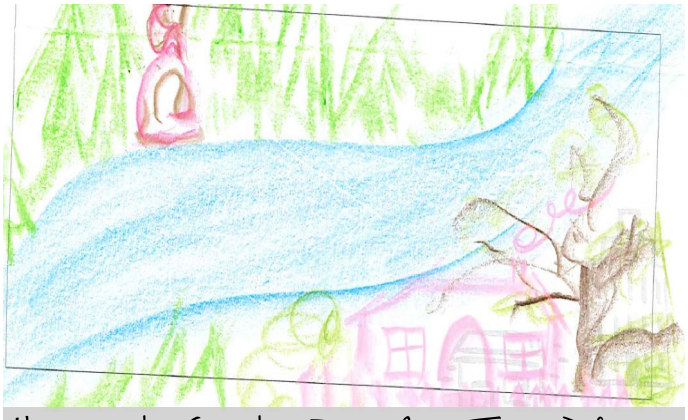
Rural homes in North Cowichan typically sit on large lots, set back deeply from the roadway. Dwellings make use of timber and muted palettes, fitting into the natural topography of the land and giving way to stands of trees and other natural features. Barns and agricultural buildings are evidence of the local food production systems and the agricultural economy.

Farm Building

Estate Home

Farm Building

> "The rural character of the area is historic, human-scale, and respectful of its surroundings."



Home on the Cowichan River Near Totem Pole

Farm

## Streets and Pathways

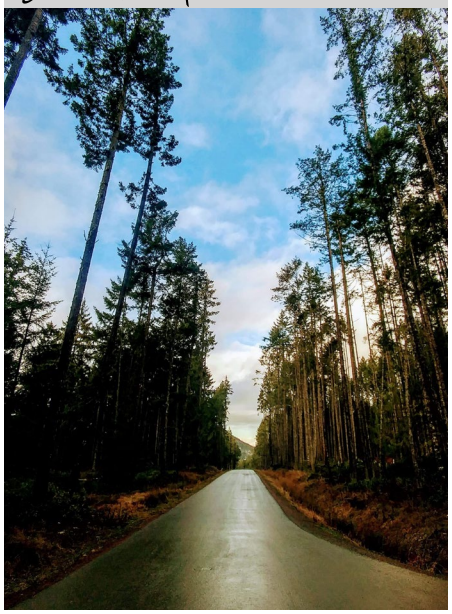
The rural areas of North Cowichan are arranged in scattered dispersed settlements patterns as a result of the agricultural lands that define the area. Some residential pockets feature a loop and cul-de-sac pattern. Major roadways have paved shoulders on one or both sides, a gravel shoulder, or no shoulder at all. Local roads range from paved to gravel, with very few sidewalks, even when adjacent to key hubs like Vimy Hall along Gibbins Road. Recent road works have included shoulder widening, where possible.

Scenic roads and corridors throughout the expansive agricultural lands and forested mountains are characteristics of rural North Cowichan. Sidewalks and bike paths are scarce along older roadways, but trails are plentiful.

Trail

Pedestrian Track


Scenic Rural



Tree-Lined Road

Vimy Road

## Community Spaces

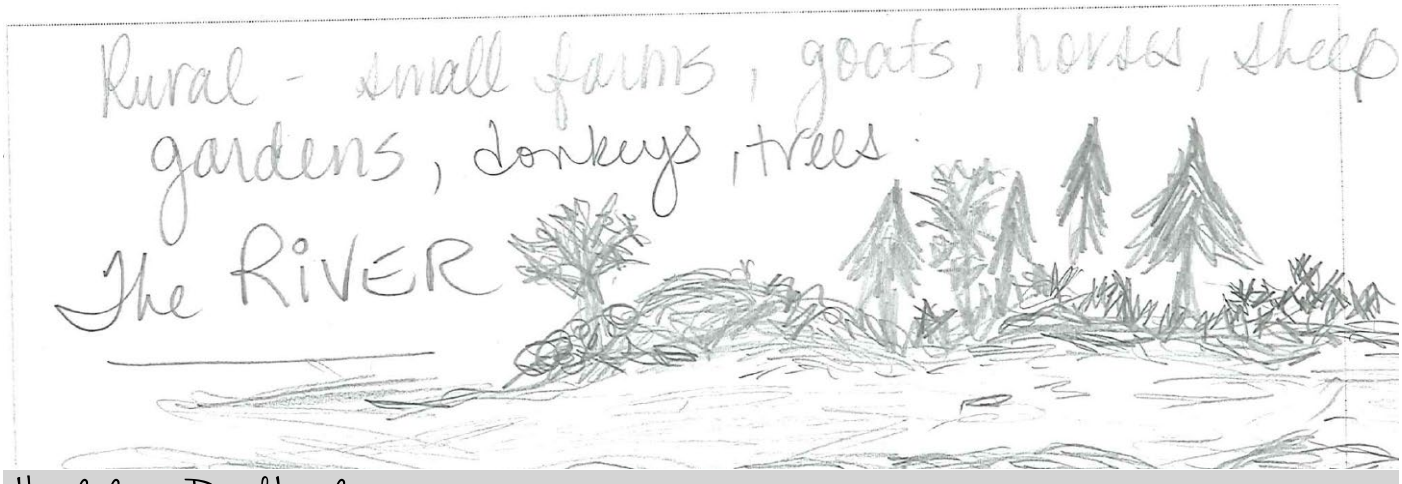
Gathering spaces support rural communities and provide a venue for events with opportunities to socialize and connect in areas characterized by large properties and a lack of central activity. Community connection is more spontaneous in rural areas as streets and village centres are replaced by trails and rolling hills, leading to mountains, rivers and dense forest. Vimy and Somenos Halls still foster community connection, even though the communities they served have changed since they were originally constructed.

Vimy Hall

> "It is the sights and sounds of nature that become our community space. There are no parks or plazas to be found here."

> "Vimy Hall represents 100 years of community connection."

Somenos Hall

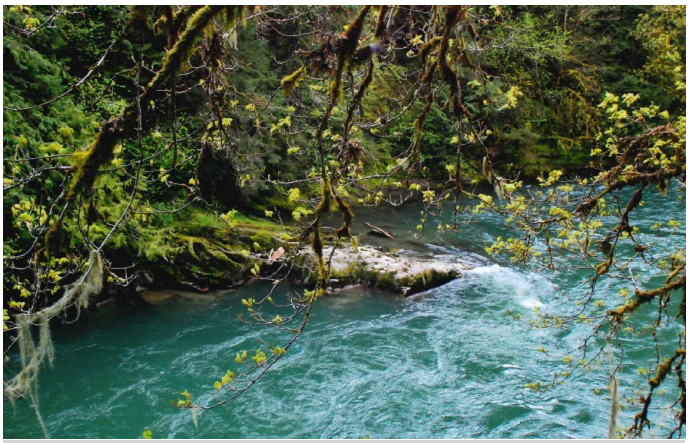



Hand-drawn Rural Landscape

## Natural Places

A mixed network of formal and informal trails and walking paths offers convenient backyard access to surrounding agricultural lands, forest and mountains. These trails incorporate a mix of Municipal Forest Lands as well as local, regional and provincial parks.

Lakes, rivers and beaches are equally accessible by trail, either on foot or by bike, offering peace, solace and connection to the natural world. In rural North Cowichan, nature abounds at every turn.



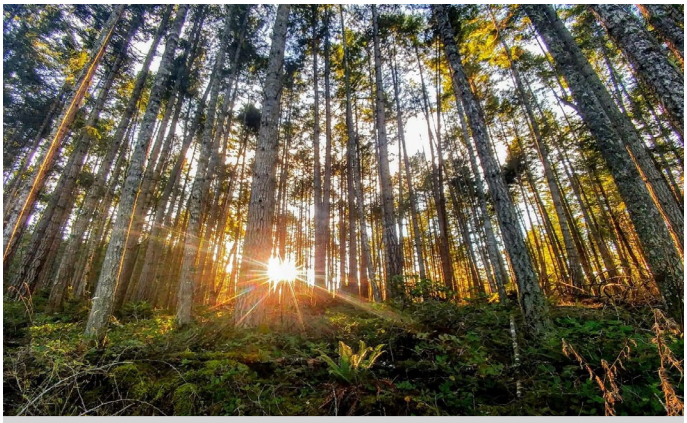
Cowichan River

Salish Sea and Gulf Islands

Forest

Cowichan River

Lake View

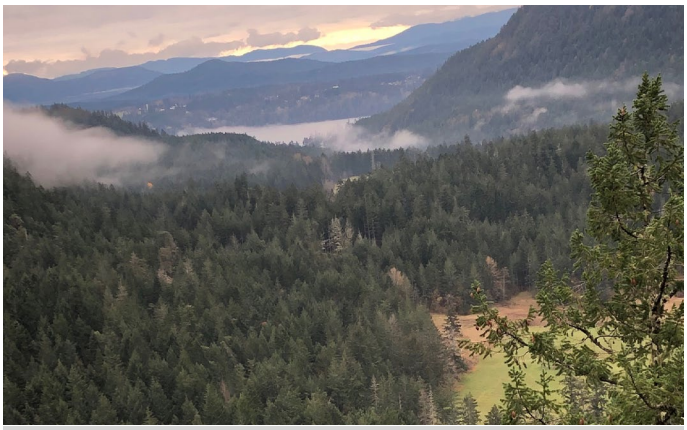


Forest

## Views

Unobstructed mountain views can be seen across the rural landscape. Views from the coastline stretch toward the Southern Gulf Island and Salish Sea.

View Towards the Gulf Islands

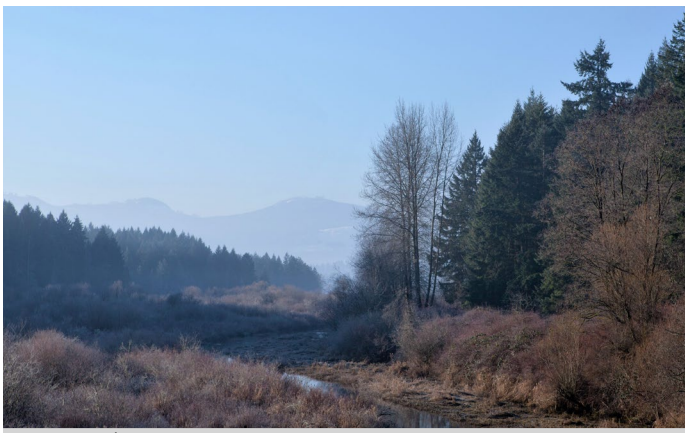


Natural Viewscapes

Mount Prevost

Vineyard Views

Farm Views



Rural Views

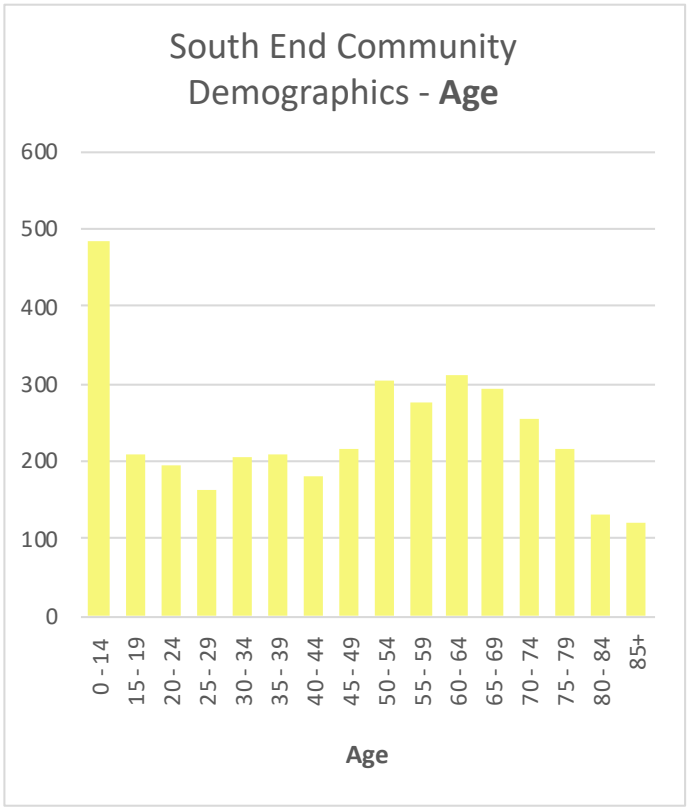
# SOUTH END

**COMMUNITY CHARACTER PROFILE**

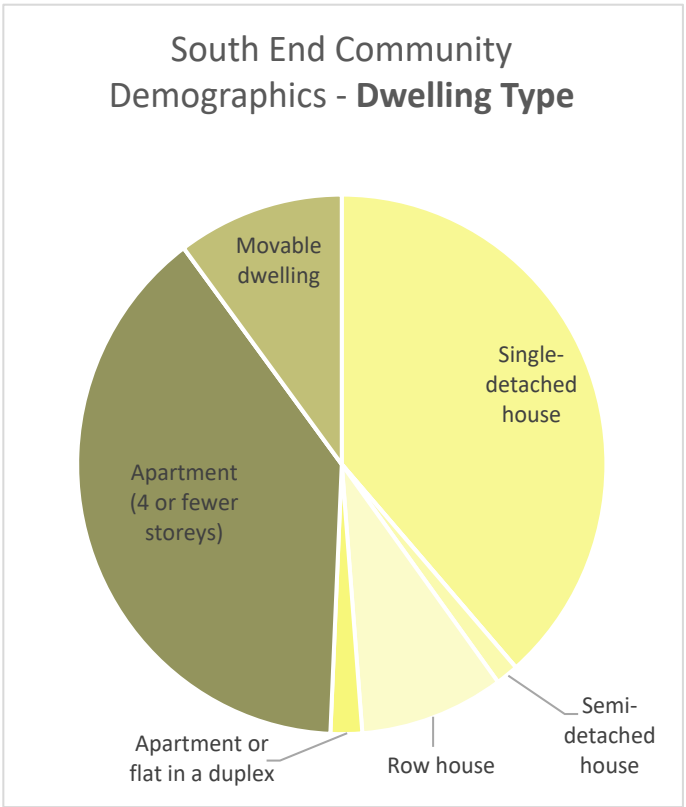
*The South End is situated on the traditional territory of the Coast Salish Peoples.*

## Introduction

The total population of South End Centre is 3,770 people with the median age being 51.6 years. Dwelling types consist of single-detached homes (39%), apartments (4 or fewer storeys - 39%), movable dwelling units (10%), and row housing (9%). The remaining 3% are semi-detached homes and apartments or flats in a duplex.




*Demographic information is from the 2016 Canadian Census.*




*Census Canada Dwelling Reference Guide*

## Local Planning Context

The South End Centre is bounded by the City of Duncan, Somenos Marsh, Quamichan Lake, and Indian Road. The community includes two central, mixed-urban neighbourhoods: Beverly/Alexander & University Village as well as the adjacent curvilinear subdivision neighbourhoods of Quamichan Heights & Timbercrest. It is generally contained within the urban containment boundary (UCB) as identified in the 2011 Official Community Plan. The 2015 University Village Local Area Plan covers the two central neighbourhoods and provides a vision and policy framework that is still relevant today. Aspects of the South End include:

* the region's central location for cultural, educational and recreation facilities, including the Cowichan Community Centre, Vancouver Island University, the Cowichan branch of the Vancouver Island Regional Library, the Cowichan Aquatic Centre, the Cowichan Sportsplex, and many schools.
* numerous commercial corridors, including James Street, York Road, the Trans-Canada Highway, and parts of Beverly Street.
* varied and expanding services accessed by the under-housed and vulnerable in the Beverly/Alexander neighbourhoods


The University Village Local Area Plan vision is:

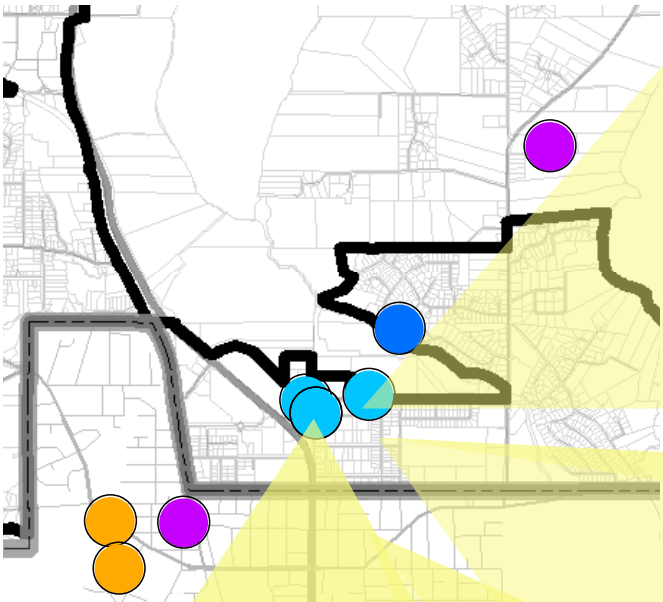
*An inclusive community that provides opportunities for a good quality of life reflective of a healthy and safe environment. It will provide affordable housing and alternative modes of transport with good access to the natural environment, recreation, education, employment and services will contribute to a balanced community.*

Photos included in the profile have been provided by community members.

During the 2020/21 Official Community Plan update process, community members generously took time to take photos and talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

## The Heart of South End Centre

As part of the OCP update process, we asked community members to indicate on the map below what areas they considered the heart or centre (their favourite places) of South End. Many indicated the downtown Duncan area to be the centre of their community. For others, Beverly Street and James Street are the heart of the South End as they connect key activity centres like Vancouver Island University (VIU) , the Cowichan Community Centre, schools, and Beverly Corners.



Community

Cowichan Sportsplex

Community Centre


Quamichan Middle School

## Buildings

The South End has a mix of functional aesthetic and natural appeal. Newer buildings like the VIU campus make use of cedar and clean lines, using available space efficiently while incorporating urban greenery. The varied residential areas contain a mix of older single-family homes, townhouses, and apartments.

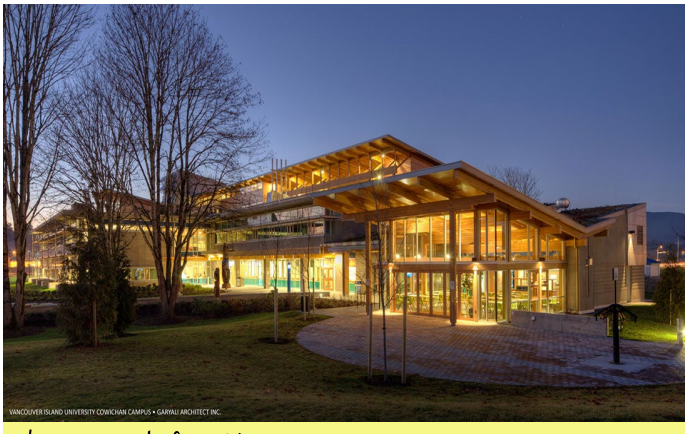
Recent and anticipated developments in the area include: new housing for seniors, a replacement of Cowichan Secondary School, the expansion of facilities at the Cowichan Sportsplex, and the establishment of a regional food hub.

Senior Housing on York Street

Alexander Elementary School


SEC Buildings


Community Centre



Vancouver Island University

Timbercrest from York Street

## Streets and Pathways

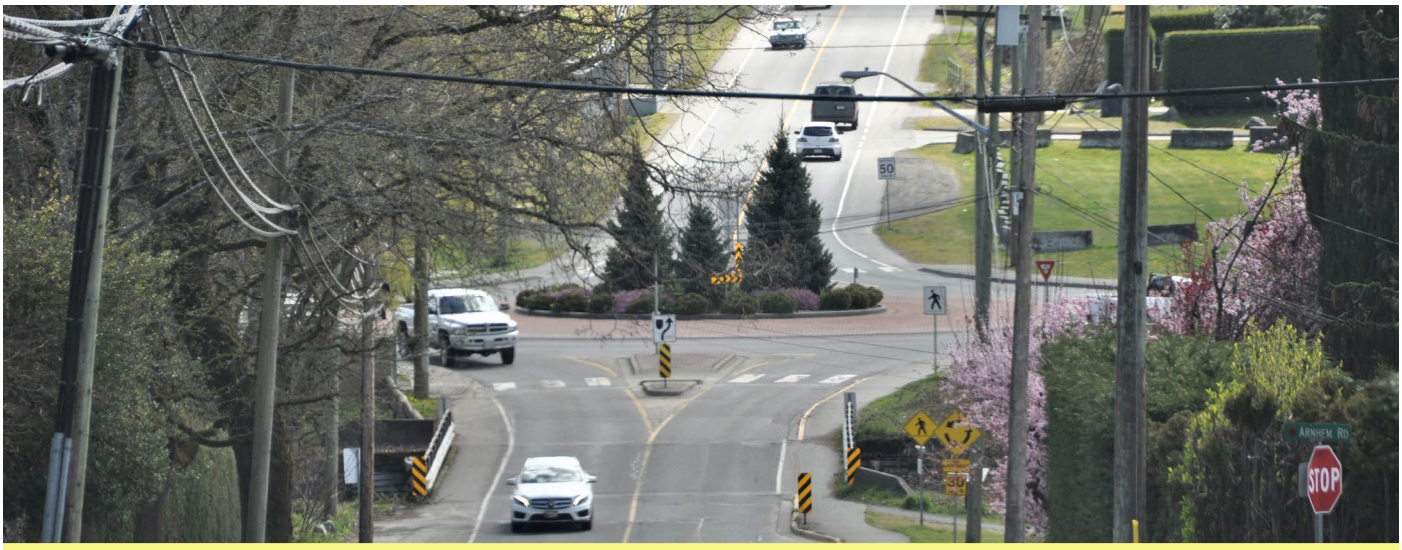
The South End Centre features more conventional curvilinear streets and cul-de-sacs towards the east, along Lakes Road, while the area south of Beverly Street exhibits an irregular grid pattern. Sidewalks exist along at least one side of major roadways, with some featuring road verges. Sidewalks are also present in some residential areas, with and without road verges. Cycling infrastructure exists along upgraded sections of Beverly Street and paved shoulders are bordered by gravel shoulders along Lake Road.

The walkable, human scale of the South End is exemplified by a grid pattern in the centre, with low-speed narrow streets in outer suburbs, pedestrian infrastructure, and urban trees. Trails, bike paths and the dike provide additional avenues to traverse the area.

Low-Speed Street

Beverly Street

Residential Trail




Roundabout at Lakes and Beverley

## Community Spaces

Designated gathering places in the South End include areas such as the Friendship Trail, the Somenos Dog Park, and Art Mann Park which provide opportunities to interact and build community as well as foster enjoyment of nature.

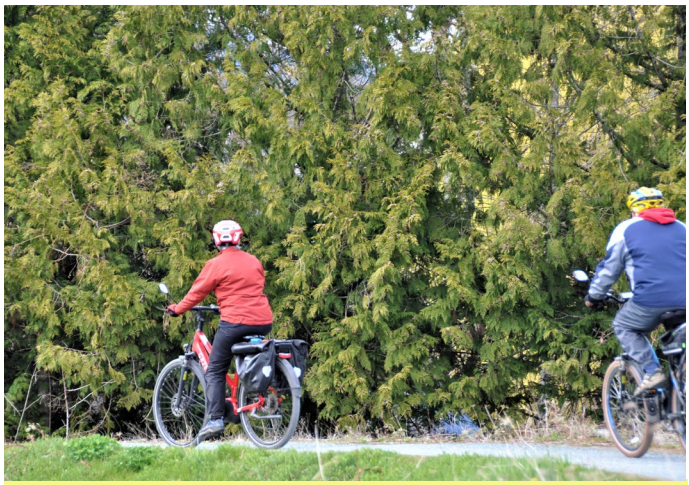
A seed farm and garden education centre located at the north boundary of the neighbourhood is home to a plant nursery specializing in native and medicinal plants and vegetable seedlings. It is also a community garden.

Storytime at Kin Park

Somenos Creek Dog Park

> "Friendship Trail helps people run into each other and have unintended interactions."


Cowichan Sportsplex



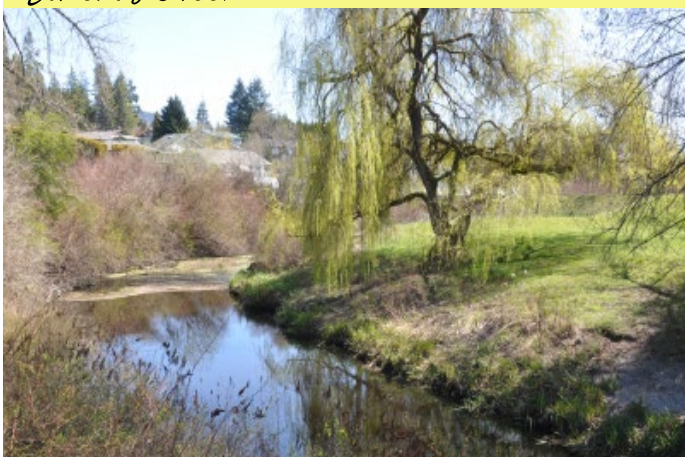
Dyke Trail

## Natural Places

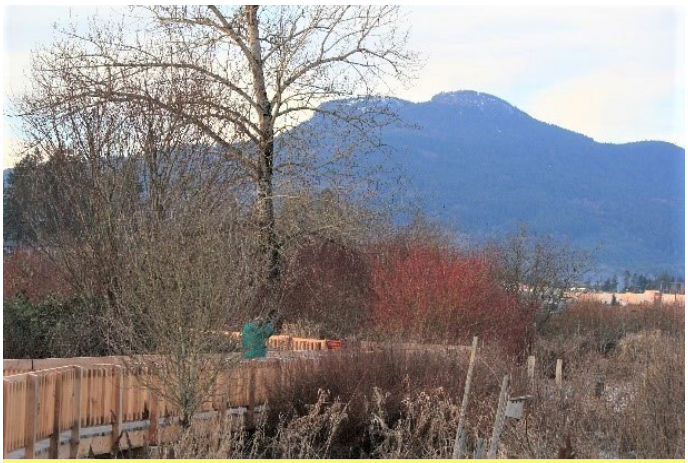
Conveniently located near urban areas are the numerous wooded refuges such as the constructed wetland on Beverly Street, the Rotary Nature Walk at the Cowichan Sportsplex, and the Somenos dike. They meander through varied natural and suburban landscapes which in turn offers a connection to nature.

Somenos Lake and Creek contains some of the most diverse wildlife and bird migratory homes on Southern Vancouver Island.

Somenos Creek



Country Road



Mt Prevost from Somenos Marsh

Trail

Somenos Creek

## Views

Views in the South End range from the nearby Somenos Marsh and dike to the top of Mount Prevost. Wherever you are, the trees, waterways and community landmarks are easily visible.

Somenos Creek Dike

Rowers at Art Mann Park

Mount Prevost

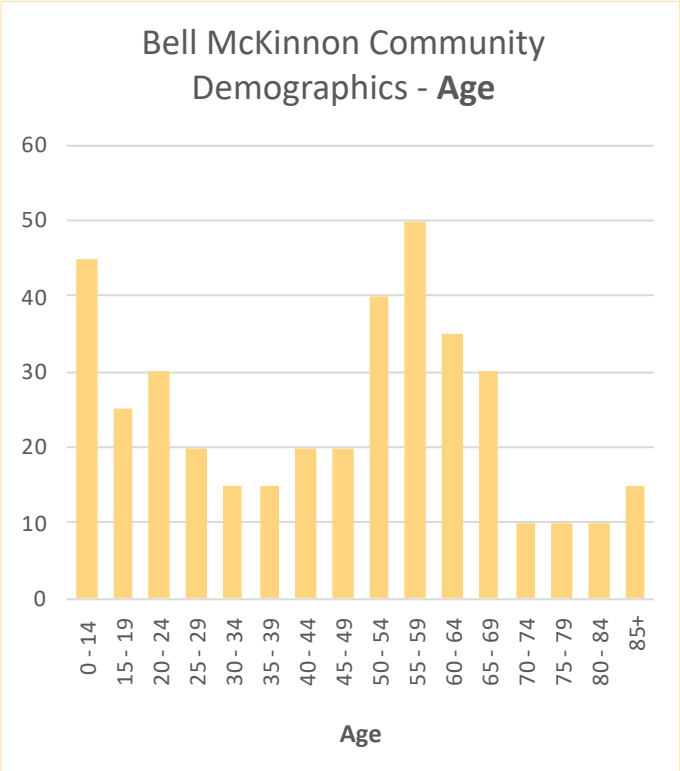
# BELL MCKINNON

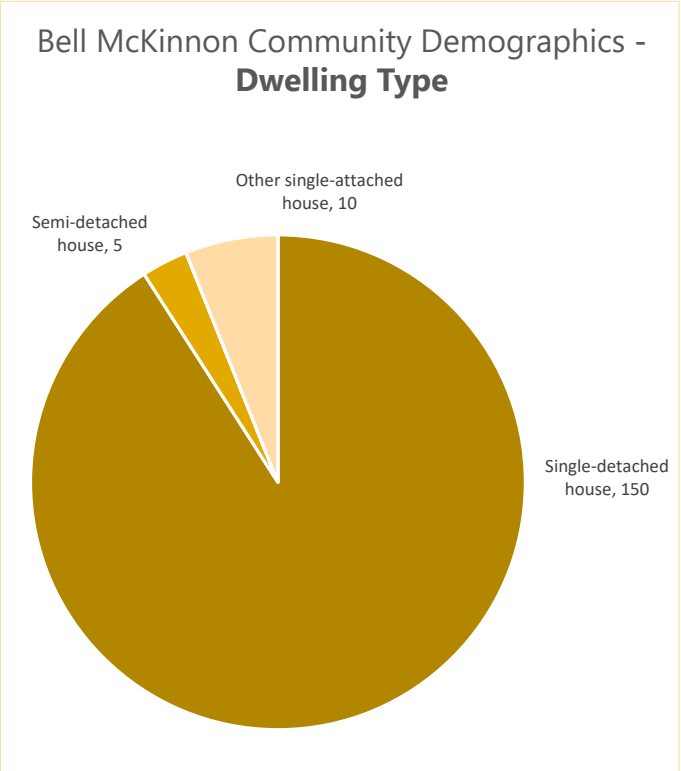
**COMMUNITY CHARACTER PROFILE**

*The Bell McKinnon neighbourhood is situated on the traditional territory of the Coast Salish Peoples.*

## Introduction

According to the 2016 Census, the total population of Bell McKinnon is 395 people with the median age being 51.1 years. A large majority of dwelling types (150) are single-detached homes, with a small minority being either 'other single-detached' or 'semi-detached' houses. The area contains no apartments, row houses, apartments, flats in a duplex, or movable dwelling types, but some multi-family development has occurred in the community since the last census, for which data is not available at this time.




*Demographic information is from the 2016 Canadian Census.*

*Census Canada Dwelling Reference Guide*


## Local Planning Context

The community is mostly located along a section of Bell McKinnon Road that is within the Urban Containment Boundary (UCB) as identified in the 2011 Official Community Plan. It runs adjacent to and east of the Trans-Canada Highway. The southwest area of the community is a section of Drinkwater Road within the UCB, located west of the Trans-Canada Highway and north of Cowichan Commons retail centre.

Different parts of the neighbourhood are now characterized by a large-format regional shopping centre, highway commercial uses, and large rural residential lots.

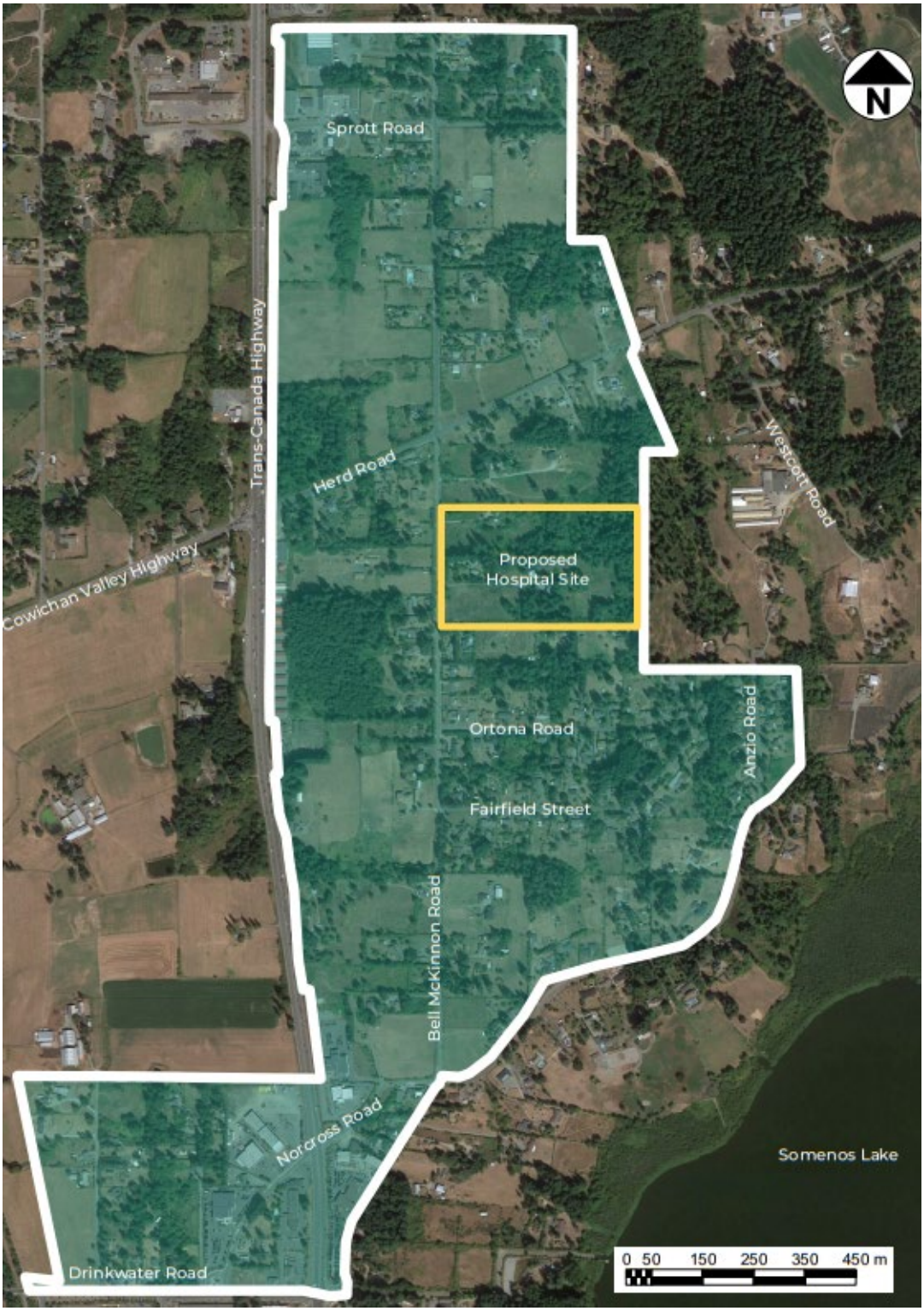
At present, there is substantial commercial and medium-density residential development activity in the southwest part of the neighbourhood which also includes: a new RCMP detachment, supportive housing, and an office for the local health authority.

The 2018 Bell McKinnon Local Area Plan was prepared to respond to anticipated regional growth over the next 50 years, including a new hospital on Bell McKinnon Road - anticipated to open in 2026. The plan envisioned "a model green growth centre in the Cowichan Valley that is a vibrant, walkable, urban village that facilitates healthy living in all stages of life."

During the 2020/21 Official Community Plan update process, community members generously took time to talk about the character of the natural and built environment of their community and how this character might evolve over time. This profile compiles this rich and informative community perspective.

## The Heart of the Bell McKinnon

Through community engagement, the public was asked what places they considered to be the heart or centre (their favourite places) of Bell McKinnon. Some felt the heart of the community was at the Cowichan Commons and others felt it was close to Municipal Hall or the Herd Road crossing near the site of the anticipated hospital. There were no photo submissions.



## Buildings

At present, the area is characterized by large rural residential lots with single-family homes that blend into the tall trees and agricultural landscape of the area. Other buildings include large format and service commercial development along the highway, near Drinkwater Road.

## Streets and Pathways

Bell McKinnon is arranged in a linear settlement pattern with major services and commercial retail running parallel along the Trans-Canada Highway. Bell McKinnon, Herd and Drinkwater Roads act as the backbone of the street network. The rural, car-oriented nature of Bell McKinnon is evidenced by an absence of pedestrian and cycling infrastructure, however improvements have been made through recent developments under the Local Area Plan.

Stretches of tree-lined roads characterize the transportation network in Bell McKinnon. Many residents agreed roads that foster slower vehicle speeds are desired. Supplementary infrastructure to maintain safe vehicle movement and enhance pedestrian activity has been identified in the local area plan.

## Community Spaces

A marked lack of outdoor plazas and parks, including indoor areas, provides opportunity for future development of community spaces.

## Natural Places

There is no lack of greenery in Bell McKinnon as rural lands stretch out in all directions. Areas beyond the UCB like Mellor Farm constribute to the areas pastoral character for many, as stands of tall trees buffer up against green fields, framed by nearby mountains like Mount Prevost and Mount Richards. People feel strongly connected to nature in Bell McKinnon.

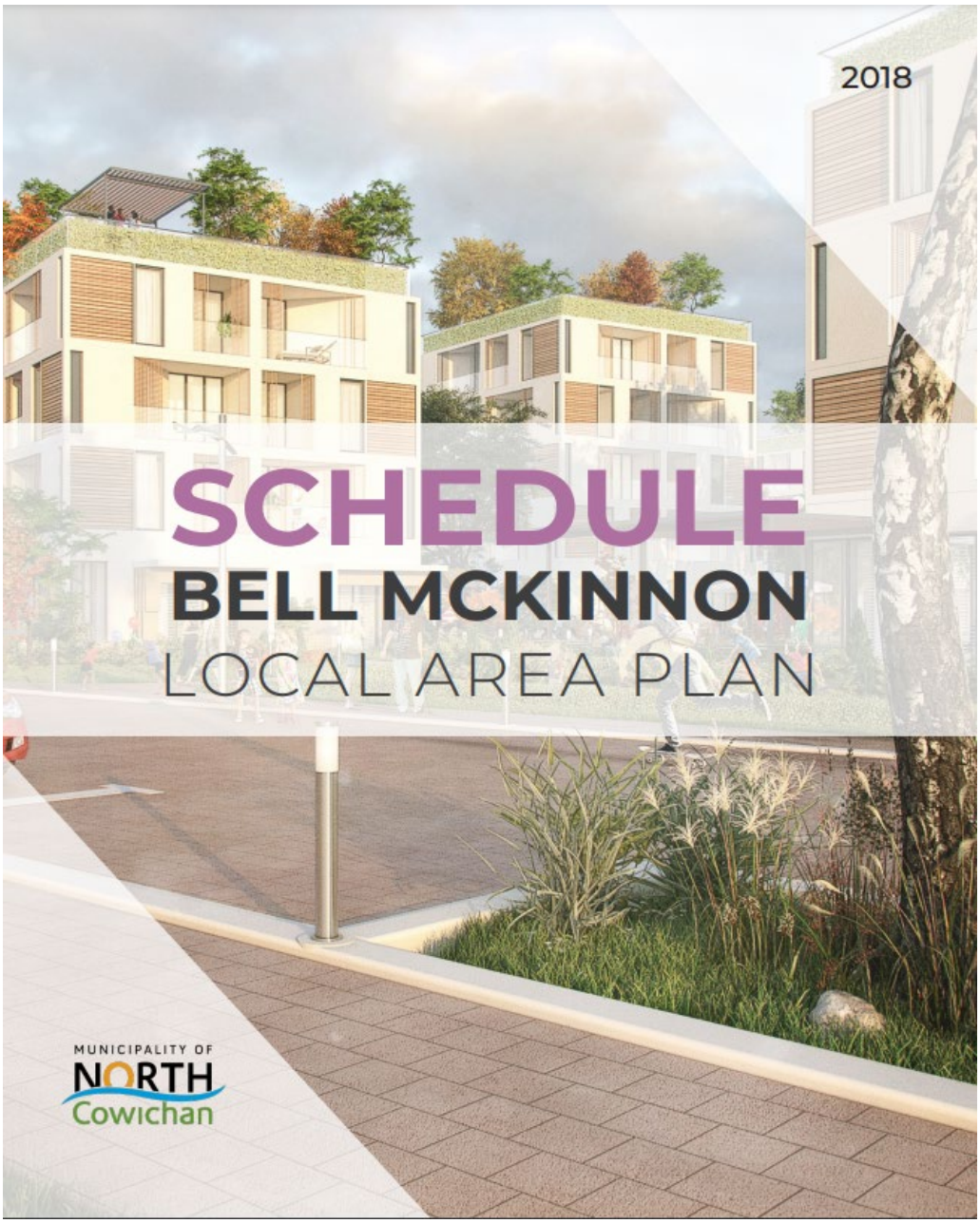
## Views

Just as the natural spaces in Bell McKinnon are actively enjoyed, so too are they appreciated from afar. Defining features include pastoral landscapes and mountain views.

> “As the community changes, we need sidewalks, more trees, narrowing of the road and traffic circles.”

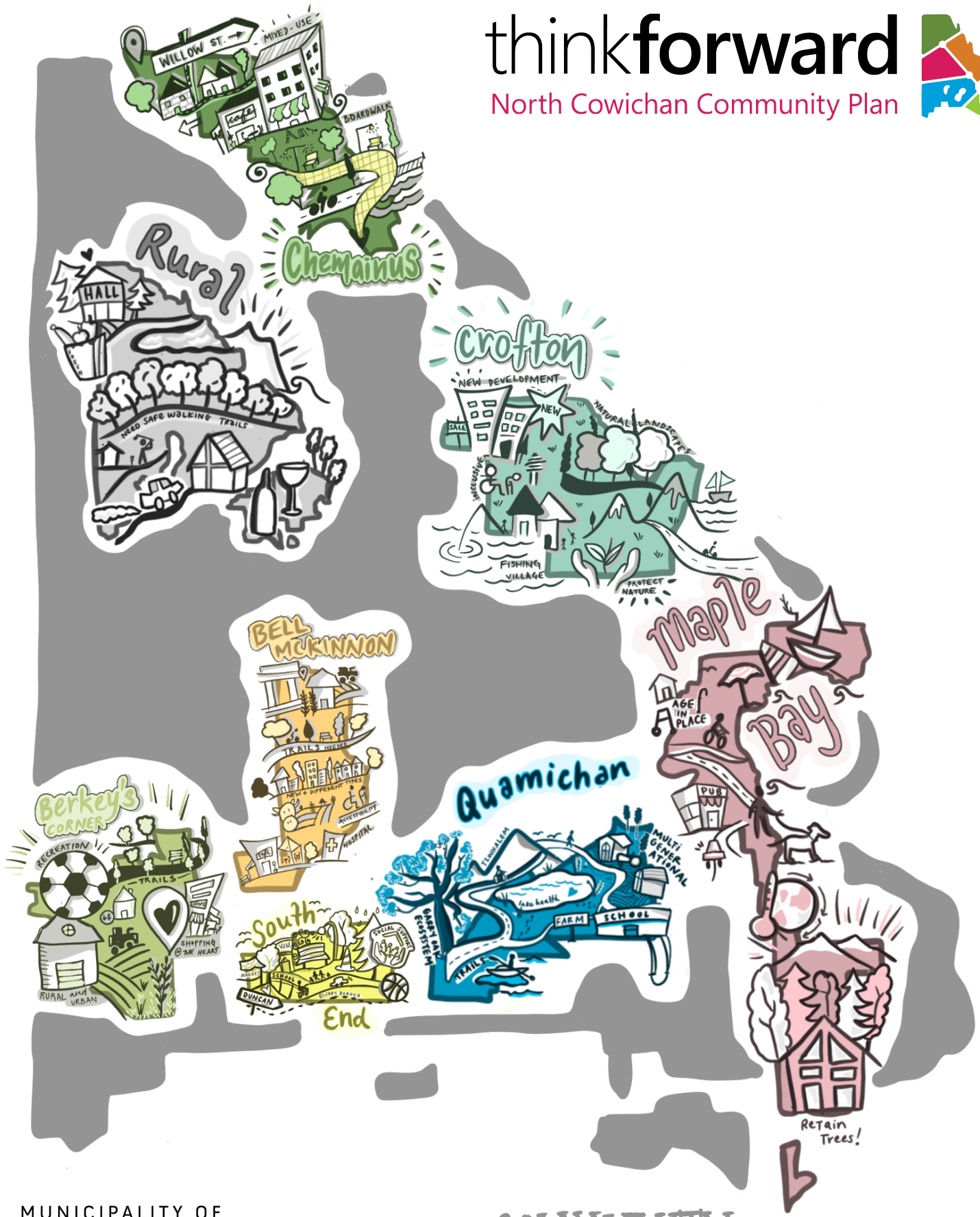
## Thinking Forward - Resident Perspectives

Bell McKinnon is positioned for change, spurred by increased regional growth and the anticipated hospital on Bell McKinnon Road. Community members acknowledge the built environment will shift as urban development increases and look forward to changes that will enhance the community.



# thinkforward

North Cowichan Community Plan




MUNICIPALITY OF NORTH Cowichan

## COMMUNITY CHARACTER