CVRD

SPECIAL TRANSIT COMMITTEE MEETING

WEDNESDAY, MARCH 14, 2012 - 2:00 P.M.
CVRD BOARDROOM, 175 INGRAM STREET

AGENDA

Pages

1. **APPROVAL OF AGENDA:** 1

2. **ADOPTION OF MINUTES:** Not applicable

3. **REPORTS:**

   R1 CVRD Future Transit Plan Report and recommendation. 2 - 105
   Jim Wakeham, Manager, Facilities, Fleet & Transit

   R2 "CVRD Future Transit Plan" PowerPoint presentation
   James Wadsworth, BC Transit

4. **NEW BUSINESS:**

5. **QUESTION PERIOD:**

6. **ADJOURNMENT:**

DISTRIBUTION:

Transit Committee

Director Morrison, Chair
Director Kent, Vice-Chair
Director Duncan
Director Fraser
Director Giles
Director Iannidinardo
Director Lefebure
Director Lines
Director McGonigle
Director Walker
Director Weaver

CVRD

Warren Jones, CAO
Jim Wakeham, Manager, Facility Management, Fleet and Transit
Mark Kueber, General Manager, Corporate Services
Brian Dennison, General Manager, Engineering and Environment
Rob Williams, Transit Analyst

Transit Representatives (via e-mail)

M. Moore, Regional Transit Manager, BC Transit
Bob Allen, FirstCanada ULC
Colin Oakes, FirstCanada ULC
Georg Stratemeyer, Volunteer Cowichan
Carol Blatchford, Cowichan Lake Community Services

Complete Agenda Package available at: http://bc-cowichanvalley.civicplus.com/Archive.aspx?AMID=56

CVRD

R1

STAFF REPORT

SPECIAL TRANSIT COMMITTEE MEETING OF MARCH 14, 2012

DATE: March 5, 2012 **FILE NO:** Transit

FROM: Jim Wakeham, Manager Facilities, Fleet and Transit Management

SUBJECT: Cowichan Valley Transit Future Plan

Recommendation/Action:
That it be recommended that the CVRD Board endorse the Cowichan Valley Transit Future Plan, as prepared by BC Transit.

Relation to the Corporate Strategic Plan:
This strategic action (plan) is in the Healthy Environment section of the Corporate Strategic Plan as it supports the objective of establishing sustainable communities and a regional transit plan.

Financial Impact: *(Reviewed by Finance Division: Not Required)*

Background:
CVRD staff have been working with BC Transit on the Cowichan Valley Transit Future Plan since October 2010. The Transit Future Plan was developed in collaboration with local government and included significant public input from over 1,300 members of the community from thirteen Transit Future Bus public events, website and survey submissions, as well as input from the Transit Future Stakeholders Advisory Group. During the plan's development, BC Transit collaborated with staff from the CVRD's four member municipalities to ensure alignment with local planning goals.

In February 2011, presentations were given to the CVRD Transit Committee and the local municipal councils on the Transit Future Plan process to give rise to the awareness of the plan and describe the planning process. In September and October 2011, BC Transit sought and received endorsement of the Transit Future Plan vision, goals and network from the four councils and the CVRD Board. Councils were asked to identify the transit network and facilities in future municipal land use and transportation plans.

Attached is the draft Cowichan Valley Region Transit Future plan report, which will be presented by James Wadsworth, a Senior Transit Planner for BC Transit.

Submitted by,

Jim Wakeham, Manager
Facility, Fleet, and Transit Management

Reviewed by:
Division Manager:

Approved by:
General Manager

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Transit Future Plan

COWICHAN VALLEY REGION | March 2012

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CVRD | BCTransit

TRANSIT future

TRANSIT FUTURE PLAN **COWICHAN VALLEY REGION**

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TRANSIT *future*

Executive Summary

Transit has tremendous potential to contribute to more economically vibrant, livable, and sustainable communities. The need to realize this potential in the Cowichan Valley is increasingly important because of factors such as climate change, population growth, an aging demographic and mobility for individuals who do not have access to a private automobile. Projected future population growth in the Cowichan Valley will place increasing pressure on the existing transportation system.

The Transit Future Plan envisions the Cowichan Valley Region's transit network 25 years from now and describes what services, infrastructure and investments are needed to get there. The Plan includes a review of the existing transit services, regional and local land use plans, transportation data, and demographic projections. Consultation efforts included discussions with municipal partners, stakeholder meetings and Transit Future bus public events at various locations throughout the community. In 2011, BC Transit engaged with more than 1,300 people in the region. The background research and community engagement resulted in the creation of a unified vision for transit and the development of a transit network designed to meet the needs of the Cowichan Valley Region.

Vision and Goals

Vision

"The Cowichan Valley Regional Transit System connects people and communities through cost-effective, convenient, safe and accessible transit services"

Goals

1. Make transit an attractive transportation alternative to the private vehicle
2. Reduce the community's impact on the environment
3. Make the transit system more efficient

Target

The Transit Future Plan sets a ridership target of 1,200,000 annual rides for 2036. The target was set with input from stakeholders and a review of comparable communities. It is a relatively ambitious target; however, it is achievable with investment and transit supportive land use development. Existing ridership will need to triple from 435,000 annual rides to reach this target over the next 25 years. The target will contribute to meeting the Provincial Transit Plan goals of reducing green house gas emissions and doubling transit ridership across the province.

The Transit Future Plan Network

The transit services outlined below combine to create a comprehensive transit network to best meet the existing and future needs of the Cowichan Valley. The service layers are designed to connect and move people between and within community centres.

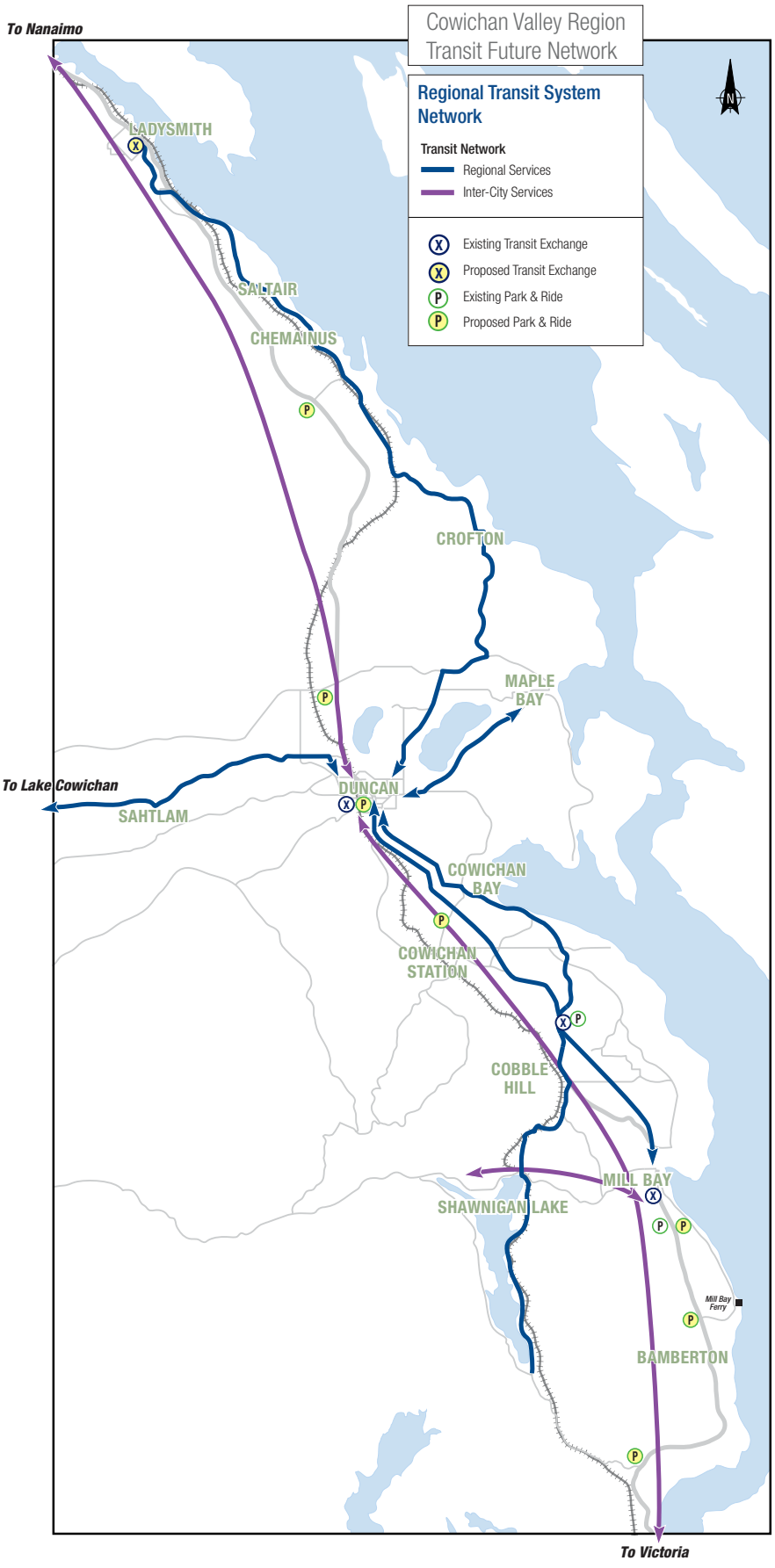
Local Transit Network (LTN)

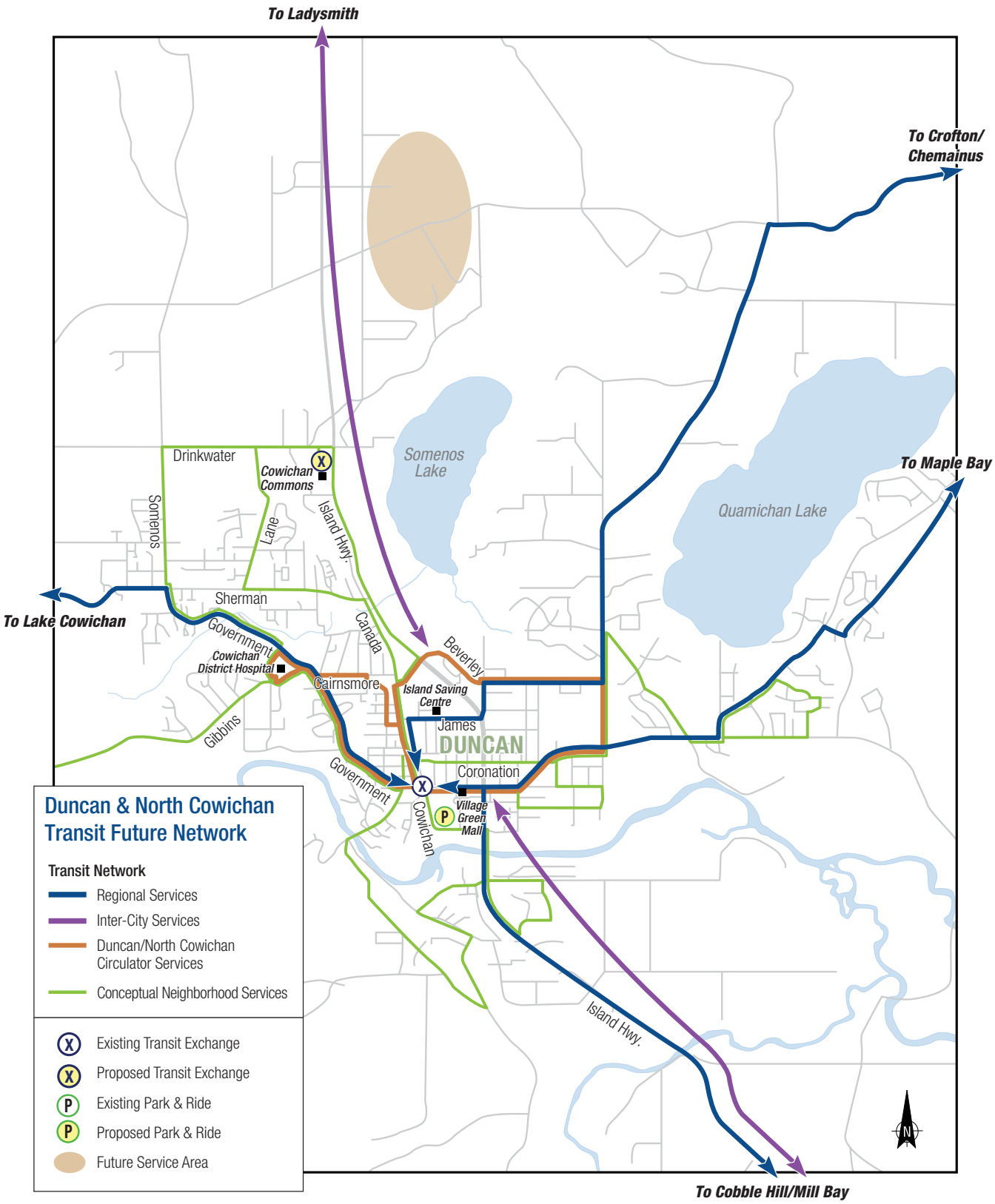
The LTN is designed to connect people to local destinations within their own community and regionally to other communities within the Cowichan Valley. Frequency and vehicle type are selected based on demand and operating conditions.

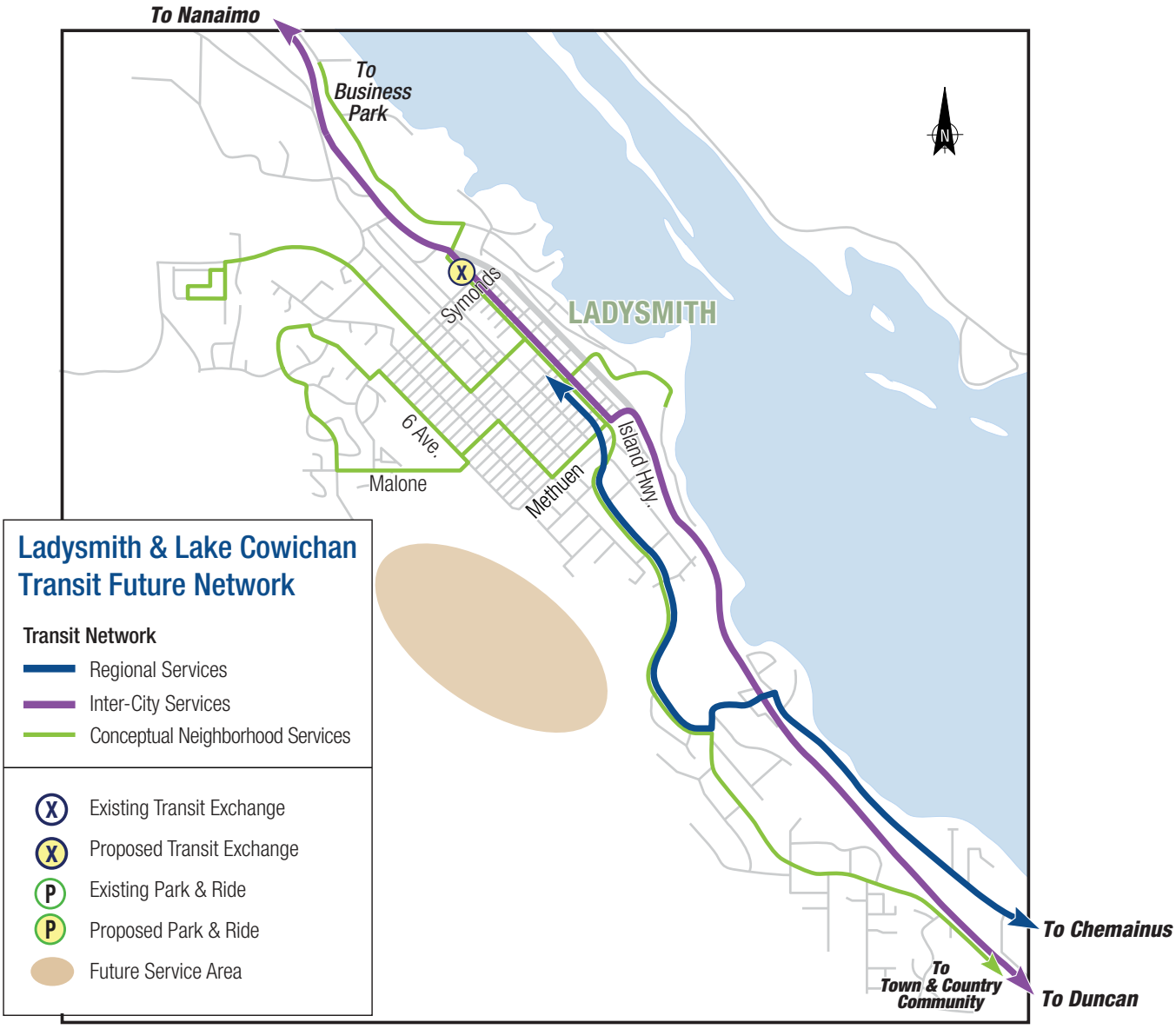
Targeted Services

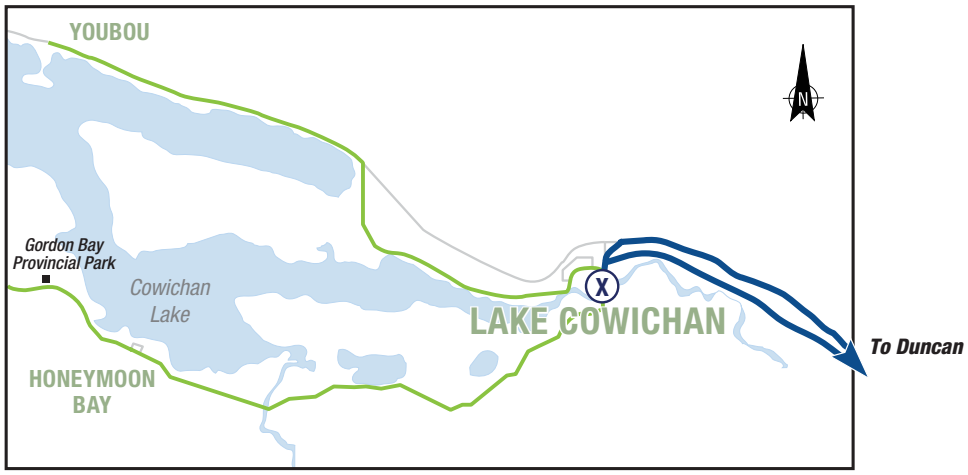
Targeted services are a collection of transit services that do not fit into the local transit network definition and are more focused on the needs of specific customers. These services include:

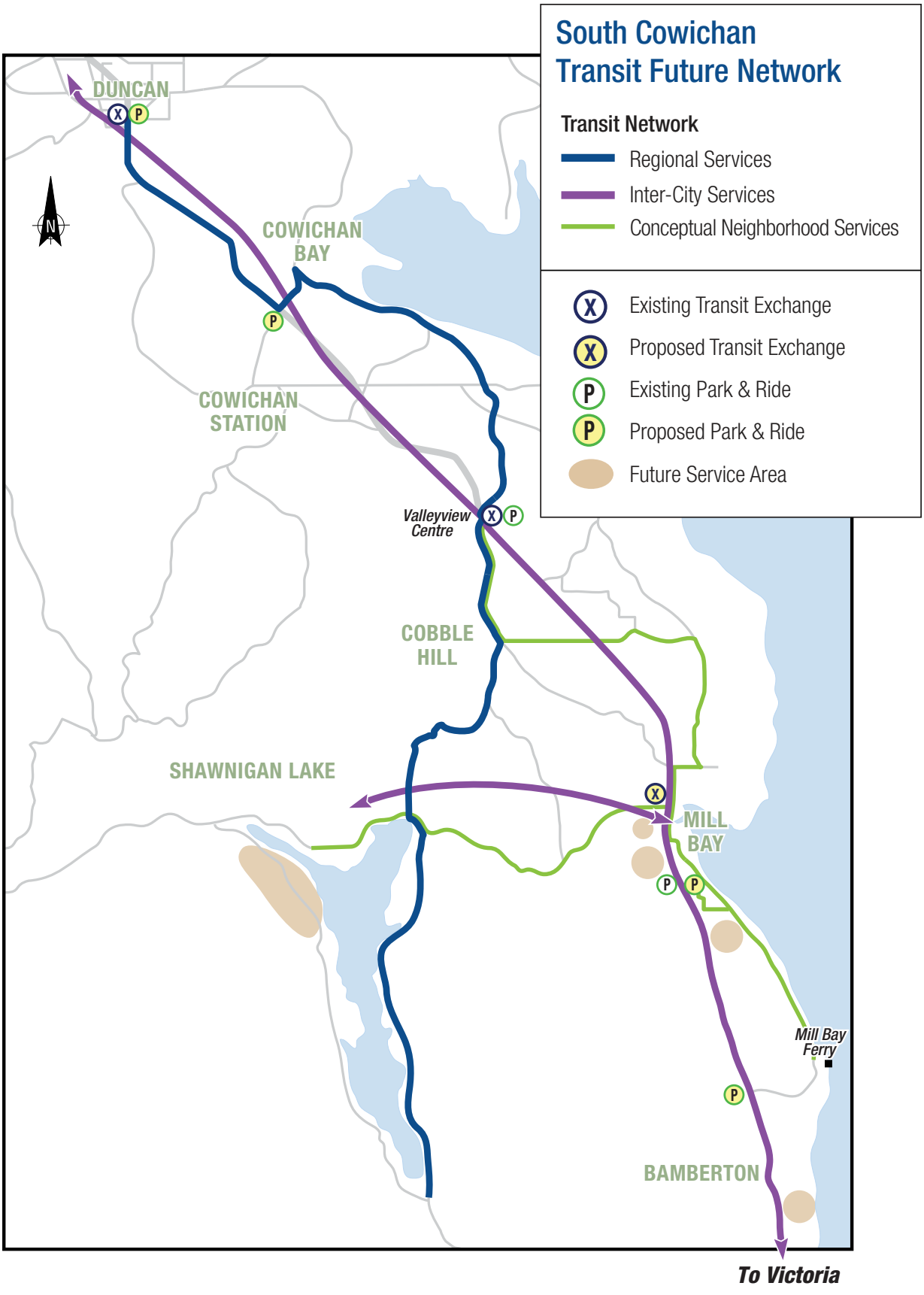
- Inter-regional: provides connections outside of the local transit service area (e.g. Victoria, Nanaimo)
- Custom/handyDART: door-to-door services for customers unable to use the conventional service
- Express: a direct, limited-stop, route between destinations
- Paratransit: A range of services designed to effectively serve rural and low-density areas (e.g. flex routes, demand-responsive service, dial-a-bus)


Cowichan Valley Region
Transit Future Network
Regional Transit System Network
Transit Network
Regional Services
Inter-City Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
N
To Nanaimo
LADYSMITH
SALTAIR
CHEMAINUS
CROFTON
MAPLE BAY
To Lake Cowichan
SAHTLAM
DUNCAN
COWICHAN BAY
COWICHAN STATION
COBBLE HILL
MILL BAY
SHAWNIGAN LAKE
Mill Bay Ferry
BAMBERTON
To Victoria


To Ladysmith
To Crofton/ Chemainus
To Maple Bay
To Lake Cowichan
To Cobble Hill/Mill Bay
Somenos Lake
Quamichan Lake
Drinkwater
Cowichan Commons
Somenos
Lane
Island Hwy.
Sherman
Government
Cowichan District Hospital
Canada
Beverley
Cairnsmore
Island Saving Centre
James
DUNCAN
Coronation
Village Green Mall
Cowichan
Gibbins
Duncan & North Cowichan Transit Future Network
Transit Network
Regional Services
Inter-City Services
Duncan/North Cowichan Circulator Services
Conceptual Neighborhood Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Future Service Area
N


To Nanaimo
To Business Park
LADYSMITH
Symonds
6 Ave.
Malone
Methuen
Island Hwy.
To Chemainus
To Town & Country Community
To Duncan
Ladysmith & Lake Cowichan Transit Future Network
Transit Network
Regional Services
Inter-City Services
Conceptual Neighborhood Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Future Service Area


YOUBOU
Gordon Bay Provincial Park
Cowichan Lake
LAKE COWICHAN
HONEYMOON BAY
To Duncan


South Cowichan
Transit Future Network
Transit Network
Regional Services
Inter-City Services
Conceptual Neighborhood Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Future Service Area
DUNCAN
COWICHAN BAY
COWICHAN STATION
Valleyview Centre
COBBLE HILL
SHAWNIGAN LAKE
MILL BAY
Mill Bay Ferry
BAMBERTON
To Victoria

Implementation Strategy

Establishing the Transit Future Plan network requires prioritizing transit investments and developing an implementation strategy to transform today's network into the future network.

Network Priorities (Conventional Service)

Short-term Implementation (0-5 years)

Service

- Improve the frequency of weekday service
- Implement the short-term recommendations of the June 2011 Cowichan Valley Commuter service review
  - » Adjust schedule to better match demand and travel time
  - » Continue to develop plans to accommodate additional passenger demand
- Introduce transit service within Ladysmith and Electoral Area G
- Improve evening service:
  - » Extend hours of operation on Thursday, Friday and Saturday
- Improve weekend service
  - » Increase frequency and extend hours of operation
- Improve inter-regional service to Victoria
  - » Increase frequency
  - » Improve connections to transit services in the Victoria Region

Infrastructure

- Establish a Ladysmith transit terminal and transit stops
- Work with the Ministry of Transportation and Infrastructure to expand Park & Ride capacity at Frayne Rd. and Valleyview

Medium-term Implementation (6-15 years)

Service

- Reconfigure Duncan and North Cowichan transit services:
  - » Introduce an urban circulator service
  - » Create more direct neighborhood routes:
- Reconfigure South Cowichan transit services
  - » Create more direct routes
  - » Introduce paratransit services
- Improve Lake Cowichan transit services:
  - » Improve local transit connections
  - » Introduce paratransit services
- Improve Ladysmith transit services:
  - » Enhance neighborhood services within Ladysmith
  - » Introduce direct service between Duncan and Ladysmith
- Introduce inter-regional service to Nanaimo
- Continue to enhance inter-regional service to Victoria:
  - » Increase frequency
  - » Weekend service
- Extend the hours of operation on the Local Transit Network:
  - » Early morning service
  - » Extend evening service

Infrastructure

- Expand the operations and maintenance facility
- Expand or establish new transit exchanges and terminals:
  - » Downtown Duncan
  - » Cowichan Commons
  - » Ladysmith
- Expand Park & Ride capacity along the Trans Canada to support inter-regional service to Nanaimo and improve access to transit for future development areas:
  - » Duncan
  - » Highway 18
  - » Chemainus
  - » Ladysmith
  - » Cedar

Long-term Implementation (15+ years)

Service

- Expand service to new service areas to support future development:
  - » South Cowichan
  - » Ladysmith
  - » North Cowichan
  - » Lake Cowichan
- Increase regional and neighbourhood service frequency and span of service over time to support increased population densities in town and village centres
- Continue to enhance inter-regional service to Nanaimo and Victoria:
  - » Increase frequency
  - » Weekend service

Infrastructure

- Expand or establish new transit exchanges and terminals:
  - » Mill Bay
  - » Town of Lake Cowichan
- Expand Park & Ride capacity to support inter-regional service and improve access to transit for future development areas:
  - » Existing locations
  - » Bamberton
  - » Malahat
  - » Cowichan Station (Bench Rd.)

Ongoing Initiatives

The ridership targets cannot be reached by simply changing the transit network and increasing transit service levels. The following initiatives in the Transit Future Plan are non-network related and some will require continuous effort throughout the life of the plan.

- **Enhance Custom Transit service and transit accessibility**
  - » Expand handyDART services to align the hours of service and service area with the conventional transit system
  - » Expand handyDART services and develop new partnerships to deliver accessible door-to-door services to meet the challenge of an aging population
  - » Develop a travel training program to assist individuals who meet the handyDART eligibility criteria in learning to use conventional and handyDART transit
  - » Implement a seniors oriented shopper's service for individuals who do not require handyDART service
  - » Make transit more accessible
- **Encourage students to establish a U-Pass program at Vancouver Island University**
- **Address existing service needs**
  - » Passenger demand
  - » Operating time
- **Match vehicle type to local service demand**
- **Incorporate new service areas**
- **Improve customer information/marketing**
- **Improve transit customer amenities at transit stops**
- **Improve fare product availability**

Moving Forward

Funding the Plan

To meet the ridership targets of this plan will require significant capital and operating investments in the transit system over the next 25 years. Annual conventional transit and handyDART operating costs are based on service hours that are projected to increase from the existing 32,292 conventional hours and 6,148 handyDART hours to approximately 85,000 conventional transit hours and 25,000 handyDART hours in 2036. The plan also calls for significant investments that include:

- Expanding the transit fleet from the existing 25 vehicles to 69 vehicles
- New and expanded transit exchanges and Park & Rides
- Improvements to customer amenities at transit stops
- An expanded operations and maintenance facility

Given the level of transit investment anticipated over the coming decades, the way in which transit is and will be funded needs to be reviewed. BC Transit and its funding partners will need to work together to achieve stable and predictable funding sources beyond the existing funding mechanisms.

Keys to Success

Moving forward, the Transit Future Plan will be used to communicate the vision and direction for transit in the region. To guide the plan from vision to reality will require an ongoing dialogue between the Province, BC Transit, the Cowichan Valley Regional District and other local partners on transportation policy, funding and the linkage between land use and transit planning. Municipal, regional and provincial planning agencies are pivotal to the plan's success by creating demand for transit through strategic transit oriented development, transit friendly land use practices and travel demand management practices.

Introduction

Why do we need a Transit Future Plan?

Transit has tremendous potential to contribute to more economically vibrant, livable, and sustainable communities. The need to realize this potential in the Cowichan Valley region is increasingly important because of factors such as climate change, population growth, an aging demographic and mobility for individuals who do not have access to a private automobile. BC Transit has initiated the development of a Transit Future Plan in the Cowichan Valley and in other communities across the province to support the creation of more sustainable and livable communities. Transit Future Plans are intended to:

- Encourage and focus public investment in transportation (the movement of people and goods)
- Influence and support urban form that lends itself to service by public transit and active modes of transportation (e.g., walking and cycling)
- Create communities and neighbourhoods where people can live, work and play without complete reliance on automobiles
- Ensure the road network is available for the efficient transportation of people and materials
- Reduce energy consumption and the production of green house gas emissions primarily by reducing the use of single occupancy vehicles
- Provide access to services within the community such as health care, education and business
- Make transit more competitive with private automobile travel

What is a Transit Future Plan?

The Transit Future Plan for the Cowichan Valley Region envisions the transit network 25 years from now and describes the services, infrastructure and investments that are needed to get there. The plan intends to promote and support planned land use in the region that will facilitate an increase in the use of transit and other sustainable modes of transportation. Although it is BC Transit's role to guide the plan from vision to reality, the intended outcomes of the plan cannot be achieved by a single agency in British Columbia but rather through strategic and financial partnerships between local governments, the Province of British Columbia and BC Transit. Municipal, regional and provincial planning agencies support is pivotal to the success of the plan through strategic transit oriented development, transit friendly land use practices and travel demand management practices.


STATION

Study Area

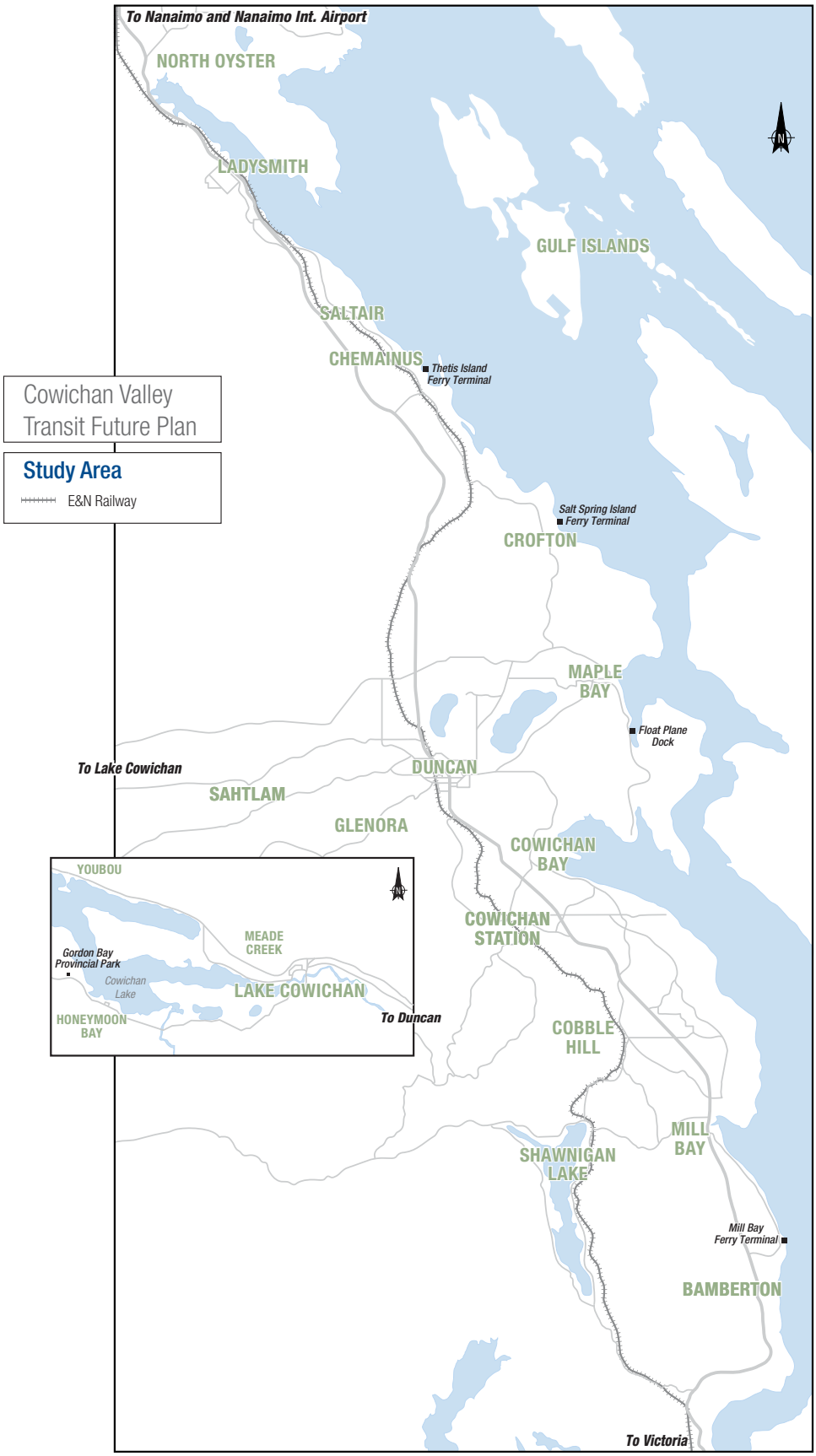
This plan has been created for the Cowichan Valley Regional District (CVRD) which is located on Southern Vancouver Island between the Regional District of Nanaimo and the Capital Regional District. The region is characterized by urban and rural settlements throughout the valley surrounded by agricultural and forest lands.

The Cowichan Valley Transit Future Plan Study Area includes:

- **Four municipalities:**
  - » Town of Ladysmith
  - » City of Duncan
  - » Town of Lake Cowichan
  - » Municipality of North Cowichan
- **Nine Electoral Areas:**
  - » A (Mill Bay/Malahat)
  - » B (Shawnigan Lake)
  - » C (Cobble Hill)
  - » D (Cowichan Bay)
  - » E (Cowichan Station/Sahtlam/Glenora)
  - » F (Cowichan Lake South/Skutz Falls)
  - » G (Saltair/Gulf Islands)
  - » H (North Oyster/Diamond)
  - » I (Youbou/Meade Creek)
- **Five First Nations communities:**
  - » Cowichan
  - » Lake Cowichan
  - » Halalt
  - » Malahat
  - » Chemainus

Key Facts

- Area = 3,473 sq. km.
- Population = 80,332 (2011 BC Stats)
- Approximately 61% of the CVRD land-base is under private ownership (primarily a result of the E&N land grant of 1883). The remainder of land within the CVRD includes Provincial Crown Lands, Federal Crown, First Nations Lands, BC Parks, CVRD Parks, Municipal and Community Parks and Municipal Forest Lands.


To Nanaimo and Nanaimo Int. Airport
NORTH OYSTER
LADYSMITH
GULF ISLANDS
SALTAIR
CHEMAINUS
Thetis Island Ferry Terminal
Cowichan Valley Transit Future Plan
Study Area
E&N Railway
Salt Spring Island Ferry Terminal
CROFTON
MAPLE BAY
Float Plane Dock
To Lake Cowichan
DUNCAN
SAHTLAM
GLENORA
COWICHAN BAY
COWICHAN STATION
YOUBOU
MEADE CREEK
Gordon Bay Provincial Park
Cowichan Lake
LAKE COWICHAN
HONEYMOON BAY
To Duncan
COBBLE HILL
MILL BAY
SHAWNIGAN LAKE
Mill Bay Ferry Terminal
BAMBERTON
To Victoria

Linkages to other plans

The Transit Future Plan is influenced by the following Provincial, BC Transit and local planning initiatives:

Provincial Transit Plan (2008)

The Provincial Transit Plan is British Columbia's $14 billion strategy for expanding fast, reliable, and green transit. The plan emphasizes that, from a transportation perspective, the best means of reducing greenhouse gas emissions is to focus on dramatically increasing transit ridership (and thereby reducing single occupancy vehicles), linking transit to active modes of travel (walking and cycling) and having land use decisions, largely made by local government, focus on transit oriented development or at least transit friendly development. The Transit Future Plan sets the framework for accomplishing these substantial goals in the Cowichan Valley.

The Provincial Transit Plan sets a number of measurable targets such as:

- Reducing greenhouse gas emissions and air contaminants from cars by 4.7 million tones by 2020
- Doubling transit ridership in BC to over 400 million trips a year by 2020

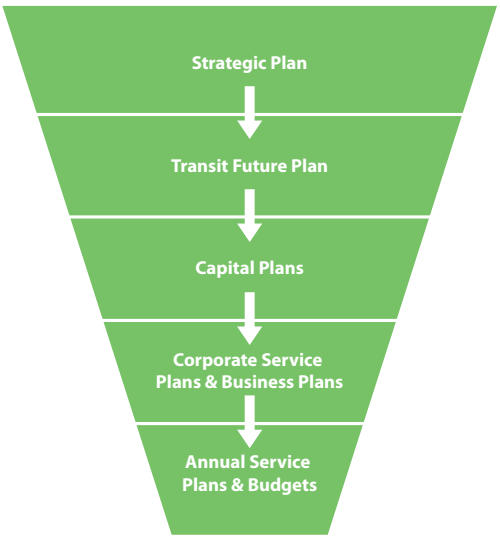
BC Transit 2030 Strategic Plan (2010)

The strategic plan establishes BC Transit's vision to lead the development of sustainable transportation networks that will shift the balance to greener travel and a healthier province. It determines BC Transit's long-term direction and priorities. Most of all, the plan declares the organization's ongoing commitment to develop transportation options that help connect people and communities to a more sustainable future.

The Transit Future Plan is designed to support key initiatives in BC Transit's Strategic Plan. Specifically; this plan contributes to the following Strategic Plan priorities:

- Increase integration with other types of sustainable travel, such as walking and cycling
- Influence land use and development patterns
- Identify and establish priority corridors for transit
- Enhance existing partnerships and develop new ones
- Increase BC Transit's environmental, social and economic accountability

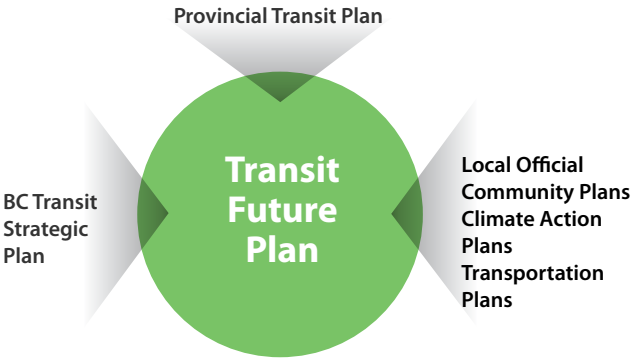
Transit Future Plans developed for each community provide guidance to future BC Transit Capital Plans, Corporate Service Plans, Business Plans, three year Service Plans, Annual Service Plans and budgeting processes.



Linkages to Local Plans

In addition to the Provincial Transit Plan and BC Transit's Strategic Plan, the Transit Future Plan was directly influenced by and sought to coordinate with local planning efforts including, but not limited to:

- Official Community Plans
- Transportation Plans (including active transportation such as, green ways and multi-modal corridors)
- Neighborhood or area development plans



Participation

The Transit Future Plan was developed in collaboration with local government and included significant public input from over 1,300 members of the community in 2011. Collaboration with local government and public input was critical in raising awareness of the plan and to ensure the plan reflects the values, interests and the diverse needs of the region. The formal community participation process included the following initiatives:

- **Local government participation**
  - » Consultation with the CVRD and municipal staff
  - » Plan updates and feedback from local municipal councils and the CVRD Transit Committee members
  - » Local municipal council endorsement of the Transit Future vision, goals and transit network
  - » CVRD Board and Transit Committee endorsement of the Transit Future vision, goals, network and implementation plan
- **Community participation**
  - » Transit Future Stakeholder Advisory Group ◊ over 40 people
  - » Transit Future Bus ◊ 13 events with 790 people
  - » Transit Future Website and Surveys ◊ 500 people
  - » Duncan Seniors' Health Forum ◊ 45 people
  - » Meetings with First Nations

Local Government Participation

During the plan's development, BC Transit collaborated with CVRD staff and staff from the region's four municipalities. Consultation with municipal and regional partners was pivotal to the development of the plan to ensure alignment with local planning goals. Simultaneous to this plan's creation, the Municipality of North Cowichan and several electoral areas in the CVRD were in the process of updating their Official Community Plans. This provided the opportunity to ensure that transit and land use plans complemented each other.

In February 2011, presentations were given to the CVRD Transit Committee, a sub-committee of the CVRD Board of Directors and local municipal councils on the Transit Future Plan process; to raise awareness of the plan and describe the planning process. In September and October 2011, BC Transit sought and received endorsement of the Transit Future Plan vision, goals and network from all four municipal councils. Councils were asked to identify the transit network and facilities in future municipal land use and transportation plans. After receiving endorsement from all four councils BC Transit sought and received the CVRD Board and Transit Committee's endorsement of the Transit Future Plan vision, goals, network and implementation plan.

BC Transit Participation

The Transit Future Plan has been reviewed internally by staff from each division of BC Transit and the plan is supported by the BC Transit Executive. When the Cowichan Valley Transit Future final document is endorsed by the CVRD Board of Directors the plan will then be presented to the BC Transit Board of Directors for formal endorsement by BC Transit.

Community Participation

Stakeholder Advisory Group

A stakeholder advisory group was formed to ensure key interest groups were included in the decision making process. The group consisted of major institutions, community groups, business groups, residential associations, local government staff and Ministry of Transportation and Infrastructure staff. The stakeholder advisory group met four times between December 2010 and July 2011 to provide input to the development of the vision and goals, the future transit network and the implementation strategy. Members were expected to provide open, honest and constructive feedback, and act as the liaison between their organization and BC Transit.

Public Consultation Strategy

Consultation with the broader community was conducted in two phases at key milestones of the plan to ensure the final plan reflected the needs and priorities of the community. Both phases included Transit Future Bus events, surveys and project updates on the Transit Future Project Website.

- **Transit Future Bus** – BC Transit converted an out-of-service bus to a mobile open house facility complete with information on transit projects, a Kids' Zone, online surveys and comment boards. The Transit Future Bus visited over 13 community locations during both consultation phases, including farmers' markets, recreation events and shopping areas. Attendees were able to provide feedback directly to BC Transit staff on-board or via an on-board survey and comment board. In total, more than 790 visitors were welcomed on-board the bus.
- **Transit Future Project Website** – A dedicated web page was established for the Transit Future Plan, which provided information on materials developed through the plan, as well as updates on upcoming events, reports, presentations and online surveys during the two consultation phases. Approximately 500 people completed surveys during the process.

Phase One – Listening Phase

The objective of the "Listening Phase" was to ask the public how the existing transit system was performing and to what degree it met or did not meet their needs. The "Listening Phase" included the following public participation opportunities; a Seniors' Public Health Forum, meetings with First Nations, nine Transit Future Bus events, as well as, online and onsite surveys.

Senior's Public Health Forum

BC Transit staff attended a Seniors' Public Health Forum held in Duncan on April 2, 2011. BC Transit staff spoke with 45 seniors and those who work on their behalf about how to improve transit across the region. This session assisted BC Transit staff in learning more about the transportation needs of seniors and those with disabilities in the CVRD.

Participants asked BC Transit to:

- Improve direct connections between communities within the Cowichan Valley and improve the connections to cities outside of the region
- Provide more frequent service and extended hours
- Improve handyDART, with an expanded service area and hours of operation
- Ensure transit vehicles and transit stops are accessible with comfortable seating on-board and at the transit stops
- Provide lower fares for seniors

First Nations Consultation

Meetings were held in early 2011 with the Malahat First Nation, Cowichan Tribes, and Chemainus First Nation. Common themes that arose from these meetings were:

- Reserve residents often experience transportation barriers including limited (Malahat and Cowichan Tribes) or non-existent (Chemainus) access to the existing transit system
- It was noted that First Nations were most often travelling to access health services, employment, education and shopping
- The City of Duncan was identified as the main location people desired to travel to in order to access services

Transit Future Bus Events

The "Listening Phase" Transit Future Bus events occurred in early 2011 and were held at the following locations with over 330 people visiting the Transit Future Bus.

Round 1: January 24 –February 6, 2011	
Mill Bay Shopping Centre	Cowichan Commons
Kerry Park Recreation Centre	Ladysmith Aggie Hall
Cobble Hill Market	Chemainus Waterwheel Park
Island Savings Recreation Centre	Lake Cowichan Country Grocer
Duncan Mall	

Phase One Public Feedback Highlights

Public consultation provided many valuable ideas on how to improve the existing transit system. Public feedback received during the "Listening Phase" included the following major themes:

- General satisfaction with areas and destinations served by transit
- Consideration for planning for the needs of specific populations (seniors, youths, students)
- Consideration should be given to using smaller vehicles to better match demand
- Request for:
  - » More direct connections between communities
  - » More frequent service and extended hours
  - » Improved connections between local routes and commuter services
  - » Transit services in rural areas that connect to community centres

Phase Two – Did we hear you correctly?

The second phase of public consultation was titled "Did we hear you correctly?" During this phase the draft Transit Future Plan network was presented for review and public feedback. The public was also asked to provide input on priorities for implementation of transit investments. This phase of public consultation included four Transit Future Bus events, as well as, online and onsite surveys.

Transit Future Bus Events

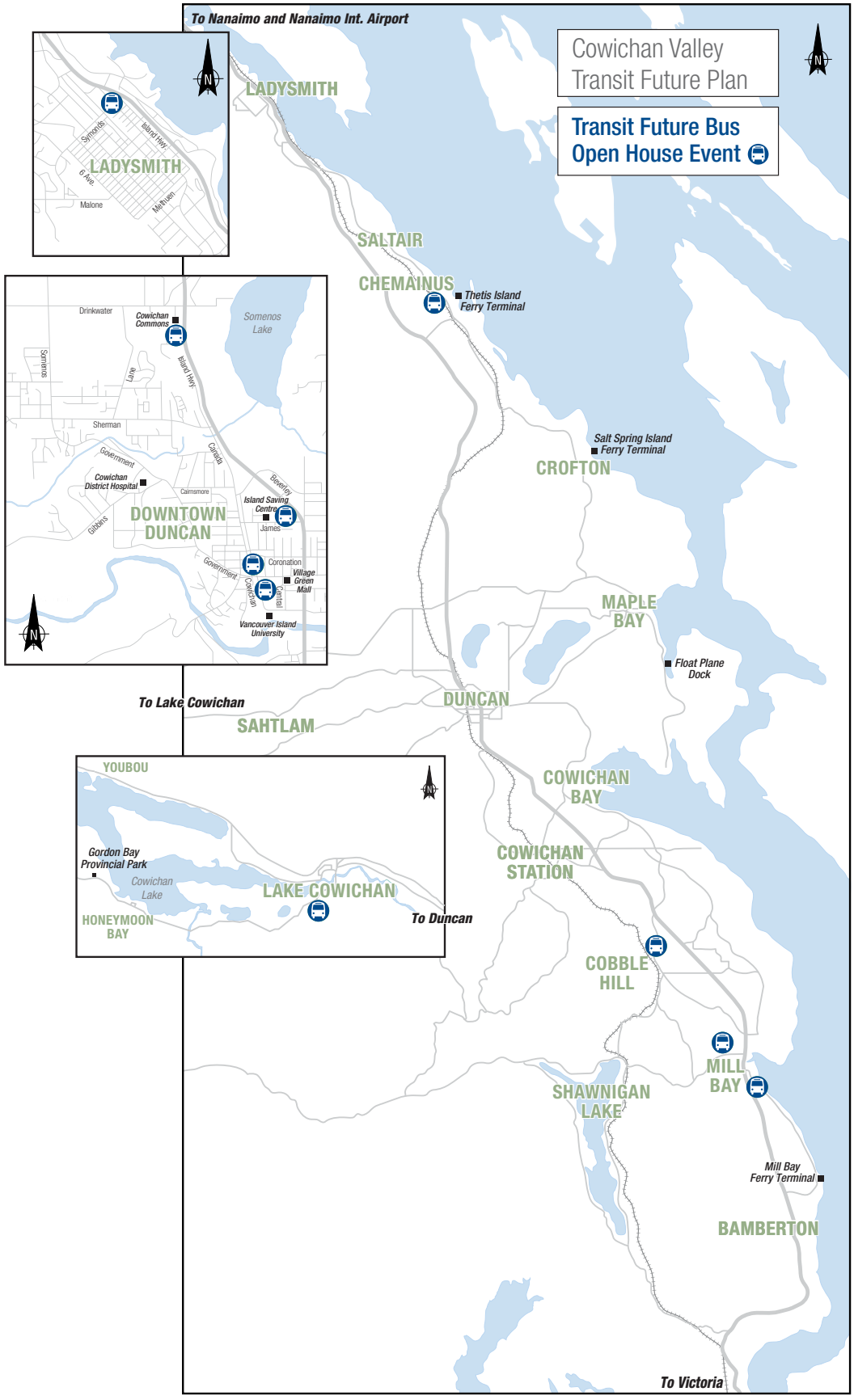
The phase two Transit Future Bus events occurred in September 2011 and were held at the following locations with over 470 people visiting the Transit Future Bus.

Round 2: September 9 – 12, 2011	
Mill Bay Shopping Centre	Ladysmith Aggie Hall
Duncan Train Station	Lake Cowichan Country Grocer

Phase Two Public Feedback Highlights

Public feedback provided strong support for the proposed Transit Future Plan network and implementation strategy. Public feedback received during the second phase of consultation identified the following priorities for investment in transit in order of support:

- Enhancing the Cowichan Valley Commuter service (more rush hour trips, and mid-day service)
- Providing connections between local and Cowichan Valley Commuter service
- Improving evening and early morning local transit services
- Improving frequency of local transit services
- Increasing frequency of weekend transit service
- Introducing transit services linking the Cowichan Valley with Nanaimo


Cowichan Valley
Transit Future Plan
Transit Future Bus
Open House Event
To Nanaimo and Nanaimo Int. Airport
LADYSMITH
Symonds
Island Hwy
6 Ave
Malone
Methuen
SALTAIR
CHEMAINUS
Thetis Island
Ferry Terminal
Drinkwater
Cowichan
Commons
Somenos
Lake
Somenos
Lane
Island Hwy
Sherman
Government
Canada
Boxwood
Cowichan
District Hospital
Cairnsmore
Island Saving
Centre
James
DOWNTOWN
DUNCAN
Gibbins
Coronation
Government
Village
Green
Mall
Cowichan
Trans
Vancouver Island
University
Salt Spring Island
Ferry Terminal
CROFTON
MAPLE
BAY
Float Plane
Dock
To Lake Cowichan
SAHTLAM
DUNCAN
YOUBOU
Gordon Bay
Provincial Park
Cowichan
Lake
LAKE COWICHAN
HONEYMOON
BAY
To Duncan
COWICHAN
BAY
COWICHAN
STATION
COBBLE
HILL
MILL
BAY
SHAWNIGAN
LAKE
Mill Bay
Ferry Terminal
BAMBERTON
To Victoria

Setting the Scene

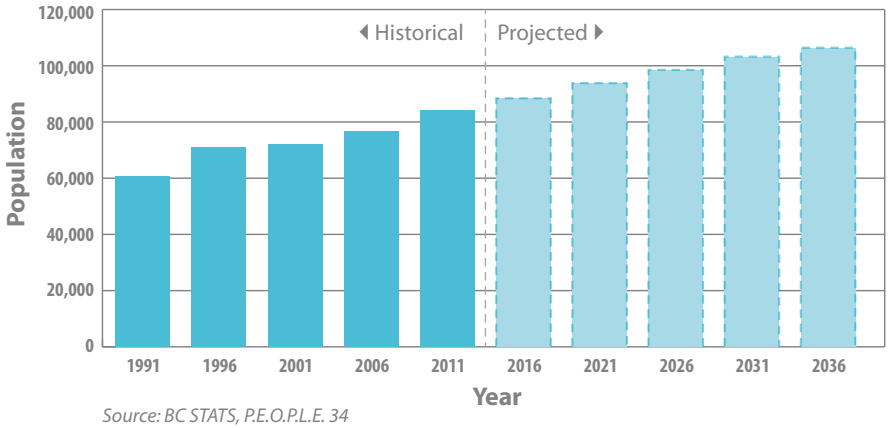
Population distribution, land use patterns, and transportation options and infrastructure are key factors in planning a successful transit network. To produce the Transit Future Plan, BC Transit analyzed both existing and future trends in demographics, land use, and transportation. The sections below contain highlights of this analysis.

Population and Demographics

Regional Population and Demographics

Since 1991 the population of the Cowichan Valley Regional District has grown from approximately 60,500 to an estimated 80,332 in 2011. Growth rates are projected to slow from an existing seven per cent to around three per cent by 2036, when the population is forecast to be approximately 106,000.

CVRD Population Estimates – ***Historical and Projected 1991–2036***



Source: BC STATS, P.E.O.P.L.E. 34

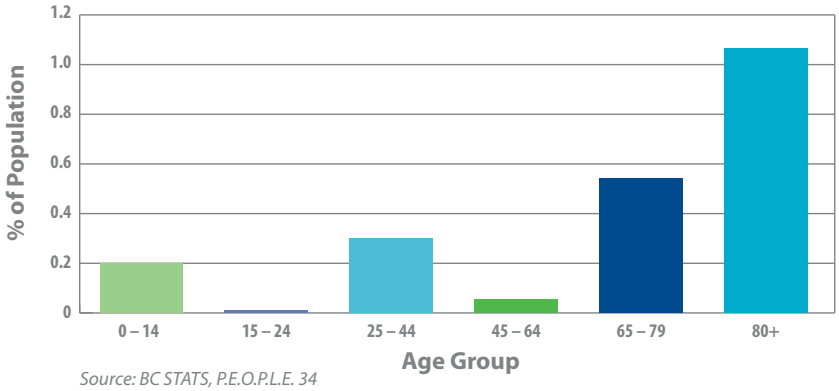
Population Distribution by Age

While the overall population of the CVRD is forecast to increase by 32 per cent over the next 25 years, the rate of growth will vary considerably among different age groups. The propensity to use transit varies with age, so changes in key age groups can have a much greater impact on future transit use than overall population changes. The following changes are forecast for two key market groups:

- **Students and Young Adults (aged 15–24):** This group traditionally has the highest rate of transit use among all age groups, and students form a key transit market in the Cowichan Valley. However, the population of this group is forecast to increase by only one percent over the next 25 years and decrease by 18 per cent over the next decade. This is mostly the result of the baby boom echo generation continuing to move out of this age group. As the proportional size of this market declines, transit must capture a greater share of this demographic in order to maintain student ridership numbers at current levels.
- **Elderly Seniors (aged 80 and over):** This group also traditionally has high transit use and tends to be more dependent on transit than other groups. This will be the fastest growing segment of the population over the next 25 years, with a total increase of 107 per cent forecast for 2012-2036. This trend will be even more prominent in those areas of the Cowichan Valley which currently have a large population of younger seniors with a relatively low propensity for transit use. As this large group ages, growth in the older seniors group will be very rapid, potentially resulting in a large increase in demand for transit service, particularly accessible conventional and custom transit.

Along with the key market segments discussed above, the other groups forecast to experience above-average rates of growth are the 25-44 and 65-79 age groups. This is a result of the baby boom and baby boom echo generations moving into these two demographic groups, both of which tend to have below-average rates of transit use.

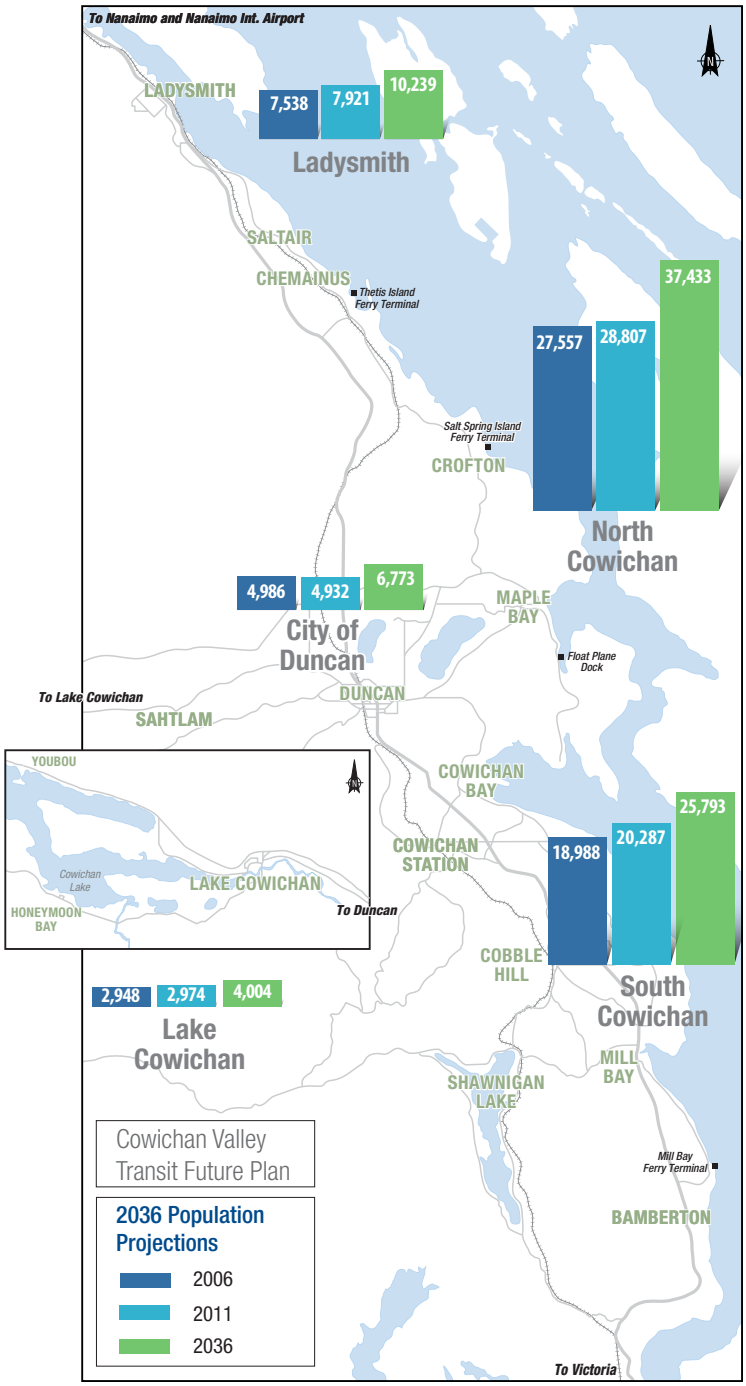
CVRD Population Increase by Age Group, 2012–2036



Source: BC STATS, P.E.O.P.L.E. 34

Population Distribution by Area

Population distribution and density has a significant impact on transit system performance. The CVRD's population is highly dispersed, with a number of different areas of development. These concentrations, or nodes, have generally formed around original settlements in the Cowichan Valley and often contain traditional town centres at their cores. Analysis of census tract data shows that the largest population concentration is around the City of Duncan and adjacent areas. While this is the main urban focus of the Cowichan Valley, it is less dominant than the core of a more traditional urban region. South Cowichan (Mill Bay, Shawnigan Lake, Cobble Hill, and Cowichan Bay) Lake Cowichan, North Cowichan (Chemainus, Crofton, Saltair) and Ladysmith all contain significant clusters of higher population densities. The adjacent map provides projected population forecast for 2036 for these areas. Most rural areas in the Cowichan Valley have a population density of less than 100 persons per square kilometre, and Duncan is the only community with a density greater than 1,000 persons per square kilometre. Higher population densities are more supportive of public transit as they tend to generate higher ridership and service efficiency. The Cowichan Valley's dispersed low population densities is one of the major challenges of providing transit service in the region.



Population and Demographic Challenges

Serving a highly dispersed population –
The considerable distances between the various communities within the Cowichan Valley make it challenging to create a successful and cost-efficient transit service in the region. Local government land use strategies focus population growth in town and village centres which will increase population densities. This strategy is critical to improving the effectiveness of the transit system in the future.

Increasing mode share with an aging demographic –
With the region's demographics shifting towards an older population, some traditionally strong transit user age groups are proportionately decreasing. If transit ridership and mode share are to increase, improvements in all aspects of service delivery including service levels, customer information and stop amenities are required to ensure the retention of existing customers and the ability to attract new customers. This is critical for increasing ridership and meeting the targets set out in local transportation plans and the Provincial Transit Plan.

Increases in medical, shopping and leisure trips –
The aging of the population and the resultant decrease in the proportion of people of working and school ages will likely lead to increased demand for travel for medical, shopping and leisure purposes. This can be a difficult ridership market to serve due to relatively undefined trip times and destinations. The network of the future will need to better connect people to local centres to capture this market and increase ridership.

Additional pressure on accessible and custom transit services –
As the numbers of seniors and elderly seniors increase, accessible fixed-route and custom transit services will be expected to expand and provide more neighbourhood-oriented transit to address the mobility limitations of this segment of the population. Custom-handyDART services are typically more expensive to operate and are much less productive service in-terms of ridership.

Maintaining local transit connections –
The coverage of local service will need to be maintained, and in some cases increased, to ensure the aging population is able to access their local town centre and the rest of the transit network.

Land Use

Regional Land Use

The CVRD's municipalities and electoral areas each have an Official Community Plan (OCP). An OCP does two important things: it presents a long-term vision for a community, and sets out policies, priorities and guidelines for land use and community development. Influencing local and regional travel patterns, these policies are highly relevant to the planning of transit and transportation networks. These policies within the CVRD include:

- to encourage infilling of existing residential areas prior to the development of new areas to prevent sprawl
- to concentrate commercial growth primarily in the vicinity of commercial villages
- to promote the development of walking and cycling infrastructure, particularly in and around commercial villages and along existing rail corridors
- to retain the E&N Railway right-of-way for future use as a transportation corridor, possibly for rail transportation
- to retain agricultural land designated for agricultural purposes

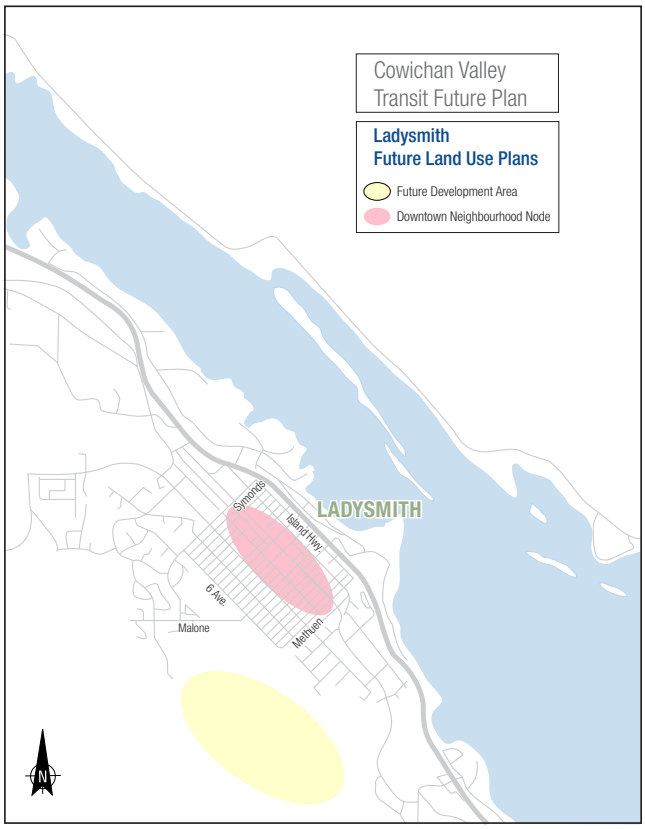
Each municipality and area has distinct land use patterns that are highlighted below.

Land Use by Area

Town of Ladysmith

Ladysmith is built on a hillside with a grid-style street pattern and is fairly compact. Since the 1960s, new suburban neighbourhoods with curvilinear streets have dominated new development. These are located further up the hillside, above the town core. Five future development areas have been identified, surrounding all existing development but within the town's urban containment boundary: Holland Creek, North End (Rocky Creek), South End (south of Russell Creek), Waterfront, and the area surrounding downtown (for infill purposes). These five areas can accommodate a total potential population absorption of about 8,500 people. It is anticipated these areas will be developed over the next 15-20 years.

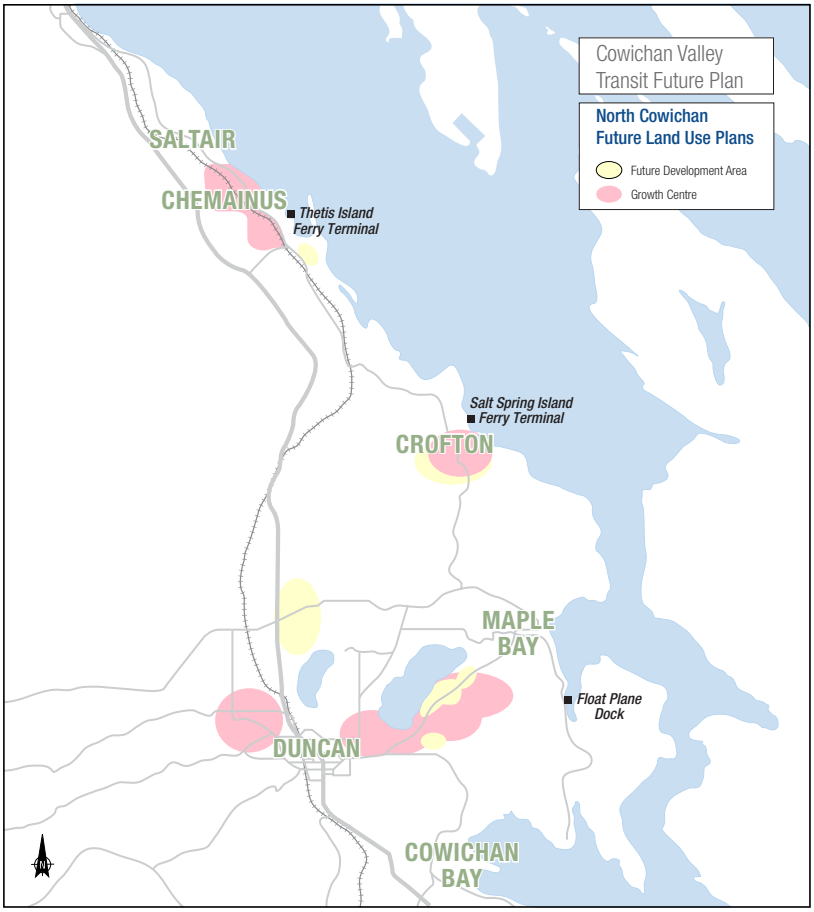
Future commercial retail development will be accommodated in the existing downtown core, the new waterfront development, and in new neighbourhoods where complete community attributes will be promoted. New employment will be directed to industrial areas, the waterfront, and near the downtown in mixed-use development.



Municipality of North Cowichan

The Municipality of North Cowichan is located north and east of the City of Duncan. Its four main communities are Chemainus, Maple Bay, Saltair, and Crofton. There are also commercial and residential areas adjacent to the City of Duncan's northern boundary. Over 92 per cent of the North Cowichan municipal land base is classified as rural. Of that, 25 per cent is in the Municipal Forest Reserve and another 25 per cent is in the Agricultural Land Reserve (ALR). The remaining rural lands are held by private forestry companies, farmers and other private landholders, or are designated as parks.

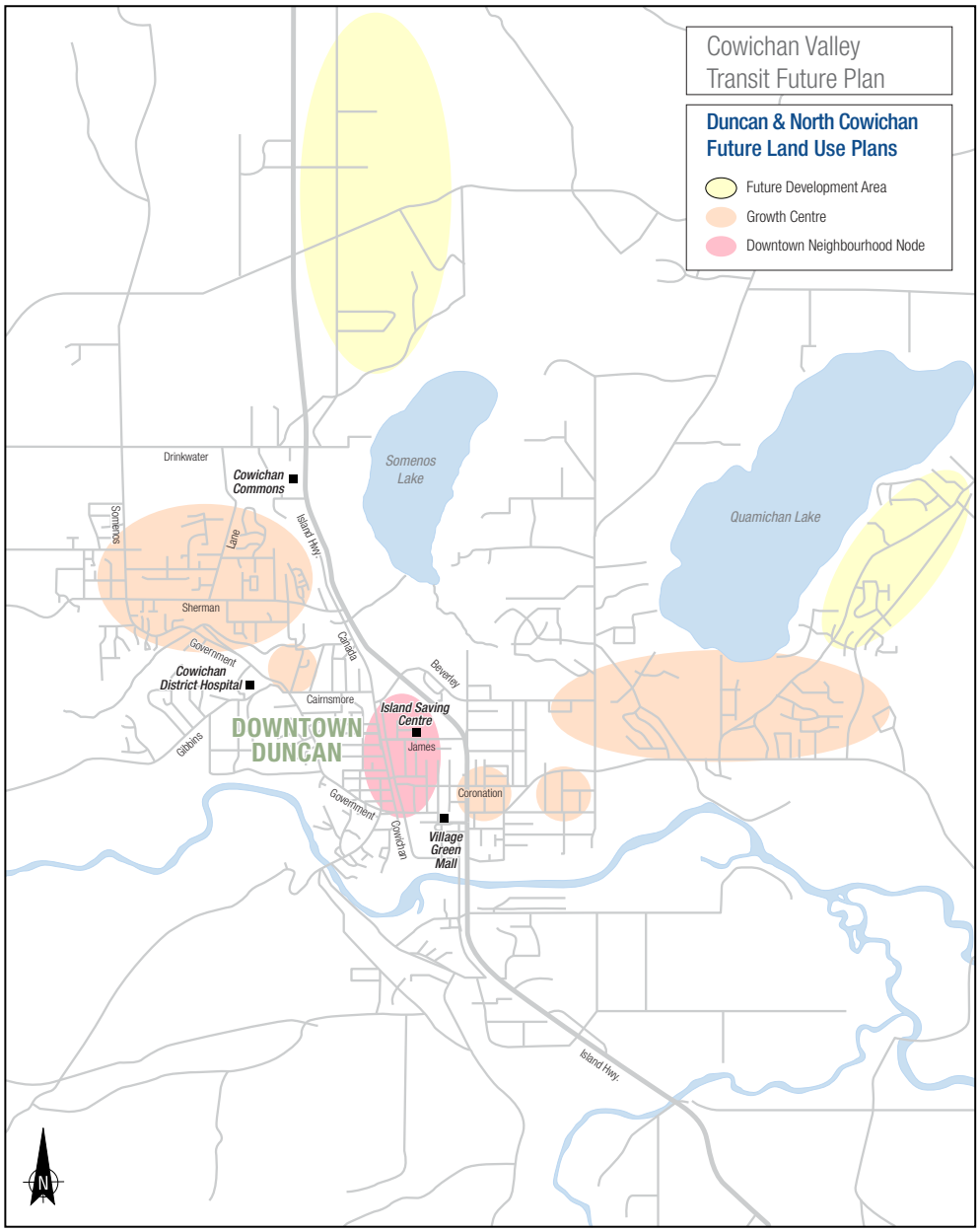
In the North Cowichan OCP, each of its communities includes an urban containment boundary to support compact, complete communities. The Town of Chemainus has ten new developments planned that are adjacent to existing developed areas. These include Artisan Village, a 428-unit mixed commercial and residential development to be located just west of downtown Chemainus, Echo Heights (north-west of downtown Chemainus, 250 units), River Road (south of Artisan Village, 80 units), and Benchlands (Chemainus Bay waterfront). Maple Bay, which includes the areas of Genoa Bay and Stoney Hill, has some commercial activities, public facilities and amenities within reasonable walking distance, which help to form small, relatively complete communities. The largest planned development in the area is Stonehill, which is anticipated to have up to 300 new homes bringing approximately 750 residents to the area. The unincorporated community of Saltair consists primarily of rural and suburban residential development, leaving people to access most amenities such as education, medical care, shopping, and entertainment in Ladysmith or Chemainus. The Community of Crofton is a former mining community whose primary economic generator is now a pulp and paper mill. The area of North Cowichan adjacent to Duncan's northern boundary features the new Cowichan Commons Shopping Centre, a prime retail destination which includes BC's first Walmart Supercentre. The area between this shopping centre and Duncan's boundary has been identified as a growth centre, as has the area south of Quamichan Lake, and future development areas have been identified north of Cowichan Commons and east of Quamichan Lake.



City of Duncan

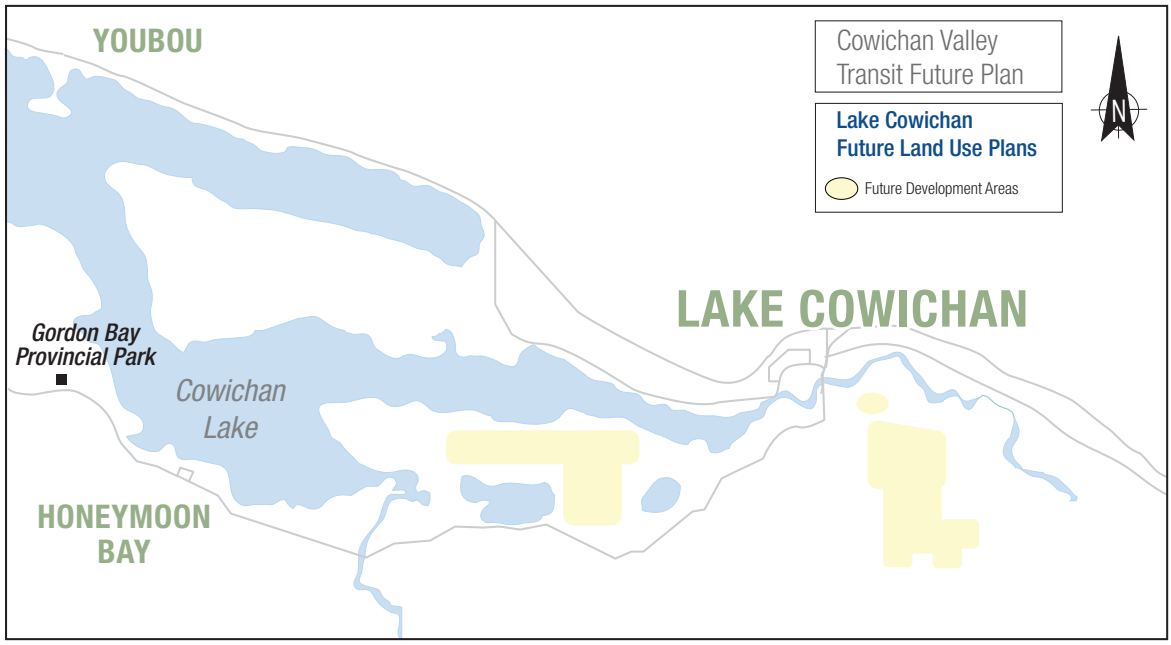
The City of Duncan is the primary urban centre of the Cowichan region, containing a mix of commercial, light industrial and office developments. It is highly compact and further physical growth is restricted by an urban containment boundary. The majority of the population resides within 200 metres of a transit route.

Duncan's OCP was completed in 2007 with amendments made as recently as July 2010. The plan promotes compact and attractive neighbourhoods based on Smart Growth principles. The City will encourage all new housing to be located within the urban containment boundary, which will continue to support an efficient transit system within city limits. Three of Duncan's existing neighbourhood nodes have been identified for future high-density, multi-family development: Downtown, the Coronation Avenue area, and the Chesterfield Avenue area.



Lake Cowichan

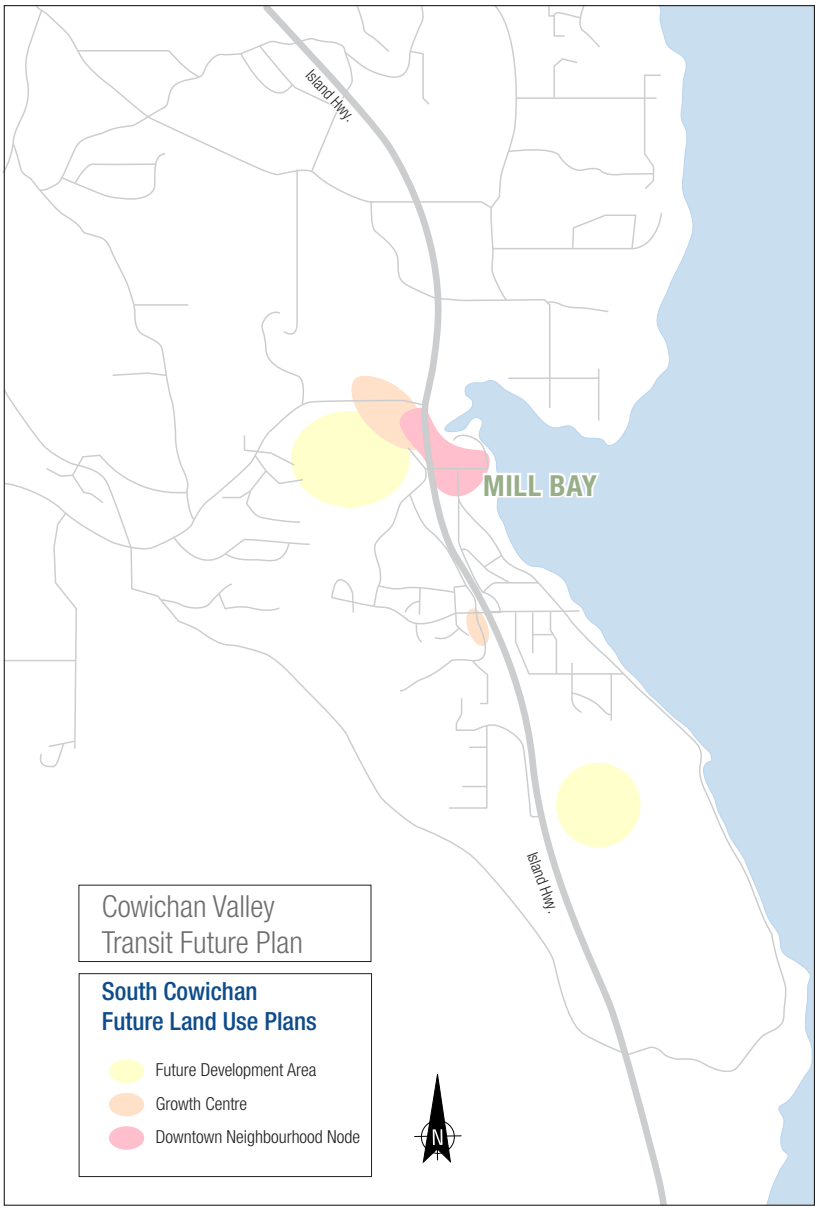
The Town of Lake Cowichan is located approximately 35 kilometres west of Duncan, accessible by Highway 18 and Cowichan Lake Road. This small community is fairly compact, with a downtown core including and surrounded by single- and multi-family homes. Downtown's modest roadway profiles of a single lane in each direction with continuous sidewalks and street parking foster a pedestrian-oriented environment. The town has more than 1,000 acres of greenfield land within its boundaries that is zoned for development. Along the shores of Cowichan Lake itself are the primarily residential communities of Youbou and Honeymoon Bay, which are popular with tourists in the summertime. One major anticipated future development is on the former Youbou mill site, a plan that envisions almost 2,000 housing units along with a marina, a business park and a resort.



South Cowichan

The South Cowichan area adjoins the Capital Regional District (CRD) and includes CVRD Electoral Areas A (Mill Bay/Malahat), B (Shawnigan Lake), C (Cobble Hill) and D (Cowichan Bay), as well as the southern part of Area E (Cowichan Station/Sahtlam/Glenora).The influence of the Capital Regional District (CRD) in the growth, development, and present character of South Cowichan has been profound in terms of land economics. The CRD is a major employment centre, with very expensive housing. It has traditionally been less expensive to enter the housing market in the CVRD, although this gap is now closing. Because of the lower housing costs and the rural and semi-rural lifestyle offered, this area is viewed by many as a viable location to live, with a commute to Victoria being routine. Road improvements have also assisted the commute.

The South Cowichan area is characterized by agricultural and forest lands surrounding four village centres: Mill Bay, Shawnigan Lake, Cobble Hill, and Cowichan Bay identified in the South Cowichan OCP. The four primary village nodes each have an urban containment boundary. Growth will be encouraged within these boundaries, and pocket rural residential development will be discouraged on agricultural and forest lands. Each village centre has a variety of amenities and services available for residents, but residents still travel frequently outside of these communities to access medical services, jobs, shopping, and entertainment. Other areas of South Cowichan include Cowichan Station, Sahtlam, and Glenora, which are more rural in nature. In addition to these is the fully-serviced suburban community of Eagle Heights.



The anticipated total housing need to 2026 is 2,220. Under the policy framework for the South Cowichan OCP, there is a potential supply of 3,860 new homes. Up to 2,000 of these are possible in and around Mill Bay, one of the areas in the CVRD with the highest growth potential, with interest in developing the land west of the Trans-Canada highway and south of Shawnigan Mill Bay Road.

Land Use Challenges

Strengthening the link between land use and transportation planning

The link between transit and land use planning needs to be solidified to ensure new development matches the vision of Official Community Plans, the Provincial Transit Plan and the Transit Future Plan. Each area is strongly influenced by land use, policies and decision-making in adjacent jurisdictions. This applies to everything from agricultural and growth management policy to support for connectivity with other regions.

Servicing low population densities

Providing transit to areas with low population densities decreases the overall efficiency of a transit system as such areas do not generate adequate demand for transit ridership. In some instances, it may make sense to focus transit investments in higher-density growth areas and not provide transit service to low-density areas where future growth is not planned.

Servicing new neighbourhoods

In order for transit to be viable in new suburban neighbourhoods, it is important that new developments are closely linked to transit planning principles such as strong pedestrian connectivity, transit vehicle-friendly road network design, bus stop and customer amenity considerations, and higher land use densities.

Transportation

Regional Transportation and Infrastructure

Throughout the Cowichan Valley, the number of automobiles on the road continues to increase due to growth of the community, directly impacting quality of life and the efficient movement of people and goods. Due to the primarily rural character of the Valley, the majority of its residents are mainly dependent upon the private automobile to travel through the region and to neighbouring areas.

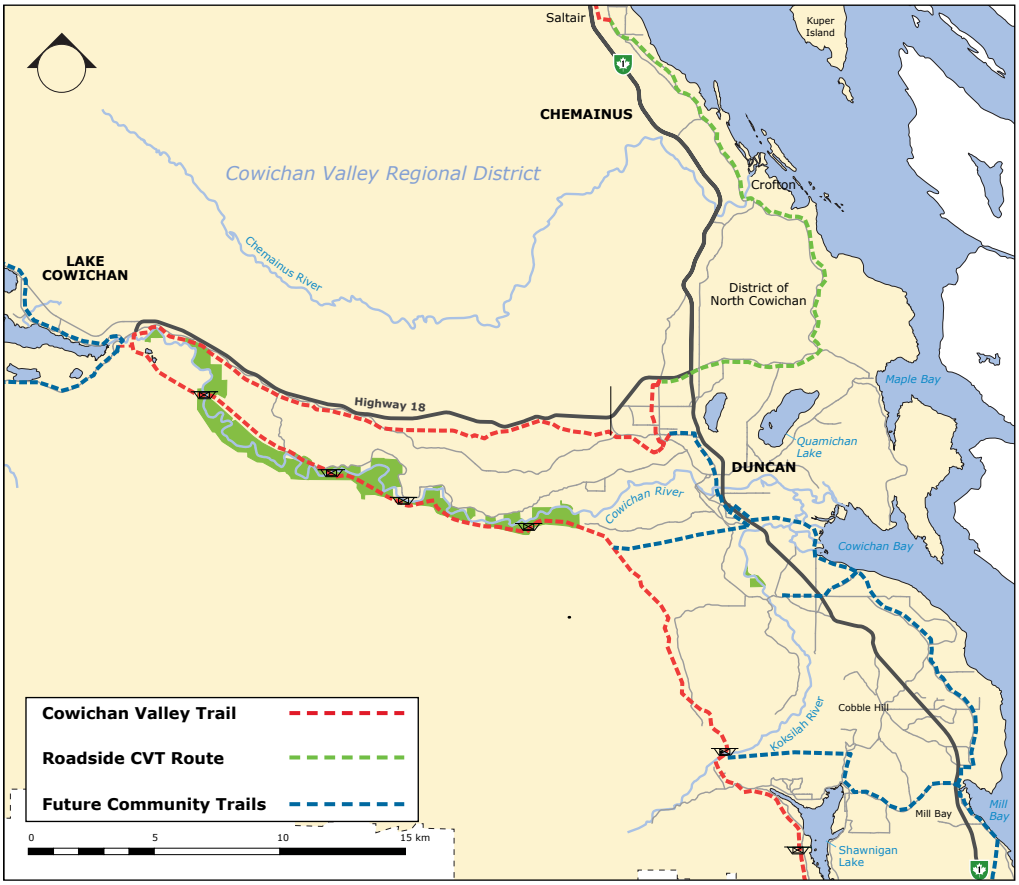
2006 Mode of Transportation to Work, per cent distribution

	BC	CVRD
Vehicle – Driver	71.6%	80.9%
Vehicle – Passenger	7.7%	8.9%
Public Transit	10.3%	1.1%
Walking	6.9%	6.5%
Bicycle	2.0%	0.9%
Motorcycle	0.3%	0.3%
Taxi	0.1%	0.1%
Other	1.0%	1.3%

Source: BC STATS

The main transportation corridor in the region is the Trans-Canada Highway, which connects the Valley north to south. There are several arterials and collector roads throughout the region. BC Transit service operates on most of the main roads connecting the majority of these communities together. According to the municipal and area OCPs, there are few plans for road extensions in the region.

In 2007, the CVRD completed the Cowichan Valley Regional Parks and Trails Master Plan. One of the goals of this Transit Future Plan is to recognize where the future transit system can connect to the trail system in order to support the integration of active transportation modes.



Transportation and Infrastructure by Area

Ladysmith

In order to minimize the potential detrimental effects of scattered development, the Town of Ladysmith, through its OCP, is promoting predictable and efficient circulation systems which ensure that the increase in vehicles will not lead to congestion, resident frustration or potential economic inefficiencies. Ladysmith is exploring alternative ways of integrating land use, transportation, economic development and environmental planning through applications of Smart Growth principles that include alternative development standards, mixed land use, increased densities, and multi-modal forms of transportation.

Recent upgrades to the Trans-Canada Highway have affected Ladysmith. The highway was widened and realigned, including reduced direct access, introduction of traffic lights and upgraded landscaping. While the improvements have facilitated increased traffic flow and a safer highway environment, they have also physically limited access to the town. This has reduced opportunities for those travelling along the highway through Ladysmith to spontaneously access retail areas. It has also restricted vehicle and pedestrian access to the waterfront to two primary locations. In addition, with the reduced exit opportunities from the Downtown onto the highway, there is added pressure on internal traffic flow on local streets. Future land use planning will need to address issues of linkage between the waterfront and Downtown, particularly as the waterfront becomes a major residential and recreation district.

Ladysmith's estimated population was 7,921 in 2011, which makes it one of the largest communities in British Columbia that does not have BC Transit-operated public transit service. The town has independently operated a local trolley service since 2009. The trolley service provides good coverage of the community and carries approximately 25,000 riders per year. There are eight routes operating Monday through Saturday between 8:00 a.m. and 6:00 p.m. and cover most of Ladysmith. Key destinations include the main commercial area along First Avenue, Coronation Mall, Ladysmith Health Centre, the seniors' centre, the community centre, and Ladysmith's five schools. The trolley has a wheelchair lift and a bike rack. When service was introduced fares were by donation, until October 1, 2011 when an adult cash fare of two dollars and monthly pass were introduced with discounts for youths and seniors.

2006 Mode of Transportation to Work, per cent distribution

	BC	Ladysmith
Vehicle – Driver	80.9%	85.7%
Vehicle – Passenger	8.9%	5.8%
Public Transit	1.1%	0.5%
Walking	6.5%	6.4%
Bicycle	0.9%	0.3%
Motorcycle	0.3%	0.0%
Taxi	0.1%	0.3%
Other	1.3%	1.0%

Source: BC STATS

North Cowichan

North Cowichan and the communities within its boundaries are linked by several major roads and trails that primarily orient north-south. Major arterials are the Trans-Canada Highway that connects Ladysmith to the north and Duncan to the south and Chemainus/Crofton Road, linked to Saltair, Chemainus, and Crofton. The North Cowichan Official Community plan indicates several proposed collector roads in the Chemainus and Maple Bay areas.

2006 Mode of Transportation to Work, per cent distribution

	BC	North Cowichan
Vehicle – Driver	80.9%	81.9%
Vehicle – Passenger	8.9%	8.6%
Public Transit	1.1%	0.9%
Walking	6.5%	6.5%
Bicycle	0.9%	0.8%
Motorcycle	0.3%	0.3%
Taxi	0.1%	0.0%
Other	1.3%	0.8%

Source: BC STATS

Duncan

Duncan's compact physical design and topography promote a variety of transportation options. Its population density supports an efficient transit service, and its compactness and topography support a pedestrian - and bicycle-friendly environment. Today, all the Cowichan Valley's transit routes meet at the Village Green Mall and the train station, adjacent to Duncan's downtown area.

2006 Mode of Transportation to Work, per cent distribution

	BC	Duncan
Vehicle – Driver	80.9%	66.3%
Vehicle – Passenger	8.9%	11.1%
Public Transit	1.1%	2.0%
Walking	6.5%	17.1%
Bicycle	0.9%	1.7%
Motorcycle	0.3%	0.6%
Taxi	0.1%	0.6%
Other	1.3%	0.9%

Source: BC STATS

The City has set a goal to achieve a transit mode share of three per cent by 2030. To support achieving this, the OCP endorses several policies that encourage increased population densities. The City's OCP also promotes the reduction of parking spaces. The City is in the process of working with other local government and community stakeholders to create an active transportation plan to encourage cycling and walking.

Lake Cowichan

The Town of Lake Cowichan is linked to Duncan and the Trans-Canada Highway via Highway 18, which extends as a primary road to Youbou, and also via Cowichan Lake Road, which extends via primary and secondary roads to Honeymoon Bay.

One of the goals of the West Cowichan and Town of Lake Cowichan OCPs is the development of a comprehensive network of safe pedestrian and cycling trails, which will provide opportunities for integration with the future transit network.

2006 Mode of Transportation to Work, per cent distribution

	BC	Lake Cowichan
Vehicle – Driver	80.9%	71.4%
Vehicle – Passenger	8.9%	9.7%
Public Transit	1.1%	2.1%
Walking	6.5%	8.8%
Bicycle	0.9%	0.8%
Motorcycle	0.3%	0.8%
Taxi	0.1%	0.0%
Other	1.3%	6.3%

Source: BC STATS

South Cowichan

The South Cowichan area is bisected by the Trans-Canada Highway. Each community is linked to the highway by rural paved secondary roads. Local roads and suburban street networks are curvilinear in nature with several cul-de-sacs.

The OCP identifies a number of transportation policies, including several projects for medium- and long-term development. There are proposals for three major road extensions, the most significant of which is to link the south end of Mill Bay Road to Shawnigan Mill Bay Road. This would be located on the west side of the Mill Springs development, which has potential to expand. Other proposed investments include extensions to Deloume Road west and south to the Mill Springs development.

2006 Mode of Transportation to Work, per cent distribution

	BC	South Cowichan
Vehicle – Driver	80.9%	82.8%
Vehicle – Passenger	8.9%	9.6%
Public Transit	1.1%	0.9%
Walking	6.5%	4.2%
Bicycle	0.9%	0.5%
Motorcycle	0.3%	0.4%
Taxi	0.1%	0.1%
Other	1.3%	1.1%

Source: BC STATS

Transportation Alternatives to Public Transit

Other transportation services and infrastructure provided within the CVRD include:

- **School District 79 (Cowichan Valley School District)**
  The school bus system provides transportation with no user fees for eligible school students who live beyond walking limits from their neighborhood to their nearest public school. For primary students this distance is over four kilometres, and for intermediate and secondary students the distance is over 4.8 kilometres. School District 79 has 4,800 registered school bus users. Service is provided with a total fleet of 37 buses that operate 78 hours of service per school day on a total of 29 different routes. School District 79 has three depot facilities in the valley with the main depot located on Beverly St. behind the School Board Offices. Mechanical and fueling operations are located within this depot. In addition the school district maintains two other compounds, one in the south end located behind Frances Kelsey Secondary and the other in Lake Cowichan at the old Stanley Gordon site. All compounds are gated and alarmed with sufficient room for expansion whenever needed.
- **School District 68 (Nanaimo & Ladysmith School District)**
  Ladysmith's four schools are administered by School District 68 and have the same school bus eligibility criteria as School District 79's. There are 317 registered school bus users attending schools within Ladysmith, served by four buses providing seven hours of service and operating on a total of five routes per school day. The existing bus operations facility is located in Nanaimo on Wakesiah Ave and meets the existing needs of the school district.
- **Jack Bell Ride-Share Foundation**
  This program is partially funded by BC Transit and Translink to operate a public vanpooling service and provide online ride matching. Users register in the program to join vanpools or carpools, or to use the rideshare database. Jack Bell Ride-Share vanpools use eight-passenger minivans and four-passenger automobiles, which are purchased by Jack Bell Ride-Share and operated by a designated vanpool driver. All passengers pay a monthly fare calculated to recover capital and operating costs, with drivers paying a reduced fare. Vanpools are formed through ride matching, which uses a GIS-based software program to match commuters who live and work close together and wish to travel at similar times. There are four vanpools operating on weekdays between the Cowichan Valley and Victoria, with two daily departures from Duncan and one each from Cowichan Bay and Cobble Hill/Mill Bay. There are 40 registered, regular vanpool members in the CVRD.

- **BC Ferries**
  BC Ferries provides daily service on several routes connecting locations within the Cowichan Valley with the Saanich Peninsula and the southern Gulf Islands. There are nine daily round-trip sailings between Mill Bay and Brentwood Bay, 14 round-trip sailings daily between Crofton and Salt Spring Island, and 11 daily round-trip sailings between Chemainus and Thetis Island. There are challenges with existing connections between ferries and transit due to both services scheduling and on-time performance of the ferry routes.
- **Nanaimo Airport**
  Nanaimo Airport, located about five kilometres north of Ladysmith, is served by three different airlines offering daily direct flights to Vancouver, Abbotsford, and Victoria.
- **Seaplanes**
  There is a seaplane terminal located in Maple Bay served by two different companies, which provide daily direct flights to downtown Vancouver, as well as to Vancouver airport via Salt Spring Island.
- **Taxi Service**
  There are three taxi companies operating within the Cowichan Valley. Their existing vehicles are not wheelchair accessible.

Transportation Challenges

Improving transit service to regional centres and local centres – Transit links to and between regional centres and local centres will need to be strengthened without significantly compromising existing transit passenger movements.

Network efficiency and connectivity – The considerable distances between the various communities within the Cowichan Valley as well as the discontinuous road networks in some neighbourhoods make it challenging to create an efficient transit network that maximizes connectivity.

Increasing public transit use in a highly automobile-dependent region – Due to the mainly rural nature of the Cowichan Valley region, the majority of its residents are dependent upon the private automobile to travel through the region and to neighbouring areas. Commuting patterns show that the mode share for the private automobile is significantly higher than the provincial average. The convenience of public transit will need to be improved in order to attract more people away from their private vehicles, and transit-supportive land use policies will also need to be promoted.

Traffic congestion – Traffic is expected to increase, which may create congestion in key transit areas such as the Trans-Canada Highway in and around Duncan as well as at transit exchanges and Park & Ride facilities. Transit priority measures could improve efficiency by reducing transit travel time, making it a more attractive choice.

Continued growth in travel from the CVRD to the Capital Regional District (CRD) – Future development will increase the volume of traffic on the Trans Canada Hwy between the CVRD and CRD. This will increase the need to provide more transit service between the CVRD and the CRD.

Transit Today: Conventional Transit System

The conventional Cowichan Valley transit service officially began operation in 1993 and has grown significantly over time in terms of transit service and ridership. The transit system provides over 435,000 rides annually with 13 bus routes and serves almost 400 bus stops. The existing conventional transit system provides fixed-route service to most communities within the Cowichan Valley with the exception of communities north of Chemainus which include Ladysmith, North Oyster/Diamond and Saltair. Existing transit service in Ladysmith is provided independently by the town with a local trolley. The Cowichan Valley Transit System also operates a weekday commuter service from the Cowichan Valley to Victoria that is co-funded by the Victoria Regional Transit Commission.

Cowichan Valley Conventional Transit System quick facts 2011/12:

Service	Annual Rides	Annual Service Hours	Number vehicles	Cost recovery	Rides per hour	Cost per ride
Cowichan Valley	352,022	27,599	14*	16.50%	12.75	$7.77
Cowichan Valley Commuter	68,000	4,693	8*	38.81%	14.68	$14.02

** Includes spare vehicles*

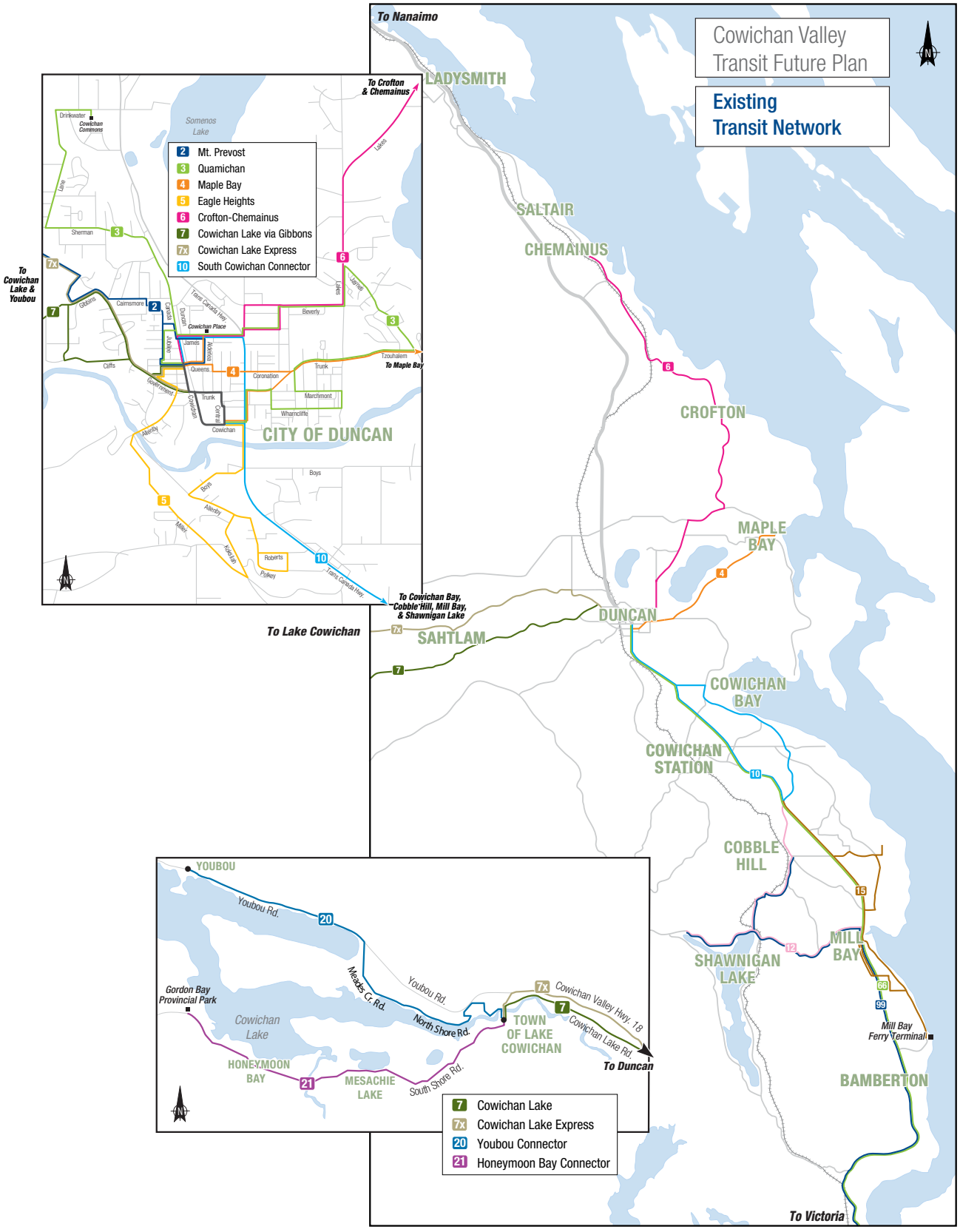
Transit Network

Local fixed-route transit service

Local fixed-route transit service provides scheduled service within and between communities in the Cowichan Valley with conventional buses. The transit network is focused on Downtown Duncan which acts as a hub for both regional and local neighborhood bus routes. Most routes begin and end at the Village Green Mall and serve the Duncan Train Station. Regional routes provide connections between Chemainus, Crofton, Mill Bay, Shawnigan Lake and Lake Cowichan. There are a number of local Duncan - North Cowichan neighborhood routes that provide connections to destinations within town.

In South Cowichan, transit serves Cowichan Bay, Cobble Hill, Shawnigan Lake, Arbutus Ridge and Mill Bay with services connecting at the Valleyview and Mill Bay Shopping Centres. In Lake Cowichan there are two bus routes that provide service to Youbou and Honeymoon Bay that connect with regional service to Duncan.

The Duncan - North Cowichan neighborhood routes serve destinations that include; Downtown Duncan, Village Green Mall, Cowichan District Hospital, Cowichan Commons, Cowichan Place and the secondary schools. Many of the existing Duncan area transit routes are not direct, operating with meandering one-directional loops within town. The transit network can be difficult to understand in terms of how certain routes circulate and how to read the timetable.


Cowichan Valley
Transit Future Plan
Existing
Transit Network
To Nanaimo
LADYSMITH
SALTAIR
CHEMAINUS
CROFTON
MAPLE BAY
DUNCAN
SAHTLAM
COWICHAN BAY
COWICHAN STATION
COBBLE HILL
SHAWNIGAN LAKE
MILL BAY
BAMBERTON
Mill Bay Ferry Terminal
To Victoria
To Lake Cowichan
To Cowichan Bay, Cobble Hill, Mill Bay, & Shawnigan Lake
To Crofton & Chemainus
To Cowichan Lake & Youbou
To Maple Bay
To Duncan
CITY OF DUNCAN
Somenos Lake
Cowichan Lake
Gordon Bay Provincial Park
YOUBOU
HONEYMOON BAY
MESACHIE LAKE
TOWN OF LAKE COWICHAN
2 Mt. Prevost
3 Quamichan
4 Maple Bay
5 Eagle Heights
6 Crofton-Chemainus
7 Cowichan Lake via Gibbons
7x Cowichan Lake Express
10 South Cowichan Connector
7 Cowichan Lake
7x Cowichan Lake Express
20 Youbou Connector
21 Honeymoon Bay Connector

Service Frequencies and Hours of Service

Local-fixed route service is provided seven days a week on most routes, operating from 6:00 a.m. to 7:30 p.m. on weekdays with extended evening service to 11:00 p.m. on Fridays. Weekend service is more limited operating from 9:00 a.m. to 8:00 p.m. on Saturdays, and from 9:00 a.m. to 7:00 p.m. on Sundays.

There is considerable variation in frequency and operating hours from route to route. On weekdays most transit routes operate approximately every one to three hours throughout the day with more limited frequency on weekends. The existing level of service is not frequent and the availability of service is very limited in the evening and weekend periods.

Cowichan Valley Commuter

The Cowichan Valley Commuter (CVC) provides peak morning and afternoon service for people travelling from the Cowichan Valley to Victoria. The service consists of two routes, the 66 Duncan Commuter and the 99 Shawnigan. The service operates on Highway 1 for the most part with limited stops to keep trip as direct and fast as possible to be competitive with trips by automobile. The 66 follows Highway 1 from Village Green Mall in Duncan to Victoria, while the 99 follows local roads in Shawnigan Lake and Cobble Hill before turning onto Highway 1 at Mill Bay. Both routes share common stops within Greater Victoria and terminate in Downtown Victoria at Government at Superior. The service is available Monday through Friday except statutory holidays with four trips on the 66 Duncan and two trips on the 99 Shawnigan Lake. Morning service depart at 5:30 a.m. with the last trip leaving the Cowichan Valley to Victoria at 6:30 a.m. and the first return trip from Victoria to the Cowichan Valley departs at 3:45 p.m. with the last trip leaving at 5:15 p.m.

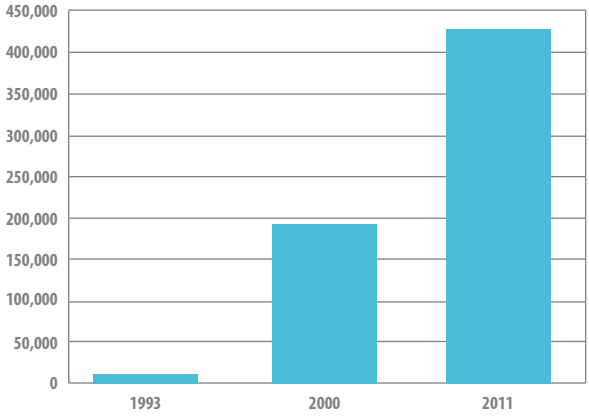
Transit Ridership

Since the inception of service in 1993, transit ridership in the Cowichan Valley has grown significantly from 15,000 to 435,000 annual rides. Following the initial start-up, ridership growth was quite slow until 1998, when significant expansion in North Cowichan and South Cowichan occurred.

The system experienced strong ridership growth between 1998 and 2001 as a result of this service increase and a fare reduction that was implemented in 1999. Over the last ten years ridership more than doubled as service was expanded by 12,000 annual hours. The service expansions allowed for improvements to the existing hours of operation and frequency of local fixed-route service, an expanded local service area, and the introduction of the CVC service to Victoria. However, the 2006 census indicates that transit still only accounts for one per cent of all trips to work and school in the region. However the 2006 census indicates that transit still only accounts for one per cent of all trips to work and school in the region.

Historic Annual

Transit Ridership

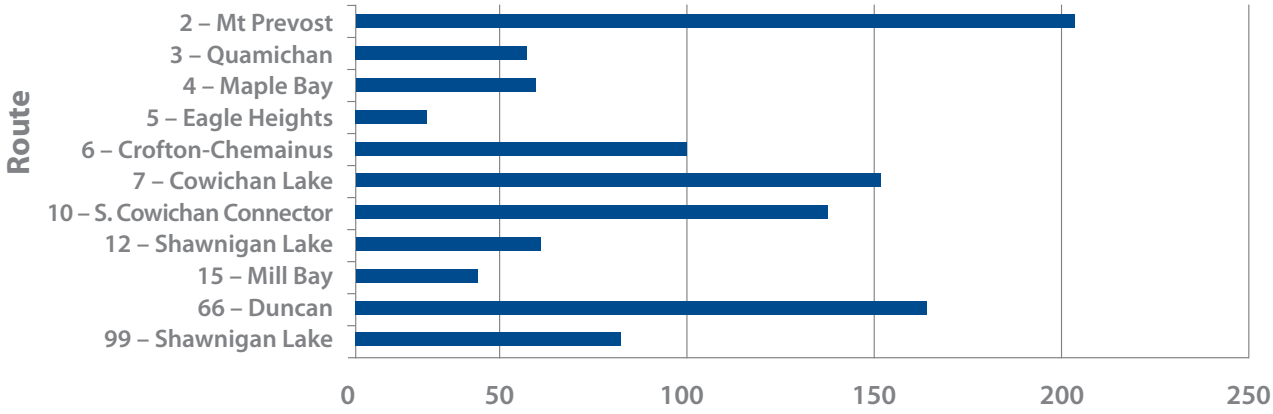


Local Fixed-Route Service Ridership

Below is a table and pie chart that provides average weekday ridership by route and passenger type based on passenger counts taken in the month of October 2011. On average, local-fixed route service carried over 1,200 people per day in the Cowichan Valley. Over 50 per cent of passengers were carried on the top three performing routes the 2 Mt Prevost, 7 Cowichan Lake, and 66 Duncan.

Average Weekday Ridership

October 2011



Cowichan Valley Commuter (CVC)

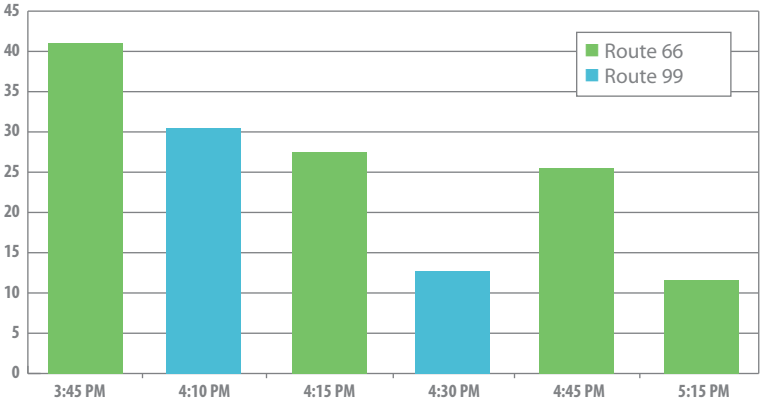
Between 2008 and 2011, the average number of monthly passengers on the Cowichan Valley Commuter has more than doubled (118% increase). The following table displays the average number of monthly passengers for each year, or portion thereof.

	Average Number of Passengers per Month				Growth Rate (Percent Change)		
Route	**2008**	**2009**	**2010**	**2011**	**2008–2009**	**2009–2010**	**2010–2011**
66	1,866	2,530	3,155	4,079	36%	25%	29%
99	861	1,011	1,428	2,057	17%	41%	44%
Total	2,727	3,541	4,583	6,136	30%	30%	34%

The number of passengers per trip varies by start time. In the evening, the earlier Route 66 trips returning from Victoria to the Cowichan Valley are over capacity, while the later returning trips have less than half the seats filled. In the morning, demand for service is more evenly distributed across all trips, however, the later morning trips leaving the Cowichan Valley still have a higher demand than the earlier trips.

Recent passenger counts (October 1-31, 2011) confirm a strong preference for earlier return trips on the Route 66. The 3:45 pm trip to Duncan has an average of 42 passengers but carries as many as 49 people, including standees. The number of passengers per trip decreases with time of day. The last trip of the day has the lowest ridership with an average of only 12 passengers per trip. Route 99 also has more riders on the earlier trip (4:10 pm) compared to the later trip (4:30 pm).

Average Afternoon Passenger Counts – Route 66 and Route 99



Customer Facilities & Amenities

The attractiveness of transit is based not only on transit services, but on the customer amenities that are provided at transit stops, exchanges and Park & Rides. Customer facilities should be universally accessible, include some form of weather protection (such as bus shelters), as well as benches, trash cans, bike racks and lighting for security at night.

Transit Stops

The CVRD has approximately 400 transit stops and approximately eight per cent of these provide weather protection with a shelter. During 2011, the CVRD invested in 27 new shelters and should continue to make investments to improve and maintain transit amenities, and increase universal accessibility at transit stops.

Existing Transit Stop Amenities	
Transit stops	400
Shelters	32
Bike racks at Park & Rides	2
Benches	0

Exchanges

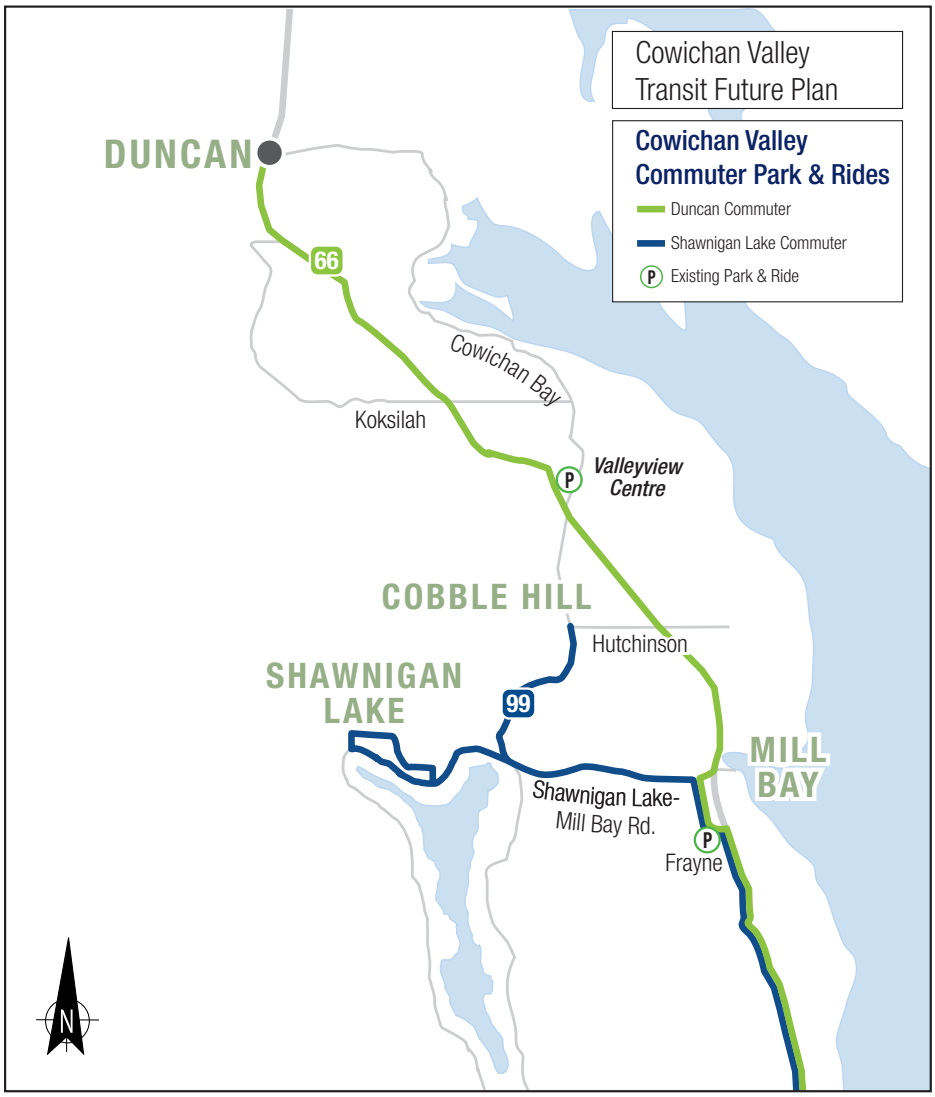
Transit exchanges facilitate transfers between bus routes and are typically located within the activity centres of the community, such as the downtown, village centres, and shopping malls to reinforce the relationship with land use patterns. If properly planned and designed, transit exchanges can become effective multi-modal exchanges and pedestrian-oriented sites. At a minimum, transit exchanges should provide weather protection, seating, transit route, schedule information, lighting, and cycling storage.

The existing on-street transit exchange is centrally located in Downtown Duncan adjacent the E&N Train Station. There are also terminals in Lake Cowichan, Village Green Mall, Mill Bay Shopping Centre and Valleyview Shopping Centre. There are no existing bus capacity issues at these facilities, but as service levels increase many of these facilities will need to be expanded.

Park & Rides

Park & Rides are locations where suburban commuters can park a car and transfer to transit to complete their journey. Park & Ride opportunities vary in formality, from highly informal on-street parking to formal, dedicated terminals with car parking facilities provided.

The CVC service is supported by two official Park & Rides adjacent to Highway 1 at Frayne Rd. and the Valleyview rest area, which are used by approximately 60 per cent of riders. These facilities are currently near or at parking capacity. The Valleyview Park & Ride is also a transfer point where CVC passengers can connect in the evening to the 10 South Cowichan Connector, 12 Shawnigan Lake and 15 Mill Bay. There are also two unofficial locations at Koksilah Rd. and the Duncan Mall, each receiving about 15 per cent of ridership.



Operations and Maintenance Centre

The Cowichan Valley Transit System has a combined conventional and custom transit operations and maintenance facility located in the industrial area south of Duncan (Roberts Rd). The majority of fleet is based out of this location with the exception of the fleet allocated to the Lake Cowichan services. The Roberts Rd facility stores the local conventional, CVC and handyDART fleet of 24 vehicles on a gravel lot and the fleet is maintained by Berks Intertruck at the adjacent property. On site there is the ability to store more vehicles in the short-term, but there is a medium - to long-term need for an expanded facility. The administration office of the operating company is located a few blocks away on Polkey Rd. The administrative, maintenance and fleet storage functions should be located on the same site to improve efficiency.

The fixed-route service in Lake Cowichan is administered locally with an office in the Town of Lake Cowichan. The existing fleet of two buses is maintained by Daly Automotive in Youbou. When the vehicles are not in service they are stored at the operators' residences in Lake Cowichan and when a spare vehicle is needed in Lake Cowichan it is stored at Daly Automotive. The local operating company has a long-term plan to store the vehicles in a secure location on-site at their administration office.

Benchmarking the Existing Transit System

The existing Cowichan Valley Transit System was compared to other communities of similar size in British Columbia. The Cowichan Valley system does not perform as well as other transit systems in terms of efficiency as measured in rides per hour. This is largely due to the longer distances between communities in the Cowichan Valley with smaller towns and rural areas spread across a large service area. The comparable communities have a more compact form with higher population densities focused in one city, or a few towns relatively close in distance. In general, transit performs better in areas of higher population density with mixed land use. Focusing future growth in nodes will improve the efficiency of transit and increase the number of people within walking distance to transit.

Conventional Transit – 2011 Service Level Comparison

	Population Served	Annual service hours	Vehicles	Annual ridership	Hours per capita	Rides per capita	Rides per hour
Campbell River	30,900	21,200	9	580,000	0.68	18.8	27.4
Comox Valley	45,700	24,000	10	530,000	0.52	11.6	21.5
Vernon	37,600	21,000	8	400,000	0.56	10.6	19.0
Cowichan Valley Total	38,500	32,292	22	421,000	0.84	10.9	13
Local-fixed route	–	27,599	14	352,022	–	–	–
Commuter	–	4,693	8	68,000	–	–	–

**It should be noted that the table above is based on population served by transit and not total regional population. As noted earlier in this section, approximately 50 per cent of CVRD residents are within the transit service area (within 400 metres of transit service).*

**Vehicles include spares*

**Does not include handyDART statistics*

Conventional Transit Challenges

Invest to meet the local targets – To realize the ridership targets of this Plan, ridership must increase from 435,000 annual rides (includes handyDART ridership) to 1.2 million annual rides. A review of ridership in comparable communities suggests that this is a relatively ambitious target; however it is achievable with investment and anticipated land use development.

Improve service levels and hours of operation of the existing transit system – The existing frequency of service (one to three hours between trips) and limited evening and weekend service are unattractive to customers with other transportation choices. This impacts the potential growth of transit ridership.

Increase the efficiency of the transit network – The lower efficiency of the transit network is largely due to the longer distances associated with travel in the Cowichan Valley as many service hours are allocated to making the connections between communities. Focusing future growth in nodes will improve the efficiency of transit and increase the number of people within walking distance of transit.

Decrease the complexity of the transit network – Within Duncan-North Cowichan many of the existing transit routes are not direct, operating with meandering one-directional loops within town. To new or non-transit customers the transit network can be difficult to understand in terms of how certain routes circulate and how to read the timetable. The complexity of the existing system is likely due to organic growth over time (adding on new layers/ routes) without the guidance of a long-term strategic approach to improve the network. The indirect loops must be simplified to improve efficiency and make it easier for customers to understand the transit system.

Increase service coverage – In the Cowichan Valley approximately 50 per cent of residents are within walking distance (400 metres) of transit due to the rural nature of the community and the fact that Ladysmith is not within the service area. Service coverage can be increased by providing local transit services in Ladysmith, and exploring opportunities to provide paratransit services in rural areas that do not generate the ridership to support fixed-route service.

The challenges of implementing inter-regional service (CVC) – Inter-regional service involves jointly administering the transit service and sharing the associated costs between the regional districts. This presents specific challenges that are different than providing local service within each jurisdiction. The existing CVC service is jointly funded by the Province, the Cowichan Valley Regional District and the Victoria Regional Transit Commission with no long-term agreement or governance mechanism for changing service levels. Before additional service is added between the CVRD and Victoria or new service between the CVRD and Nanaimo can be implemented, an agreement between all parties is needed that includes the following items:

- Development and approval of a service plan and implementation timeframe, as well as the development of a governance mechanism for changing service levels in the future
- A cost sharing agreement outlining responsibility for both capital and operating costs
- Development of a tariff strategy, fare structure and revenue sharing agreement specifically related to inter-regional service that could potentially include allowing passengers to use their transit pass within the other transit system
- Development of an operational plan to deliver the service including where the service would be administered, who would operate the service, where the fleet would be maintained and identification of responsibilities for development and maintenance of associated infrastructure, such as transit stops and Park & Rides

Developing a long-term agreement prior to implementing inter-regional services is essential to providing all parties with long-term stability. For example, without a long-term agreement outlining responsibilities, one party could potentially opt out of the service agreement and leave the remaining party in a financially unsustainable situation. Development of a CVC service governance mechanism to allow changes to service levels will improve the ability to respond to changes in demand for service. Implementing service enhancements is also dependant on the CVRD, Victoria Regional Transit Commission and the Regional District of Nanaimo transit service improvement priorities and the availability of local and provincial funding.

Improve CVC passenger capacity on select trips – Select return CVC trips are over capacity while other trips are less than half full. Short and longer term solutions are needed to better match CVC service to demand

CVC Park & Ride facilities –
The existing Park & Ride facilities at Frayne Rd and the Valleyview rest area are near or at parking capacity. Given their significance to supporting CVC service, a high priority should be given to expanding the parking capacity at these Park & Ride locations or the ability to accommodate growth in ridership will be limited. The Ministry of Transportation & Infrastructure, BC Transit and local government should look for opportunities for shared-use parking at these locations and within the City of Duncan prior to investing in additional purpose-built Park & Ride space to increase parking capacity in the short-term.

Improve customer facilities –
Several transit stops do not meet guidelines for universal accessibility and only eight per cent of transit stops have shelters. Investments should be made to improve accessibility and provide additional customer amenities such as bus shelters, benches and bike racks. These improvements will make transit a more attractive transportation choice.

Expand fleet storage capacity at the operations and maintenance facility –
The fleet storage capacity of the existing operation and maintenance facility will need to be addressed within a medium-term time frame to continue to expand transit services.

Custom Transit Service

Service Description

Custom transit service, also known as handyDART, provides door-to-door transit service for people who are unable to use the conventional system without assistance. The objective of custom transit service is to provide eligible customers access to their communities. Potential customers must apply to travel by handyDART. To determine eligibility for handyDART, BC Transit considers limitations in mobility/agility abilities, cognitive abilities, medical conditions, and sensory abilities.

HandyDART provides two types of trips; regular subscription trips and one-time trips. Subscription trips are once a week or more often. Typically, subscription trips are for transport to adult day programs, school and medical-related appointments. In contrast, one-time trips are often personal in nature for the purposes of shopping, social visits or recreational activities. For one-time trips, customers must reserve on a first come first served basis at least 24 hours in advance by calling the reservation line.

Service Area and Hours of Operation

In the CVRD handyDART service was introduced in 1982; BC Transit began operating the service in 1985. The service area for handyDART is similar to the conventional fixed-route service area except that service is very limited in the Lake Cowichan area due to the distance and available operating hours. The handyDART hours of operation are more limited than conventional transit, operate from 7:00 a.m. to 6:00 p.m. on weekdays and from 9:00 a.m. to 4:00 p.m. on Saturdays, with no service on Sundays. Service is provided with a fleet of four vehicles and 6,148 annual service hours. In comparison, the conventional transit system operates seven days a week, with many services running between 6:00 a.m. to 8:00 p.m., with extended service to 11:00 p.m. on Fridays.

Ridership

Approximately 800 individuals are registered for handyDART service. According to the operator, approximately 80 registrants are active users. Between 2000 and 2006, the system did not experience any significant growth or decline in ridership. Ridership on the system increased significantly due to service improvements from 6,700 in 2007/08 to 11,000 in 2008/09 and to an estimated 14,000 rides in 2010/11 with approximately 2.24 passenger rides per hour. Approximately 80 per cent of trips provided are subscription trips, or trips scheduled on a regular reoccurring basis and the other 20 per cent of trips are one-time trips. Subscription trips are most common in the morning and afternoon peak travel periods leaving little capacity at this time to accommodate personal one-time trips. Demand is anticipated to grow substantially over the next 25 years as the number of seniors with mobility impairments is expected to rise to be 9.6 per cent of the population 65 years and older.

Travel Patterns and Destinations

The majority of handyDART trips are concentrated in Duncan (45 per cent) and North Cowichan (45 per cent) with South Cowichan making up the other 10 per cent of trips. Adult daycare programs located at Providence Farm, Waldon House, and Clements Centre make up 70 per cent of total trips. The other 30 per cent of trips are for medical appointments (25 per cent), and shopping and social trips (5 per cent).

Customer Profile

Custom transit customers are significantly older than the general population, partly because disabilities increase with age. The average age of handyDART customers in the CVRD is 71.5 years. Customers with cognitive disabilities make up the largest number of handyDART rides (80 per cent), while 70 per cent of passengers use some type of mobility aid.

Cost per Ride

In 2011, Cowichan Valley handyDART services cost on average $31.29 per ride which is comparable to other handyDART systems in British Columbia. However, it is significantly more expensive when compared with the average cost of providing a ride on the conventional transit service at $7.77 per ride. Cost recovery for custom transit (6.39 per cent) is significantly less than it is for conventional transit (16.5 per cent), reflecting the higher cost of providing door-to-door service.

Custom Transit – 2011 Service Level Comparison

	Population Served	Annual service hours	Vehicles	Annual ridership	Rides per capita	Rides per hour
Campbell River	38,200	5,467	4	19,940	0.52	3.65
Comox Valley	63,800	11,920	8	35,380	0.55	2.97
Vernon	50,400	14,035	9	62,220	1.22	4.43
Cowichan Valley	66,000	6,148	4	14,009	0.21	2.28

**It should be noted that the table above is based on population served by transit and not total regional population.*

**Vehicles include spares*

**The province funds handyDART services 67 per cent compared with conventional services at 46 per cent*

Custom Transit Challenges

Ensuring customers are matched to the appropriate transit service – Due to the relatively high cost of providing handyDART service, it is important to ensure that customers are matched with the type of transit service they need and only customers who meet the eligibility criteria use the handyDART services. This ensures limited resources are allocated appropriately and are available for those that require the service. BC Transit is developing a province wide standardized eligibility criteria to determine if an individual is unable to use conventional transit, and thus eligible for custom transit.

Limited custom transit service availability – handyDART transit hours of operation are more limited than the conventional transit operating system. The hours of service availability and the service area should align with the conventional transit system.

Limited availability during peak travel times on weekdays – The number of subscription trips at peak travel times limits the ability to provide casual trips, and restricts users' ability to travel semi-spontaneously, or travel at all during peak travel periods. Service capacity should be steadily expanded to improve the customers' ability to book a trip within a few days at a time that is convenient to them. Opportunities for joint funding or other partnerships to accommodate medical and adult day program trips should also be considered.

Increasing demand for handyDART service – The aging population will increase the demand for handyDART and other accessible services in the future. This will require an increase in resources and the provision of new accessible transit solutions to allow those unable to use the conventional transit system the ability to travel spontaneously like those using the conventional system.

Increasing the efficiency of custom transit service – The long distances associated with travel between communities in the Cowichan Valley is a challenge; focusing future growth in nodes will improve the efficiency of custom transit and will increase the number of people within walking distance of transit.

Alternate service delivery methods – Developing new ways to deliver custom transit services should be investigated to meet the custom transit market needs. For example, in North Vancouver, the Silver Harbour Seniors' Activity Centre has developed a "Go Bus" that operates three days a week and is designed to provide service for isolated seniors. The bus is free to ride and the service costs are covered by foundations, non-profits, service clubs and others.

Taxi Service – The existing taxi services in the Cowichan Valley are not wheelchair accessible.

Vision and Goals

Vision Statement

"The Cowichan Valley Regional Transit System connects people and communities through cost-effective, convenient, safe and accessible transit services"

The creation of the vision was a collaborative effort that included the community, stakeholders, local government partners and BC Transit. Three project goals have been created to support the achievement of this vision statement. In order to work towards a vision that encompasses more than simply carrying more transit passengers, the supporting goals look beyond simply the provision of high quality transit service.

Plan Goals

1. Make transit an attractive alternative to the private vehicle

How do we do that?

Fast and direct	• Design transit routes to be as direct as possible to key destinations • Provide transit priority measures such as queue jumpers, bus only lanes and traffic signal priority as required
Convenient and reliable	• Increase service frequency and improve connections within and between communities • Increase the span of service (hours of operations)
Easy to use	• Create easy to understand routes and schedules • Improve transfers between routes • Have consistent headways (times between buses) whenever possible • Have customer information more readily available in a format that is accessible to and easily understandable by the customer • Provide passenger wayfinding information at transit exchanges and transfer points such as signage, schedule, and fare information
Comfortable	• Provide customer amenities at transit stops and exchanges such as shelters, benches, schedule information, lighting and trash receptacles • Design transit vehicles to provide a comfortable on-board experience • Provide sufficient passenger carrying capacity to reduce crowding and standing on long trips
Accessible to everyone	• Design the transit network to connect the majority of residents with major destinations in the region • Ensure that transit infrastructure and vehicles are universally accessible • When feasible, provide paratransit services in rural areas that can not support conventional fixed route service • Align handyDART hours of operations and service area with the conventional transit system • Ensure customer information is available in formats for people with hearing and visual impairments (e.g. audible stop announcements, websites that cater to the visually impaired)
Affordable fares and convenient payment options	• Ensure that the transit system is affordable to the majority of the CVRD population • Provide customers with convenient and affordable fare payment options • Support the Student Union in implementing a UPASS program at the Vancouver Island University

2. Reduce the community's impact on the environment

How do we do that?

Support sustainable land use	• Encourage and support more walkable and community focused compact land use patterns that reduce land energy consumption and greenhouse gas (GHG) production • Delineate a long-term transit network that will enable local governments to focus medium and higher density mixed use development adjacent to the transit network • Align transit investments with development of major centres, neighbourhood centres, and other key areas designated in land use plans
Support a more sustainable transportation network	• Integrate the transit network with regional and local cycling, pedestrian and trail networks • Encourage and work with local partners to create high quality pedestrian and cycling links to transit stops • Provide bicycle storage at transit stops and on transit vehicles • Allow for the possible provision of future inter-city rail service
Investigate greener vehicle technologies	• Consider transit vehicle technologies that will reduce our impact on the environment and help achieve provincial and regional GHG reduction targets

3. Make the transit system more efficient

How do we do that?

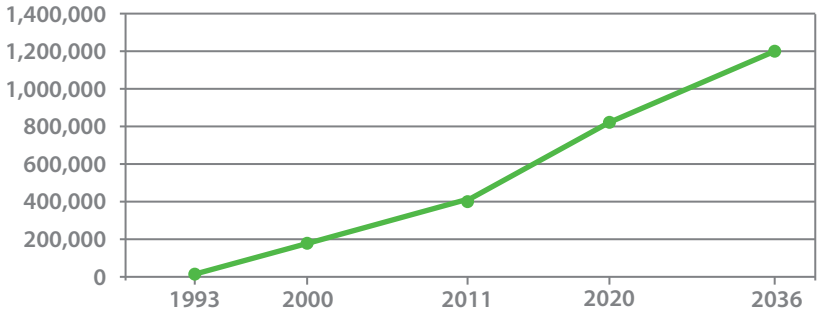
Maximize ridership for the amount of resources used	• Prioritize all new service proposals according to a number of service performance indicators (e.g. cost per passenger, rides per hour, boardings per service kilometre etc) • Focus transit investment on high productivity destinations, neighbourhood centres and corridors with supporting land use
Explore sustainable, long term funding sources for transit investment	• Work with local government and the province to seek out and secure sustainable, long-term funding for transit infrastructure and operations
Matching services levels and vehicles to demand	• Create a transit network that features layers of service to better match service to demand • Continually improve the transit network to better match service levels to service demand • Where possible, use a transit vehicle that reflects the all day needs of the specific transit route

Ridership Target

Setting a ridership target is a critical component of the Transit Future Plan, as it is an effective way to measure progress towards achieving the goals of the plan and to ensure that the plan is implemented as intended.

The Transit Future plan sets a transit ridership target of 1,200,000 annual riders for 2036. Transit ridership growth will need to triple from 435,000 annual rides to reach this target over the next 25 years. The ridership target for this plan was developed with input from stakeholders and a review of comparable communities. It is a relatively ambitious target; however, it is achievable with investment and transit supportive land use development.

Historic & Forecast Ridership



The Network

To achieve the ridership targets of the Transit Future Plan, the transit network must align with future land use plans and provide quality connections between communities in the Cowichan Valley. The transit services are designed to improve directness, reliability and to better match transit service to demand.

Service Layers

The transit services outlined below combine to create a comprehensive transit network to best meet the existing and future needs of the Cowichan Valley. The service layers are designed to connect and move people between regional centres and within community centres.

Local Transit Network (LTN)

The LTN is designed to allow customers to plan a trip to work, school, local shopping centres or personal trips by transit. The LTN provides fixed-route transit services operating generally throughout the day, every day of the week. Frequency and vehicle type are selected based on demand. In some cases, smaller transit vehicles can be utilized to better match customer demand and operating conditions. These services include:

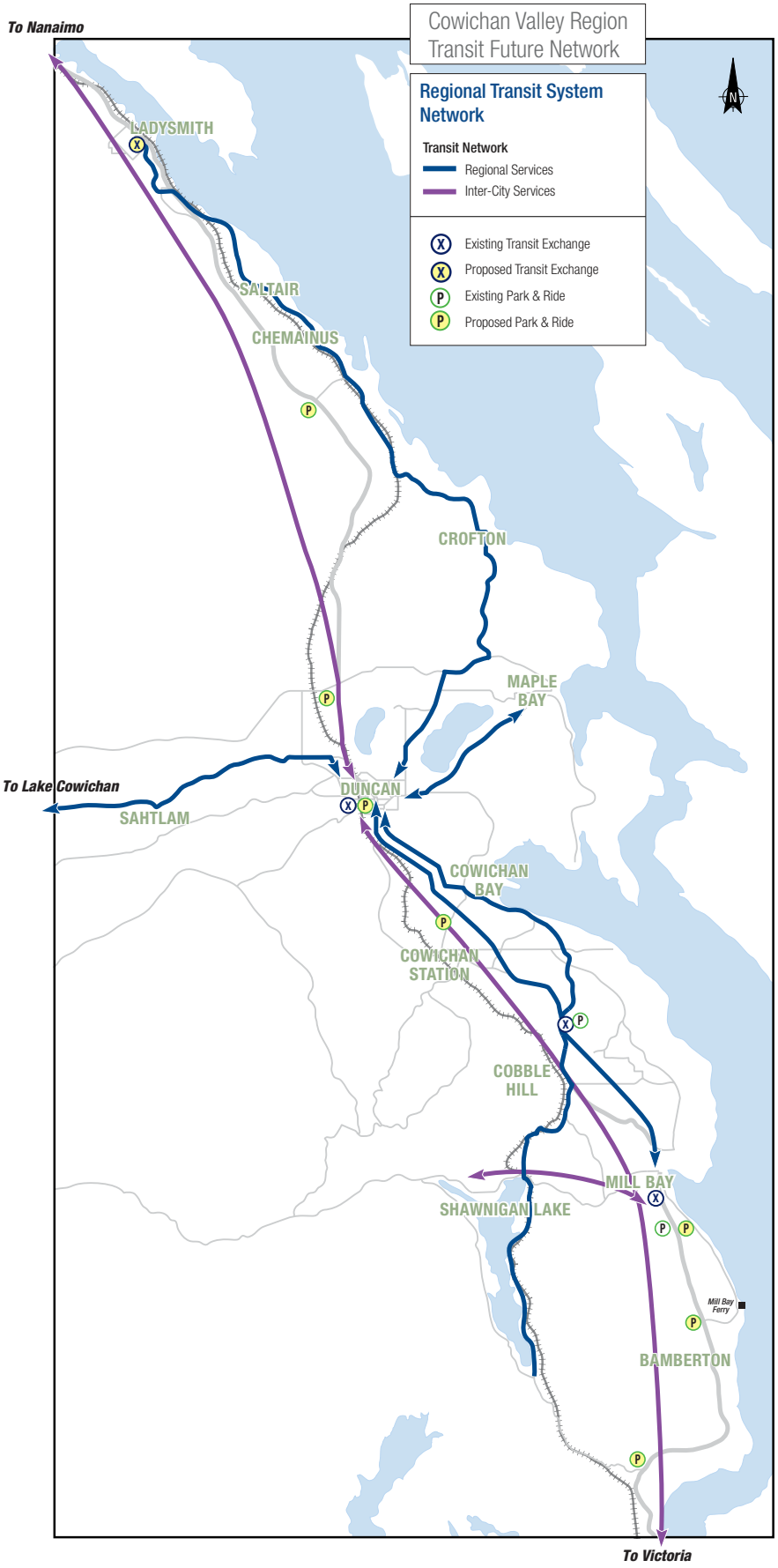
- **Regional service:** fixed-route transit services that provide connections between communities. The City of Duncan is a key focal point with the majority of regional services connecting at this location.
- **Neighborhood service:** fixed-route transit services that provide connections within communities to local destinations. Neighborhood services will be focused on connecting neighborhoods with village and town centres.

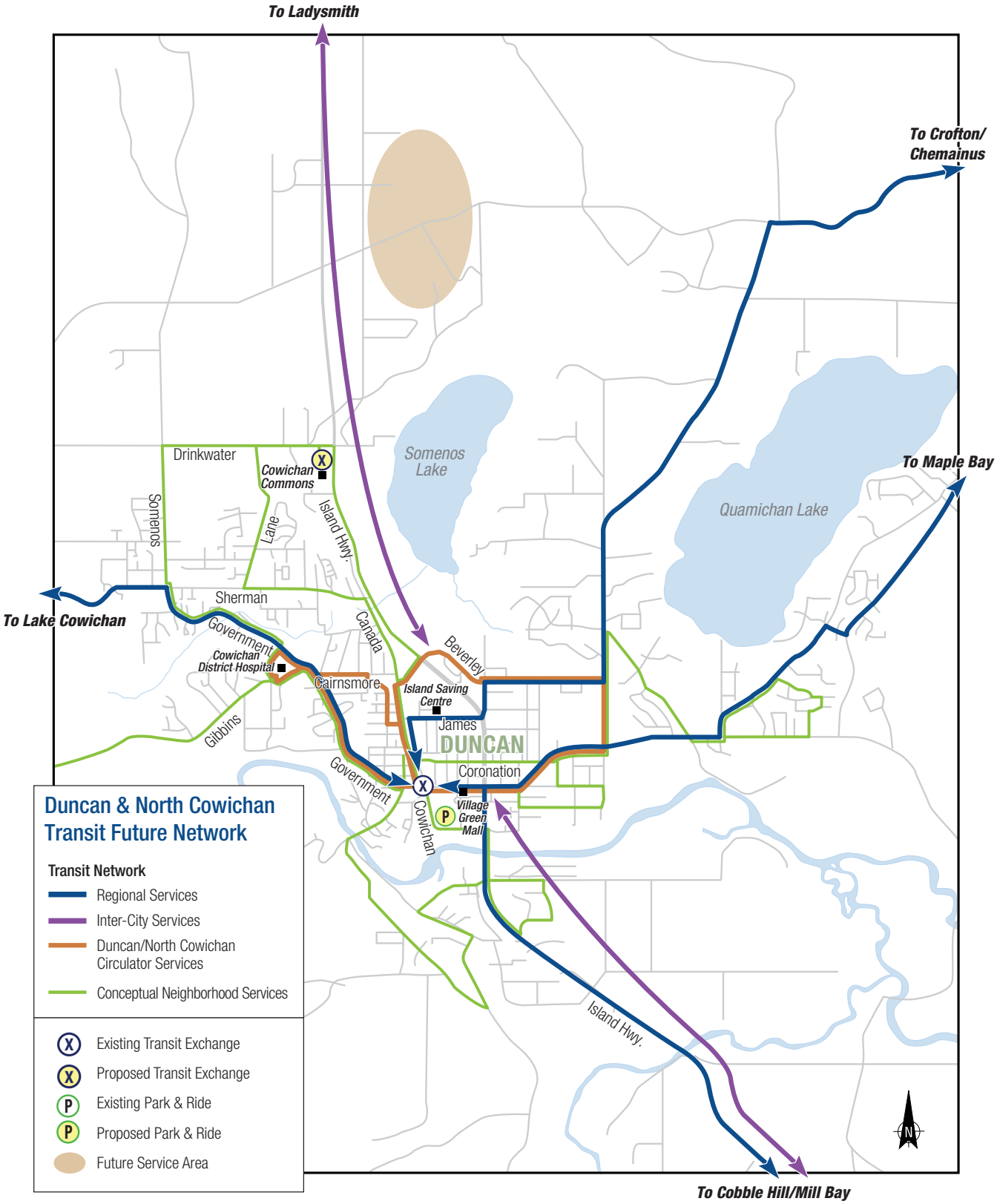
Targeted Services

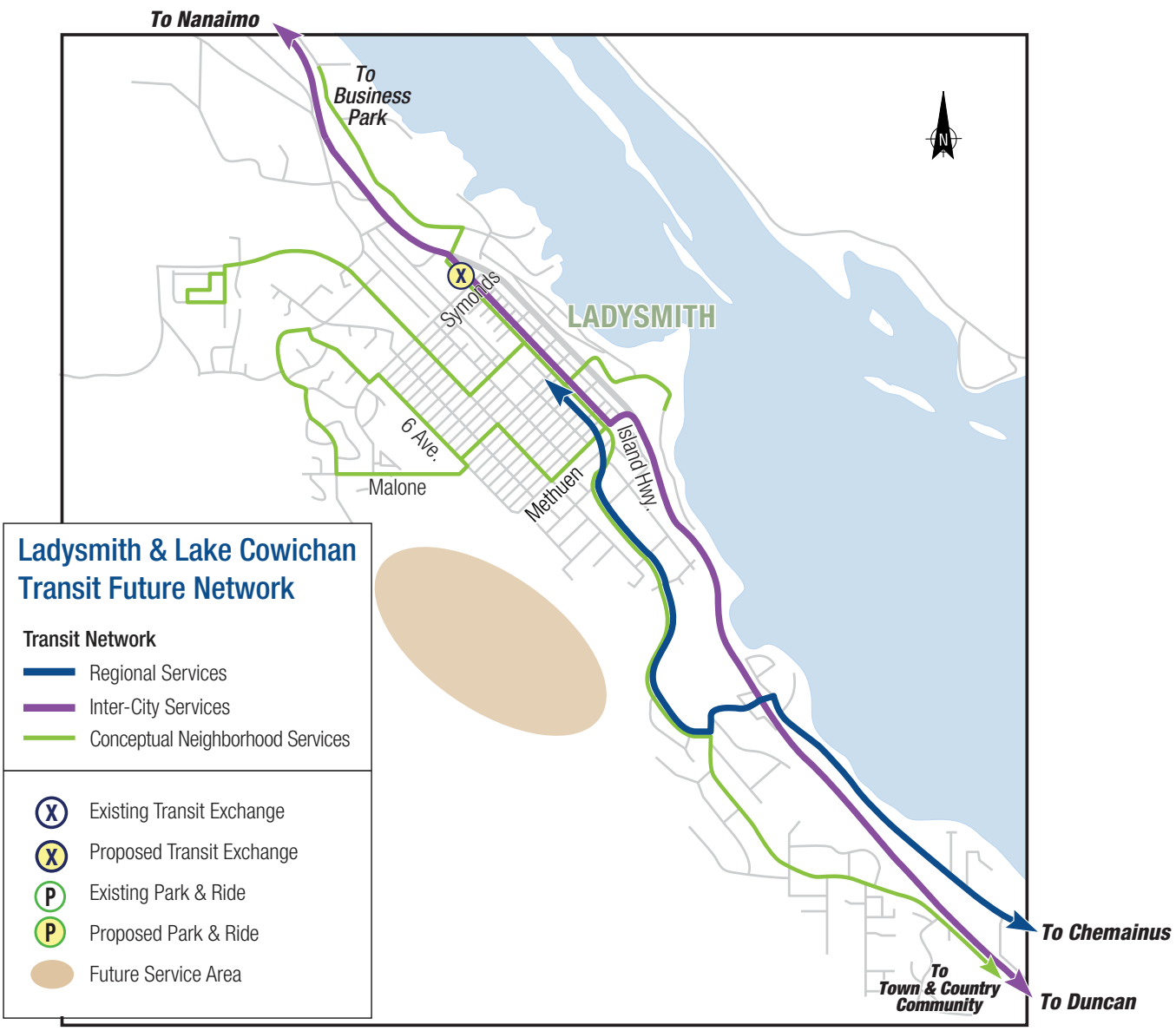
Targeted services are a collection of transit services that do not fit into the local transit network definition and are more focused on the needs of specific customers. These services include:

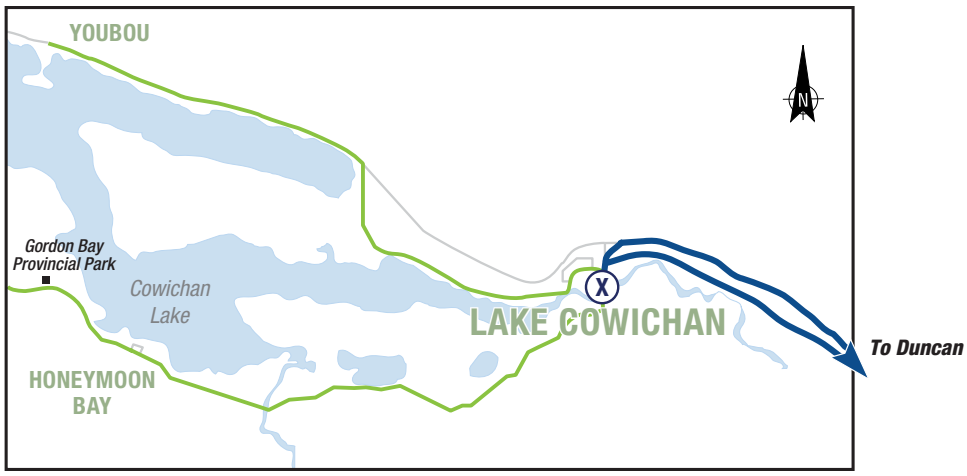
- Inter-regional: provides connections outside of the local transit service area (e.g. Victoria, Nanaimo)
- Custom/handyDART: door-to-door services for customers unable to use the conventional service
- Express: a direct, limited-stop, route between destinations
- Paratransit: a range of services designed to effectively serve rural and low-density areas
  - » Flex-route transit, where buses deviate from fixed routes on request
  - » Dial-a-bus, where routes are variable but schedules are fixed
  - » Demand-responsive transit, where routes and schedules are variable
  - » Vanpools, where one of the passengers is also the operator of the service

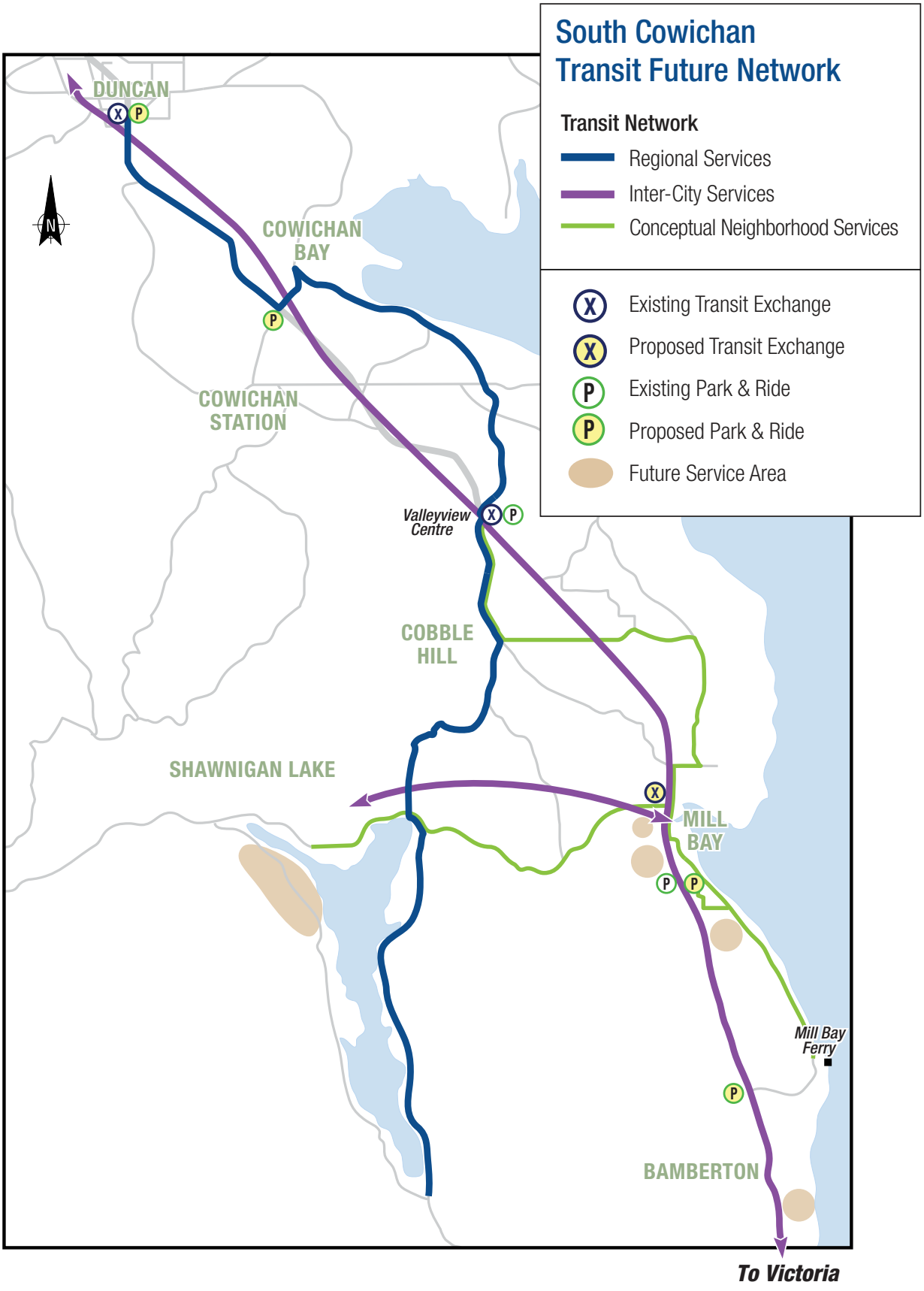
*** Paratransit services are eaxplained in further detail in the Appendix on page 94**


Cowichan Valley Region
Transit Future Network
Regional Transit System Network
Transit Network
Regional Services
Inter-City Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
N
To Nanaimo
LADYSMITH
SAL TAIR
CHEMAINUS
CROFTON
MAPLE BAY
To Lake Cowichan
SAHTLAM
DUNCAN
COWICHAN BAY
COWICHAN STATION
COBBLE HILL
MILL BAY
SHAWNIGAN LAKE
Mill Bay Ferry
BAMBERTON
To Victoria


To Ladysmith
To Crofton/ Chemainus
To Maple Bay
To Lake Cowichan
To Cobble Hill/Mill Bay
Somenos Lake
Quamichan Lake
Drinkwater
Cowichan Commons
Somenos
Lane
Island Hwy.
Sherman
Government
Cowichan District Hospital
Canada
Beverley
Cairnsmore
Island Saving Centre
James
DUNCAN
Gibbins
Government
Coronation
Village Green Mall
Cowichan
Island Hwy.
N
Duncan & North Cowichan Transit Future Network
Transit Network
Regional Services
Inter-City Services
Duncan/North Cowichan Circulator Services
Conceptual Neighborhood Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Future Service Area


To Nanaimo
To Business Park
LADYSMITH
Symonds
6 Ave.
Malone
Methuen
Island Hwy.
To Chemainus
To Town & Country Community
To Duncan
Ladysmith & Lake Cowichan Transit Future Network
Transit Network
Regional Services
Inter-City Services
Conceptual Neighborhood Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Future Service Area

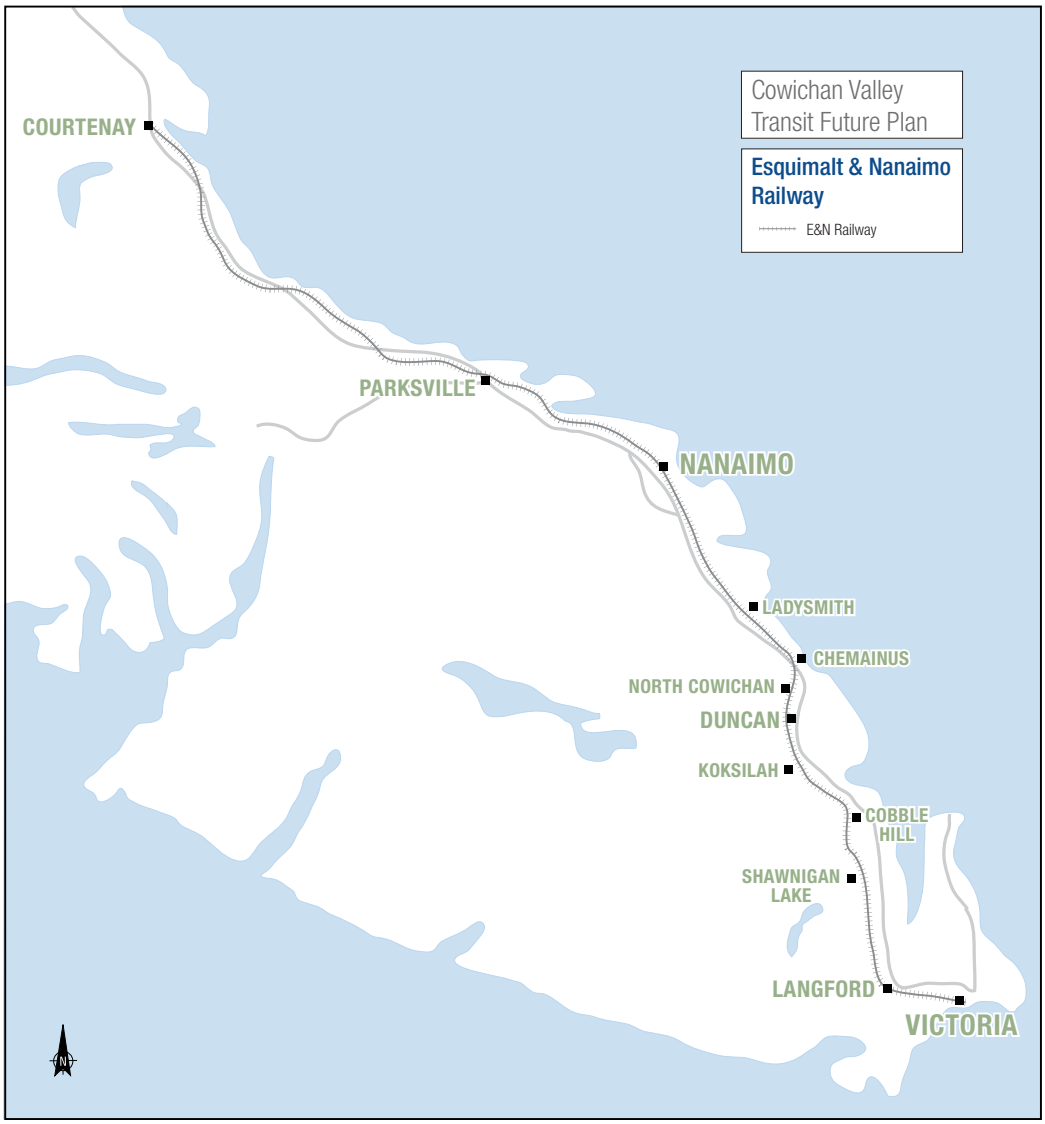

YOUBOU
Gordon Bay Provincial Park
Cowichan Lake
LAKE COWICHAN
HONEYMOON BAY
To Duncan


South Cowichan
Transit Future Network
Transit Network
Regional Services
Inter-City Services
Conceptual Neighborhood Services
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Future Service Area
DUNCAN
COWICHAN BAY
COWICHAN STATION
Valleyview Centre
COBBLE HILL
SHAWNIGAN LAKE
MILL BAY
Mill Bay Ferry
BAMBERTON
To Victoria
N

Esquimalt and Nanaimo (E&N) Transportation Corridor

On Vancouver Island the E&N Rail corridor runs parallel to the main Island Highway between Victoria and Courtenay. The corridor connects many of the communities in the Cowichan Valley between Ladysmith and Shawnigan Lake. Rail service was cancelled in the spring of 2011 due to the deteriorating conditions of the track. The owner of the corridor, the Island Corridor Foundation, has future aspirations to implement a inter-city service from the mid-island to Victoria. The design of the Transit Future Network allows for future integration between rail and bus services with a major transit hub adjacent to the railway on Canada Avenue and minor connections within other communities.

The Transit Future Plan supports the preservation of the E&N corridor for transportation purposes, given that it is one of the few transportation corridors directly connecting communities on the southeast coast of Vancouver Island.



Resources

To meet the ridership targets set out in the plan requires investments in transit operating and capital resources. This section of the plan outlines the 25 year forecasts for service hours, fleet and infrastructure.

Service Hours and Vehicles

Future Service Hours

The future service hours were forecast for 2036 for each transit corridor by service type (Local and Targeted Services), assigning corresponding service levels and spans for each day of the week.

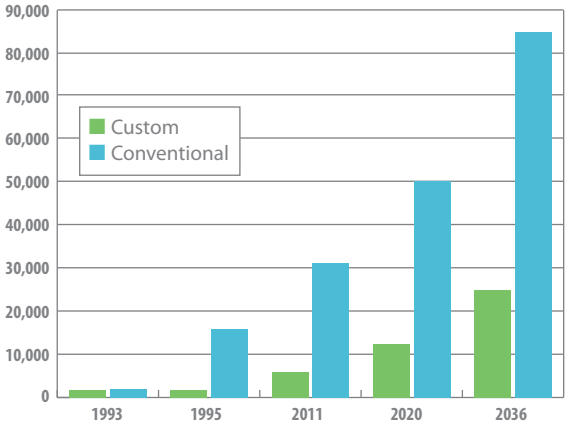
Service hours for each route in the conventional transit system were then calculated by estimating the cycle time. The cycle time is the length of time it takes for a transit vehicle to complete one round trip, including the recovery time. Cycle times were calculated by measuring the length of the route in kilometres and estimating the average trip speed (km/average trip speed). The total number of service hours for each route were then calculated by multiplying the frequency of trips throughout the day by the cycle time. Travel speeds were based on current trip speeds. **Variations in travel speed due to traffic congestion have a significant impact on the number of service hours and fleet required to provide service.** Custom service hour projections were based on historical trends matched with past and future demographic trends.

Existing and projected annual service hours – conventional and custom transit

	Conventional	Custom	Total
2011	32,292	6,148	38,440
Projected 2036	85,000	25,000	110,000

Historical and Projected Conventional and Custom

Transit Service Hours



Future Fleet Requirements

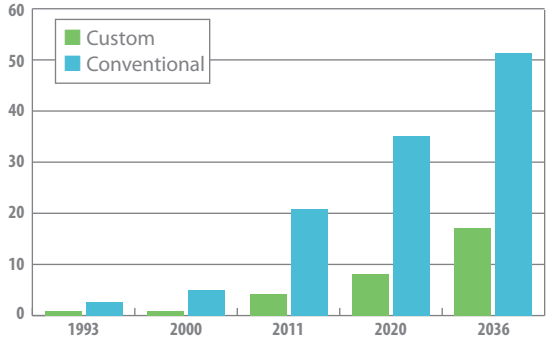
The forecasts for fleet requirements were calculated for each transit route for 2036 by determining the number of vehicles required to operate the service during the peak hour for each transit route during weekday service. The formula used was peak headway/cycle time.

Existing and projected fleet requirements – conventional and custom

	Conventional	Custom	Total
2011	22	4	26
Projected 2036	52	17	69

Historical and Projected Conventional and Custom

Fleet Requirements



Benchmarking the Transit Future System

The 2036 Cowichan Valley plan projections were compared to existing transit systems in Canada and the United States. The benchmarking exercise indicates that the ridership target, future service hours and fleet requirements are comparable statistically with similar sized communities. To meet these ridership targets the plan must be supported by a transportation demand management strategy, as well as by transit-oriented development with denser, mixed land use in town centres.

Forecast 2036 Conventional Transit System – Future Service Level Comparison

System	Population	Annual Service hours	Vehicles	Annual Ridership	Hours per capita	Rides per capita	Rides per hour
Brantford, ON	93,399	72,464	29	1,073,849	0.78	11.5	14.8
Island Transit, WA*	80,300	60,436	66	1,053,474	0.76	13.1	17.4
Peterborough, ON	80,000	100,000	49	2,836,700	1.25	35.5	28.4
Central Fraser Valley, BC	124,700	96,301	40	2,090,000	0.77	16.8	21.8
Moncton, NB	120,525	91,147	36	2,446,194	0.75	20.3	26.8
Cowichan Valley, BC	106,000	85,000	52	1,200,000	0.80	11.3	14.11

**Free transit fares*

Forecast 2036 Custom Transit System – Future Service Level Comparison

System	Population	Annual Service hours	Vehicles	Annual Ridership	Hours per capita	Rides per capita	Rides per hour
Kamloops, BC	86,800	27,441	16	97,550	0.32	1.1	3.55
Nanaimo, BC	135,800	23,312	15	64,070	0.17	0.47	2.75
Central Fraser Valley, BC	176,900	24,756	17	96,550	0.13	0.55	3.90
Cowichan Valley, BC	106,000	25,000	17	62,500	0.24	0.5	2.5

Transit Infrastructure

Implementing the Transit Future Plan requires significant investments in transit infrastructure such as customer facilities, operating facilities, and transit priority measures where appropriate.

Customer Facilities

New and expanded customer facilities will support the implementation of the plan by improving the customer experience, access to the system, and the ability to accommodate an expanded transit fleet.

Transit Exchanges

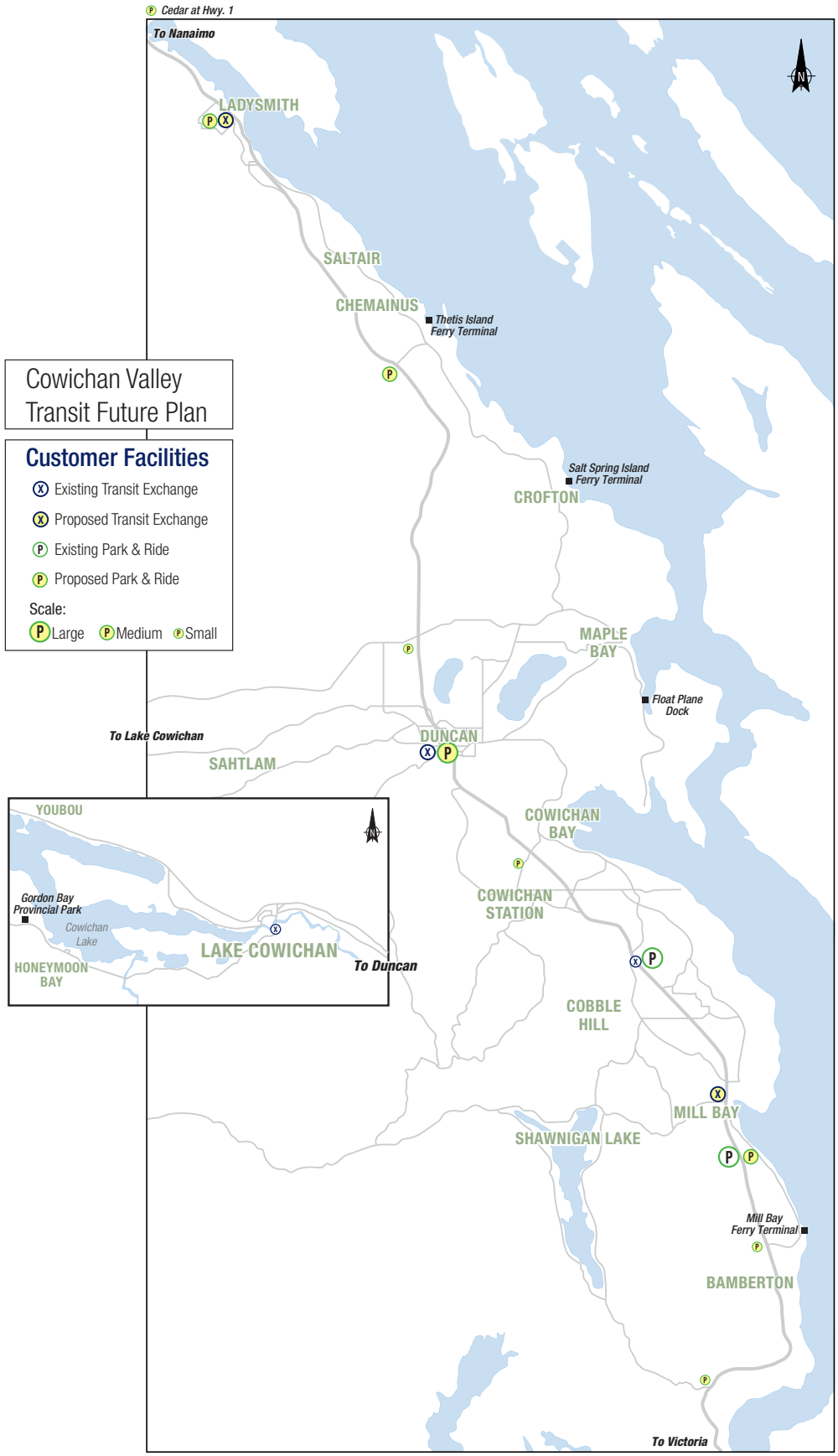
The Plan requires six transit exchanges as identified on page 67. Four of the exchanges already exist (Downtown Duncan, Cowichan Commons, Lake Cowichan and Valleyview). Over the life of the Transit Future Plan the suitability of these exchanges in terms of location, operational capacity and amenities will need to be reviewed. The Plan identifies that two new exchanges will be required in Mill Bay and Ladysmith.

Park & Rides

The Transit Future Plan identifies eight Park & Ride facilities on page 67 to provide customers with direct access to expanded inter-regional transit services and local transit services. These opportunities are primarily in semi-rural or rural areas where transit services are less frequent and walking distances to transit are very long. Two Park & Ride facilities at Frayne Rd and Valleyview already exist, but require increased customer parking capacity.

Enhanced Passenger Amenities

Passenger amenities at transit stops can also have a significant impact on attracting new users. The plan suggests that over the long-term, the CVRD and municipalities should strive to provide seating, shelters, lighting, and customer information at the majority of stops in the Cowichan Valley. Listed in the table on page 68 are the amenities that should be considered at exchanges, higher-activity transit stops and lower-activity transit stops.


Cedar at Hwy. 1
To Nanaimo
LADYSMITH
SALTAIR
CHEMAINUS
Thetis Island Ferry Terminal
Salt Spring Island Ferry Terminal
CROFTON
MAPLE BAY
Float Plane Dock
To Lake Cowichan
DUNCAN
SAHTLAM
YOUBOU
Gordon Bay Provincial Park
Cowichan Lake
LAKE COWICHAN
HONEYMOON BAY
To Duncan
COWICHAN BAY
COWICHAN STATION
COBBLE HILL
MILL BAY
SHAWNIGAN LAKE
Mill Bay Ferry Terminal
BAMBERTON
To Victoria
Cowichan Valley Transit Future Plan
Customer Facilities
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
Scale:
Large
Medium
Small

Facility	Attributes
Major stops and exchanges	• Premium transit shelters • Level door boarding • Off-board fare payment • Real time schedule information • Bike storage • Customer way finding information (such as directional signage) • Universally accessible
High activity transit stops	• Transit shelters • Bike storage • Quality customer information (such as transit schedule and map information) • Universally accessible
Lower activity transit stops	• Universally accessible • Bench

Transit Operations and Maintenance Facility

As outlined on page 47, the existing operations and maintenance facility will need to be upgraded and expanded to accommodate a forecast fleet of 69 transit vehicles. A study will be required to identify the functional requirements of a new facility as well as evaluate potential locations to recommend a preferred site location. Partnership opportunities to share a new facility with the school district or other municipal functions should be explored.

Transit Priority Measures

Transit priority is a term used to refer to a variety of physical and operational improvements designed to give transit vehicles and their passenger's priority over general vehicle traffic. Transit priority elements can be:

- Regulatory, such as "Yield to the Bus" regulations and signage
- Operational, such as retiming traffic signals to respect the higher number of passengers on transit vehicles compared to private vehicles
- Physical, such as exclusive transit ways, intersection queue jumper, bus bulges, and transit signal priority measures

BC Transit and local partners should examine opportunities at key locations along the future transit network for priority measures that reduce delays to bus services, such as transit signal priority and queue jumpers at intersections where delays and congestion exist today or are anticipated to degrade in the future. Although many of these treatments will impact vehicles, they are key to supporting long-term transit ridership by prioritizing transit over vehicles.

Implementation Strategy

The implementation strategy outlines how transit investments should be staged and prioritized over the life of the plan by identifying short, medium and long-term network priorities, as well as ongoing improvement initiatives. The prioritization of transit investments was based on the plans needs and the feedback received from the general public, municipal partners and the stakeholder advisory group during the planning process.

Network Priorities (Conventional Service)

The Network Priorities section of the plan identifies the key priorities for establishing the Transit Future Plan network. This section outlines short-term, medium-term and long-term changes, with more detailed resource information provided for the short-term initiatives. As the plan is updated over time, more details will be provided on medium and long-term initiatives.

Service changes and infrastructure projects identified in this section vary significantly in terms of timelines, complexity, costs and process, meaning that initiatives will not necessarily be completed in a strictly chronological order. The priorities are not scheduled on a year-by-year basis, as the implementation of the Transit Future Plan is dependent on a number of factors that may change annually:

- The availability of funding from local government, the provincial government and the federal government
- Community growth factors (e.g., community development and shifts in demographic factors)
- Phasing of major projects (e.g., a new operation and maintenance centre, new transit exchanges)
- Operational and capacity demands of the system
- Opportunities for value added partnerships (e.g., road improvement projects by local government)

Short-term Implementation (0-5 years)

Service

Improve the frequency of weekday service

Across the entire transit system existing weekday service is infrequent with large gaps in scheduled service throughout the day. The first service improvement package of the plan provides 2,500 annual service hours to improve frequency on existing routes. As highlighted in the table below, the service improvements include adding morning trips to reduce the gaps in the existing schedules and to allow for better connectivity. This service improvement package is scheduled for implementation in February 2012 and requires one additional conventional bus.

Service	Service Improvement	Fleet	Annual Service Hours
4 Maple Bay	1 morning trip	_	340
6 Crofton-Chemainus	1 morning trip	_	425
7 Cowichan Lake	1 morning trip, 1 afternoon trip	_	800
10 South Cowichan Connector	2 morning trips	_	760
12 Shawnigan Lake 15 Mill Bay	Switch morning trips between routes to improve efficiency and time between trips	_	0
	Minor schedule adjustments		175
Total Estimated Fleet and Hours		**1**	**2,500**

Implement the Cowichan Valley Commuter Service review recommendations

A service review of the Cowichan Valley Commuter service (CVC) was conducted in the fall of 2011 which included an analysis of CVC ridership data and consultation with the CVC customers. The review identified issues with passenger capacity on select return trips from Victoria and the seasonal variation in travel time. The review identified a number of short-term options for service improvements and recommended two options for consideration in the near-term:

- Maintaining the status quo
- Making minor adjustments to the schedule to better accommodate passenger demand on select trips

This schedule change is scheduled for implementation on February 6th 2012. The Transit Future Plan makes further recommendations in the short-term to improve Park & Ride capacity at Frayne Rd and Valley View and medium-term service enhancements to expand CVC service.

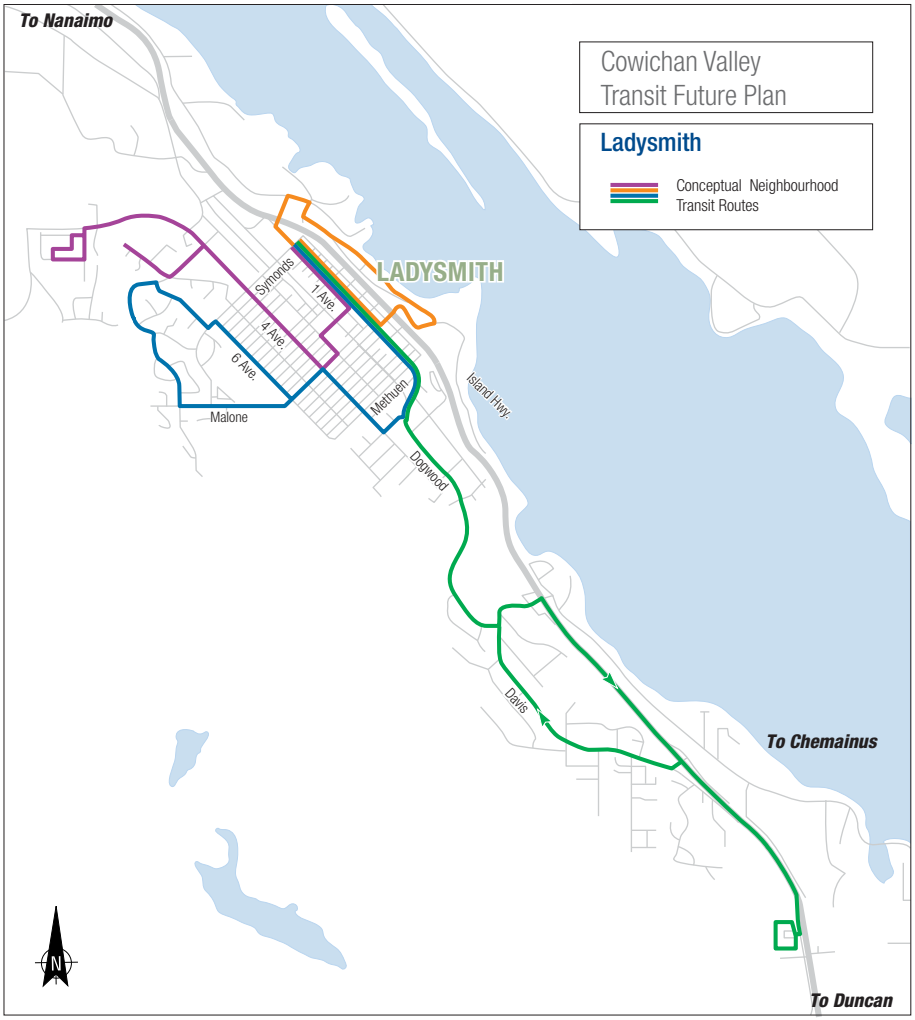
Service Change	Fleet	Annual Service Hours
Adjust schedule to improve utilization of existing capacity and resources	–	–

Introduce Transit Service to Ladysmith

As discussed in the Setting the Scene section of the document (p.24), the existing Cowichan Valley Transit System does not provide service within or to the Town of Ladysmith. Existing transit service in Ladysmith is provided independently by the town with a local trolley service. The community has expressed a strong desire for neighbourhood fixed-route transit service to address local transit needs within Ladysmith. Ladysmith residents also expressed a desire for transit service to the communities of Chemainus, Duncan, Nanaimo and Saltair to accommodate travel for employment and post-secondary education. There is also a public need for handyDART service for persons with a disability. The objective of this implementation package is to address these local transit needs by providing:

Service Improvement	Fleet	Annual Service Hours
• Ladysmith neighborhood service	2	3,100
• Service between Ladysmith and Chemainus via Saltair – connects with service in Chemainus to Duncan		1,100
• Local handyDART service	1	1,000

The implementation of transit service will require a funding and partnership agreement between Ladysmith, Electoral are G (Saltair/Gulf Islands) the CVRD and BC Transit. Upon agreement to move forward with implementing transit service, a more detailed service plan will be developed with local consultation. This service plan would replace local trolley service. Consideration would need to given on where the vehicles for this service would be maintained and stored.



Improve Evening Service

Existing transit service is provided on the majority of routes until 7:30 p.m. on weekdays and until approximately 5:00 p.m. to 6:00 p.m. on weekends. This service improvement package is designed to provide evening service to 10:30 p.m. on the majority of routes Thursday through Saturday. Improved evening service on Monday to Wednesday will be implemented in the medium-term. This service improvement package does not require an additional vehicle.

Service Improvement	Fleet	Annual Service Hours
Extend evening to 10:30 p.m. on the majority of routes Thursday to Saturday	–	3,200

Improve Weekend Service

Existing weekend service is very limited in terms of frequency and hours of operation with many routes only operating a few trips a day. This service improvement package is designed to improve the frequency of service and hours of operation on weekends.

Service Improvement	Fleet	Annual Service Hours
Improve the frequency and hours of operation of service on weekends	–	3,000

Improve the Cowichan Valley Commuter Service to Victoria

Enhancing the existing inter-regional service to Victoria (Cowichan Valley Commuter) was identified as priority during the consultation process. People expressed a need or desire to commute by transit from the Cowichan Valley to Victoria for employment and post-secondary education. A desire was also expressed for the implementation of mid-day and weekend transit services for shopping and personal business.

Jack Bell Ride-Share and Vanpool program

Inter-regional commuter services are a relatively expensive transit service to operate due to the distances, fleet and infrastructure requirements. Consideration should be given to devoting additional marketing resources to the Jack Bell Ride-Share and Vanpool program to highlight it as an option for travel between the Cowichan Valley and inter-regional destinations. Opportunities to integrate the Jack-Bell Program with inter-regional services should be explored to supplement bus services with Vanpool options.

Cowichan Valley Commuter Service Improvements

The Transit Future Plan proposes that existing service be enhanced between the Cowichan Valley and Victoria, and identifies the following short-term improvements to the CVC service.

Service Improvements

- Higher-passenger capacity buses should be utilized on high demand trips that require more capacity than the existing buses can provide
- Secondary to using higher capacity vehicles, additional peak trips could be added to meet demand. The first priority would be an additional 66 Duncan trip that arrives in Victoria before 8:00 a.m. and leaves Victoria at 4:00 p.m.
- Within the Capital Regional District prior to the implementation of a rapid transit line interim transit priority measures will be introduced on the Trans Canada Highway, such as bus-on-shoulder lanes. The CVC service would be able to take advantage of this infrastructure to avoid traffic congestion and shorten the trip times.
- Improvements to transit service in Victoria will allow for better connections between CVC service to locations outside of the downtown including the Esquimalt Dockyard and University of Victoria.

Infrastructure

Establish Ladysmith Transit Terminal and Stops

Following the development and approval of a detailed transit service plan for Ladysmith, a bus stop and terminal plan will be required as part of the service implementation plan. The Town of Ladysmith has already established several trolley stops throughout the community which future BC Transit service may be able to utilize. An on-street transit terminal within the Town Centre is required for operational purposes such as recovery time between trips and access to a washroom for operators.

Work with the Ministry of Transportation & Infrastructure to expand park & ride capacity at Frayne Rd and Valleyview

Park & Rides are a critical component of commuter services, as the majority of riders access the service at Park & Ride locations by automobile. The existing Park & Ride facilities at Frayne Rd and the Valleyview are near or at parking capacity. Given their significance to supporting CVC service, a high priority should be given to expanding the parking capacity at these Park & Ride locations or the ability to accommodate growth in ridership will be limited. Opportunities for shared-use parking at these locations and within the City of Duncan should be explored prior to investing in additional purpose-built Park & Ride space. Improvements to customer amenities such as pedestrian lighting, transit shelters and bike racks or lockers should also be considered. Consideration should also be given to improving transit access to the Park & Rides from the Trans Canada Highway with improved transit stop locations and transit priority.

Frayne Rd. Park & Ride

Valleyview Park & Ride

Medium-term Implementation (6–15 years)

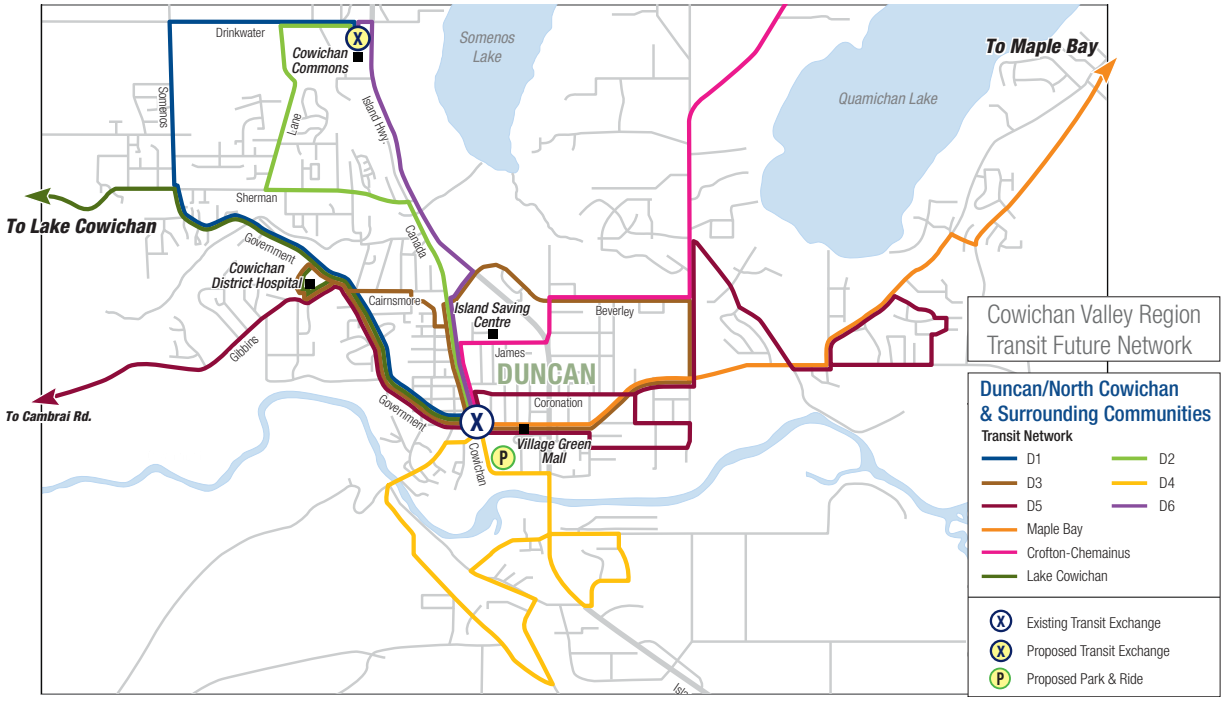
Service

Reconfigure Duncan and North Cowichan Transit Services

The majority of routes in the existing transit network converge in Downtown Duncan and the Village Green Mall. Many of the existing transit routes are not direct, operating with meandering one-directional loops within town. The transit network can be difficult to understand in terms of how certain routes circulate and how to read the timetable. The following medium-term objectives were identified to improve the transit network and services within Duncan and urban North Cowichan:

- Provision of a transit circulator route between key destinations within town
- Creation of more direct neighborhood routes
- Provision of transit service to areas beyond walking distance of existing service (e.g., east side of Boys Rd)
- Development of a concept for a reduced fare zone in the downtown area

These objectives lead to the development of a new network concept identified below which includes a new direct route to the Cowichan Commons and a town circulator service, as well as changes to simplify a number of the existing routes. This network concept will require additional service hours, vehicles and terminal capacity to operate.



A detailed service plan will be needed to further develop route schedules and the detailed costs of providing the service. The service plan will also need to include further public consultation and a communications strategy as the level of proposed change to the transit network is significant. The service plan would also include a report analyzing the trade-offs and costs associated with a reduced fare zone concept for the town circulator's service.

Reconfigure South Cowichan Transit Services

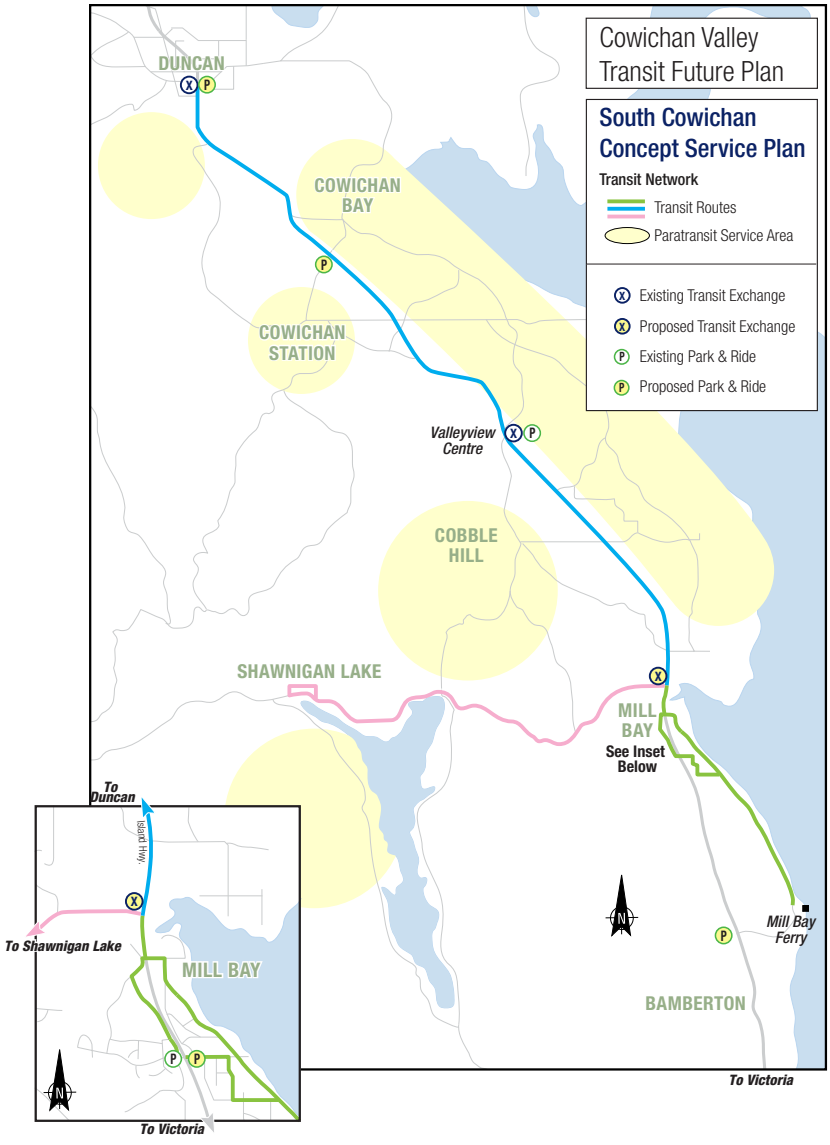
In the South Cowichan area the ridership on the existing routes is relatively poor due to the existing low population densities and infrequent service. There are large areas not served by transit as the low population densities do not generate the ridership necessary to support fixed-route service. The existing transit routes are not direct as they are providing service coverage to as many areas as possible. In the future, a significant amount of infill growth will likely occur and the following medium-term strategies will guide improvements to transit service in the South Cowichan area:

- The creation of direct routes between key destinations that can support fixed-route service
- The implementation of paratransit services in rural areas in South Cowichan to provide more effective coverage

These strategies lead to the development of the transit network and service concepts identified below:

- A direct regional route between Duncan and Mill Bay
- A neighborhood route between Mill Bay Shopping Centre and Shawnigan Lake
- A neighborhood route between Mill Bay Shopping Centre and the neighborhoods in south Mill Bay and the Brentwood Ferry
- The following areas are identified for paratransit services in South Cowichan:
  - » Cowichan Bay
  - » Cobble Hill
  - » Arbutus Ridge

The proposed frequency of service and hours of operation of the network are similar to the existing service levels. A detailed service plan with public consultation will be required to further develop route schedules and the feasibility of paratransit service concepts and associated costs. Paratransit service concepts that will be considered include dial-a-bus, demand-responsive transit and flex routing rather than a fixed-route service. Paratransit services options are explained in further detail in the appendix on page 94.

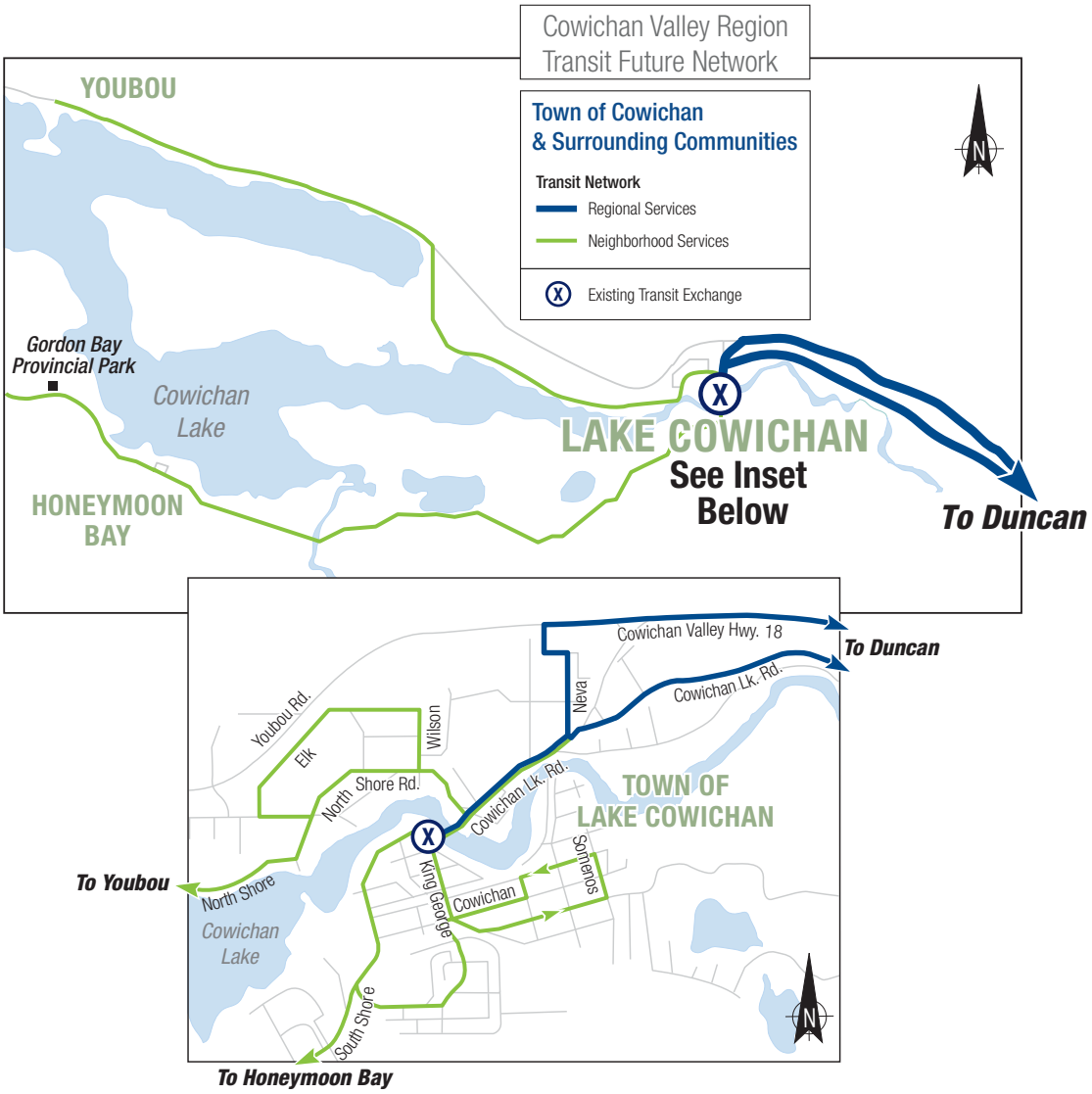


Improve Lake Cowichan Transit Services

Consultation with the public and municipal staff concluded that, in general, the existing transit network met the existing and future needs of the Lake Cowichan communities. Future service improvements will be focused on improving connections between routes, service frequency, providing opportunity for flexible transit services and improved handyDART services. The existing handyDART service is very limited in this area and the community identified this as a high priority during the consultation process. The following medium-term service improvements have been identified for the Lake Cowichan area:

- Improved handyDART services
- Improved connections between the Lake Cowichan local service and regional service to Duncan
- Consideration of opportunities to use paratransit services in rural areas west of the Town of Lake Cowichan

A study will be required to determine the feasibility of paratransit service concepts such as dial-a-bus, demand-responsive transit and flex routing.



Improve Ladysmith Transit Service

Medium-term service improvements will be focused on enhancing neighborhood service frequency and providing a direct regional service between Duncan and Ladysmith. This reflects the community desires for improved neighbourhood transit, as well as for transit connections between communities. Below is a list of the medium-term service improvements in Ladysmith:

- Neighborhood service improvements
  - » Improve service coverage by extending or implementing new routes
  - » Improve service frequency
  - » Extend the hours of operation
- Introduce regional service between Duncan and Ladysmith in the following order of priority:
  - » Peak-oriented weekday service
  - » Mid-day service
  - » Weekend service
  - » Evening service

A service plan will be required to further develop route schedules and associated costs. Inter-regional service between Ladysmith and Nanaimo is addressed in the medium-term inter-regional service improvements.

Introduce inter-regional service to Nanaimo

Introducing inter-regional service to Nanaimo was identified as priority during the consultation process. People expressed a need or desire to commute by transit from the Cowichan Valley to Nanaimo for employment and post-secondary education. A desire was also expressed for the implementation of mid-day and weekend transit services for shopping and personal business.

The Plan proposes that inter-regional service be introduced between Duncan and Nanaimo. The route should operate between downtown Duncan and Nanaimo, with connections to Ladysmith, the Nanaimo Regional Airport, both VIU campuses in North Cowichan and Nanaimo; and future connections to the BC Ferries terminals. The following medium-term service improvements for inter-regional service between the Cowichan Valley and Nanaimo have been identified

Service Improvements

- Introduce commuter services, with two morning trips arriving in Nanaimo for 8:00 a.m. and 8:30 a.m. work and school starts, and two return trips departing from Nanaimo at approximately 4:00 p.m. and 4:30 p.m.
- Increase frequency over time
- Provide linkage between local transit services and inter-regional services

Continue to enhance the Cowichan Valley Commuter service to Victoria

The Transit Future Plan proposes the following medium-term improvements to the CVC service.

Service Improvements

- Providing additional capacity for peak trips to Victoria as required
- Improve the linkage between the CVC and local Cowichan Valley services. This would include operating local transit services earlier in the morning and scheduling evening services to meet CVC services at Park & Rides at Frayne Rd., Valleyview and Duncan. Priority should be given to improving the linkage with highest ridership trips. Additional connections between local service and CVC service will be provided over time.
- Introduce mid-day service between Victoria and Duncan with round trips between 9:00 a.m. and 3:00 p.m.
- Integrate the CVC service with the proposed Rapid Transit service in Victoria. When the proposed Rapid Transit service is implemented CVC service may connect to the Rapid Transit line in View Royal at stations near Six Mile Rd. This would reduce trip times for customers as the Rapid Transit line would avoid the traffic congestion on the Trans Canada Highway. It would also reduce the operating costs of the CVC service as the trips times would be significantly shorter.
- Improvements to transit service in Victoria will allow for better connections between CVC service to locations outside of the downtown including the Esquimalt Dockyard and University of Victoria.

Extend the hours of operation on the Local Transit Network

Existing transit service is provided on the majority of routes until 7:30 p.m. on weekdays and until approximately 5:00 p.m. to 6:00 p.m. on weekends. The majority of transit services start between 7:00 a.m. and 8:00 a.m. on weekday mornings and later on weekends. The following medium-term service improvements to the hours of operation have been identified for regional and neighborhood services:

- Begin local services at 6:00 a.m.
- Extend evening service up to 10:30 p.m. on all routes Monday to Wednesday

Infrastructure

The following transit facilities are required to support the implementation of the Transit Future Plan network and to accommodate the continued growth of the existing system.

Expand the Operations and Maintenance Facility

The plan identifies a medium-term need for a new transit operations and maintenance facility. As indicated earlier in the plan, the existing facility will not meet the long-term operational needs of the transit system. The new facility should be able to accommodate a future fleet of 69 transit vehicles. A study will be required to identify the functional requirements of a new facility as well as evaluate potential locations in order to recommend a preferred site. Partnership opportunities to share a new facility with the school district or other municipal functions should be explored.

Expand or establish new transit exchanges and terminals

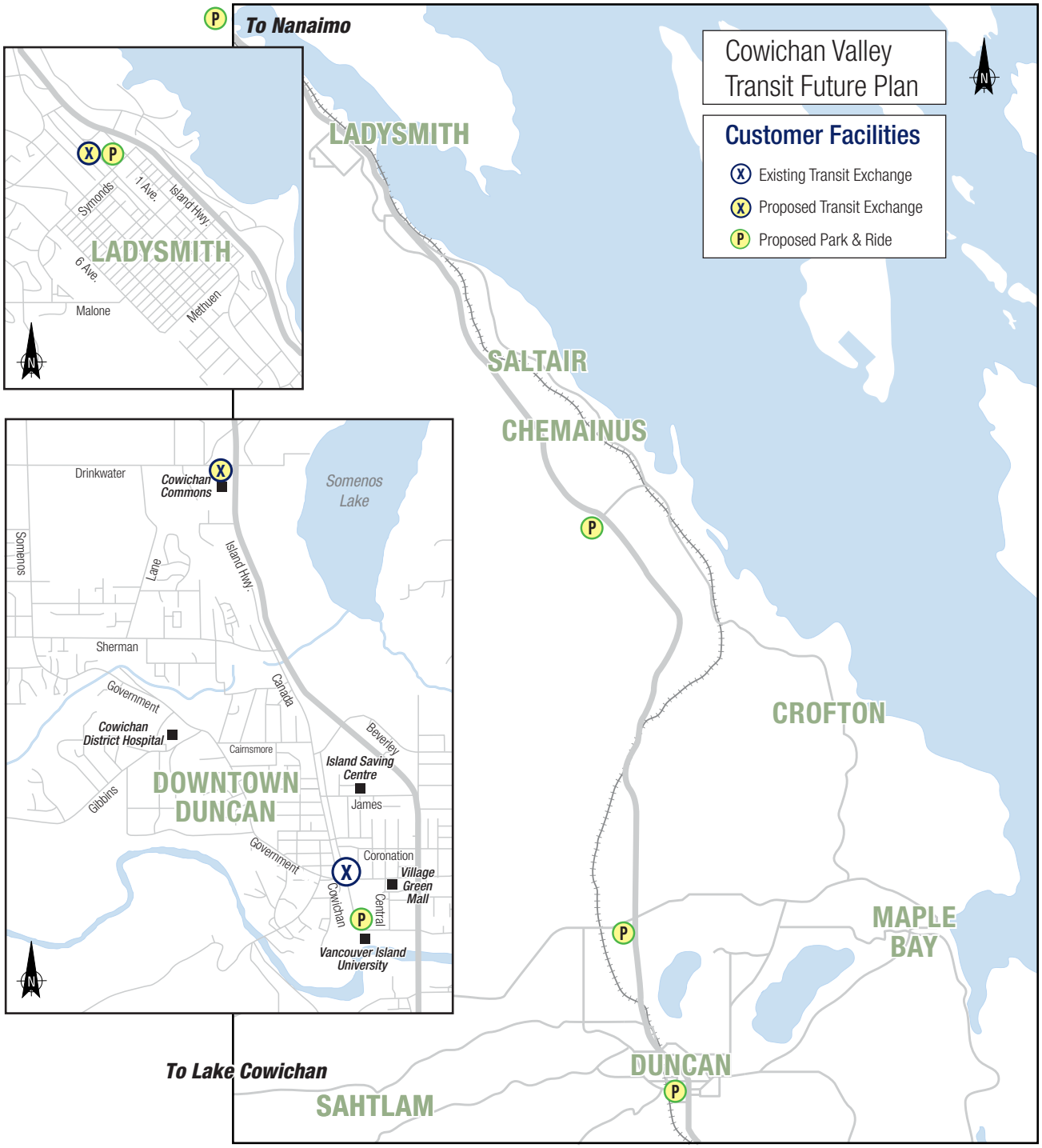
The plan has identified the medium-term need for three new transit exchanges in Downtown Duncan, Cowichan Commons and Ladysmith to support the Transit Future Plan network. The establishment of transit exchanges in these locations supports the land use strategies identified in local Official Community Plans. The new exchanges are also critical to the implementation of the transit network as they are required to support the new route structures.

Studies will be required to identify and evaluate potential locations and recommend preferred sites. The studies should also consider both on-street and off-street transit exchange concepts. Initially, the exchanges could be established on-street at an existing bus pullout. Ultimately, the transit exchanges in all three locations need to accommodate future operational capacity requirements with a high level of customer amenities such as transit shelters, benches, transit customer information and cycling facilities.

Location	Purpose
Duncan	Major transfer point in the transit network and hub for inter-regional, regional and neighborhood services
Cowichan Commons	Terminal for neighborhood services that serve Cowichan Commons
Ladysmith	Local transfer point in the transit network and local hub for inter-regional, regional and neighborhood services

Expand Park & Ride capacity to support inter-regional service to Nanaimo

Park & Rides are a critical component of introducing inter-regional service to Nanaimo as the majority of riders will access this type of service at Park & Rides. Potential Park & Ride locations are in Duncan, Highway 18 at Trans Canada Highway, Chemainus, Ladysmith and Cedar. Opportunities for shared-use parking should be explored prior to investing in purpose-built Park & Ride lots. Studies will be required to identify and evaluate potential locations and recommend preferred sites. Consideration should also be given to transit access from the Trans Canada Highway with transit priority measures.


To Nanaimo
Cowichan Valley Transit Future Plan
Customer Facilities
Existing Transit Exchange
Proposed Transit Exchange
Proposed Park & Ride
LADYSMITH
Symonds
1 Ave.
Island Hwy.
6 Ave.
Malone
Methuen
SALTAIR
CHEMAINUS
CROFTON
MAPLE BAY
DUNCAN
SAHTLAM
To Lake Cowichan
Drinkwater
Cowichan Commons
Somenos Lake
Somenos
Lane
Island Hwy.
Sherman
Government
Canada
Cowichan District Hospital
Cairnsmore
Beverley
Island Saving Centre
DOWNTOWN DUNCAN
Gibbins
James
Government
Coronation
Village Green Mall
Cowichan
Central
Vancouver Island University

Long-term Implementation

Service

Long-Term Service Improvements

After the Transit Future Network has been established a series of investments in transit service improvements to increase frequency and the hours of service will be made to reach the long-term goals of the plan and support other community objectives.

Long-term service improvements are dependent on the occurrence of future community development identified in the Official Community Plans such as increased density in town centres, villages and the development of new neighborhoods. The Official Community Plans in North Cowichan, Ladysmith, Lake Cowichan and South Cowichan all identify new neighborhoods that will require transit service in the future. The South Cowichan Official Community Plan also identifies a future village site adjacent to Shawnigan Lake Rd and the Trans Canada Highway. Long-term service improvement strategies will be developed in more detail in the future for:

- Expanding service to new service areas to support the development of new neighborhoods:
  - » South Cowichan
  - » North Cowichan
  - » Ladysmith
  - » Lake Cowichan
- Increasing regional and neighborhood service frequency and span of service over time to support increased population densities in town and village centres
- Continuing to enhance inter-regional service to Nanaimo and Victoria
  - » Increased frequency
  - » Weekend service

Infrastructure

Expand or establish new transit exchanges and terminals

The plan has identified the following long-term needs for new transit terminal facilities in Mill Bay and the Town of Lake Cowichan. The establishment of a transit exchange in Mill Bay Village supports the long-term vision of the Official Community Plan and at the same time is dependent on the occurrence of development of the village centre. The existing bus terminal in the Town of Lake Cowichan may require additional bus storage capacity and improved customer amenities to support future service improvements.

Transit infrastructure studies will be required to move the development of these facilities forward by identifying and evaluating potential locations and recommend preferred sites. The studies should also consider both on-street and off-street transit exchange concepts. Initially, both facilities could be established on-street at an existing bus pullout. Ultimately, the transit exchanges in both locations need to accommodate future operational capacity requirements with a high level of customer amenities such as transit shelters, benches, transit customer information and cycling facilities.

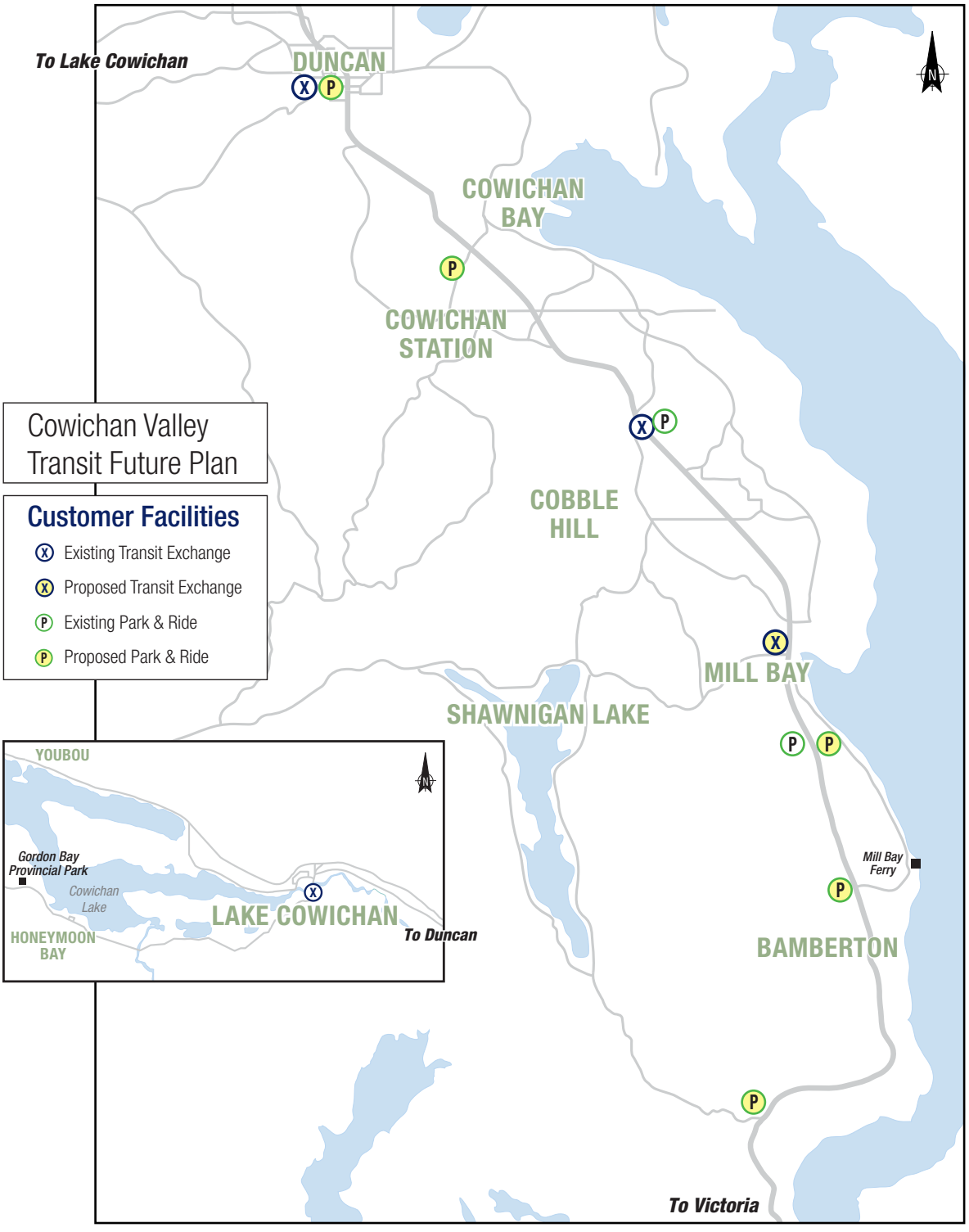
Location	Purpose
Mill Bay	Local transfer point in the transit network and local hub for inter-regional, regional and neighborhood services. May include future Park & Ride opportunity
Town of Lake Cowichan	Local transfer point in the transit network and local hub for regional and neighborhood services

Expand inter-regional parks & ride capacity

Long term, the growth of inter-regional service will need to be supported with investments in expanded Park & Rides. Priority should be given to expanding capacity at existing locations. The following locations have been identified as potential sites for future locations that support future development. Further study will be required to develop concepts.

Expand inter-regional Park & Ride capacity

- Existing locations
- Bamberton & Malahat
- Cowichan Station (Bench Rd/Koksilah)


To Lake Cowichan
DUNCAN
COWICHAN BAY
COWICHAN STATION
COBBLE HILL
MILL BAY
SHAWNIGAN LAKE
BAMBERTON
Mill Bay Ferry
To Victoria
Cowichan Valley Transit Future Plan
Customer Facilities
Existing Transit Exchange
Proposed Transit Exchange
Existing Park & Ride
Proposed Park & Ride
YOUBOU
Gordon Bay Provincial Park
Cowichan Lake
LAKE COWICHAN
HONEYMOON BAY
To Duncan

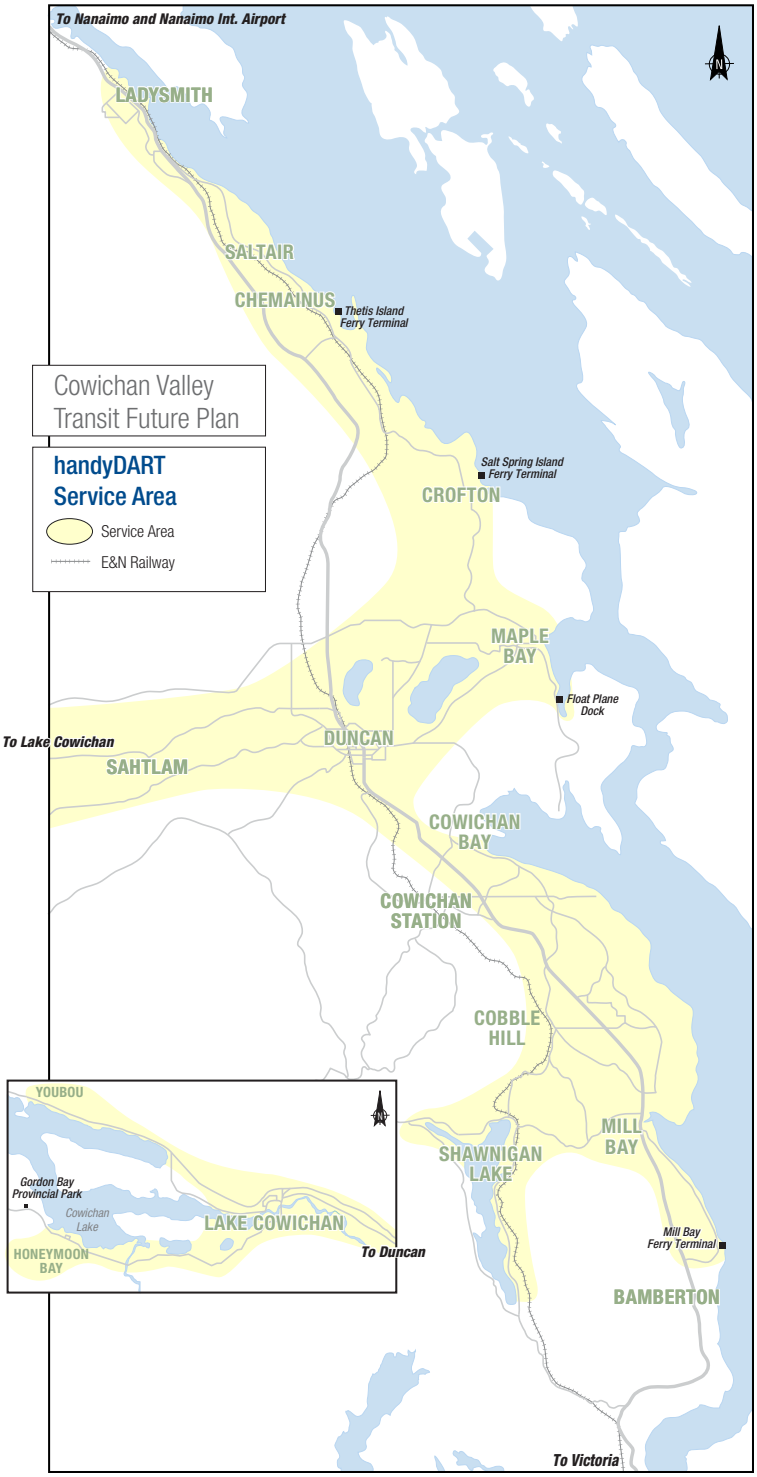
Ongoing Initiatives

The ridership targets cannot be reached by simply changing the transit network and increasing transit service levels. Growing ridership will also require other strategies such as the ones outlined below. The following initiatives in the Transit Future Plan are non-network related and some will require continuous effort throughout the life of the plan.

Enhance Custom Transit Service and Transit Accessibility

Improvements to accessible and custom transit services will make the transit system more accessible for people of all ages and abilities. The plan forecasts that a fleet of 17 buses and 25,000 service hours will be needed to operate custom transit services by 2036. A series of service improvements to enhance accessibility and custom transit are outlined below in order to:

- Align the hours of operation and service area with the conventional system
- Increase service availability to allow customers to plan medical appointments, shopping and casual trips throughout the entire service day.



Service Improvement	Timeframe
Improve handyDART service in existing service area The existing handyDART service does not meet peak demand and service on weekends is very limited. The proposed 1,600 additional hours in the 2012/13 service expansion provides a 26 per cent increase in operating hours to improve handyDART service. The service expansion will provide for an additional three hours per weekday during peak travel times, eight hours per day for Saturday service and eight hours per day for Sunday service. This expansion included an additional vehicle for peak-hour service and is proposed for implementation in September 2012.	Short-term
Expand the handyDART service area and improve service in the existing service area Introduce handyDART service to Ladysmith with 1,000 hours and one to two vehicles depending on spare ratio requirements. Improve off peak service with an additional 600 hours	Short-term
Expand the handyDART service area and improve service in the existing service area Improve handyDART service to Lake Cowichan and improve existing service with an additional 1,600 hours and one vehicle.	Short-term
Implement a seniors' oriented service Public consultation revealed that some customers find the conventional fixed-route service challenging to use but do not require the level of service offered by handyDART. These customers may best be served by developing a service plan to provide a regular bus service oriented to seniors or those who have difficulty accessing the conventional fixed-route system. For example, in North Vancouver, the Silver Harbour Seniors' Activity Centre has developed a "Go Bus" that operates three days a week and is designed to provide service for isolated seniors.	Medium-term
Implement a travel training program A comprehensive program should be developed to provide travel training to assist individuals who meet the handyDART eligibility criteria in learning to use conventional and handyDART transit systems.	Medium-term
Continue to expand service over time to meet demand Improve handyDART availability to match conventional service area and hours of operation	Medium to Long-term

Other initiatives to make transit more accessible

- Develop new partnerships to deliver accessible door-to-door services to meet the challenge of an aging population
- Upgrading existing and new transit infrastructure to meet BC Transit's Infrastructure Design Guidelines
- Improving fleet access for mobility aids and strollers
- Improving written and online material for those with visual impairments
- Providing customers more convenient fare payment and purchase options
- Implementing audible stop announcements on transit vehicles and at major or key stops
- Improving accessibility for cyclists to use the transit system

Encourage Students to Establish a U-Pass

The U-Pass is a universal transit pass that is mandatory for all students that enroll at a participating post-secondary institution. The U-Pass provides unlimited use of transit services for the full school-term and is included as part of the tuition fees of each student for the semester.

Implementing a U-Pass program would require the Vancouver Island University (VIU) Student Union to develop a U-Pass proposal, and hold a student referendum to approve the proposal. Strategically, a U-Pass program could be coordinated with implementation of inter-regional services to Nanaimo or with other local service improvements to improve the chances of the proposal being successfully passed by the student population.

Student establishment of a U-Pass program at VIU would help BC Transit and the Cowichan Valley Regional District meet the transit ridership targets set in the plan. The U-Pass program has been successfully implemented at several post-secondary institutions across the province. Communities that have implemented a U-Pass have realized significant growth in ridership.

Address Current Service Needs

There are often immediate service demands and operational service issues that need addressing. This plan recognizes that operational service issues may need to be addressed ahead of other transit improvements, including:

- Increasing service frequency when demand warrants
- Adding running time to an existing schedule to maintain reliability due to increases in ridership and traffic congestion

Match Vehicle Type to Local Service Demand

There are opportunities to better match transit service to demand by utilizing smaller vehicle types to increase efficiency and reduce operating costs on select transit routes that do not require a conventional-sized vehicle.

An example of a smaller vehicle type is the Vicinity, a 27.5 foot vehicle BC Transit is trialing. The Vicinity seats 23 passengers with room for 16 standees and is compact and narrow, making it suitable for use on residential streets. The Vicinity is a low-floor bus with a ramp at the front door and kneeling capabilities. Opportunities to use smaller vehicle types, where demand does not require a conventional-sized vehicle, should be pursued to reduce transit operating costs and greenhouse gas emissions.

Improve Customer Information

The improvement of customer information helps to assist existing customers to navigate the transit system and makes it easier for new users to access the transit system for the first time. The following customer information tools are recommended for consideration:

- Additional transit information at the stop level
- Online trip planner or Google Transit information
- Real-time information system

Improve Customer Facilities

Continued improvement and maintenance of transit facilitates and on-street customer amenities are important for the continued operation and future growth of the transit system. Some improvements that have been identified are:

- Ensure that transit stops are spaced along a corridor at appropriate intervals between 300-400m. In some locations, transit stops are spaced too close together leading to slower transit trips and higher transit stop maintenance costs. Corridor transit and transportation projects should include a review of stop locations before infrastructure investments are made.
- Invest in on-street customer amenities such as transit shelters, benches and pedestrian oriented lighting at transit stops
- Improve universal accessibility of transit stops

Implement Transit Priority Measure

The CVRD, local municipal partners, BC Transit and the Ministry of Transportation and Infrastructure should examine opportunities at key locations along the future transit network for priority measures that reduce delays to bus services, such as transit signal priority and queue jumpers at intersections where delays and congestion exist today or are anticipated to degrade in the future.

Improve Fare Product Availability and Local Marketing of Transit

Recent comments have been received by transit customers regarding the need for an improved ticketing system. The CVRD has committed to reviewing the current marketing strategy in order to identify marketing gaps and make improvements. A new marketing plan will result from this process that will outline all annual marketing initiatives including advertising, promotions, education/outreach, and fare products. The fare products review will also look at ticketing outlet locations and seek to improve efficiency with customer ticket transactions.

Moving Forward

Funding the Plan

Given the significant increase in transit investment expected over the coming decades, the way in which transit is and will be funded needs to be examined.

Today, the Cowichan Valley Transit System is funded through a combination of provincial funding, local property taxes, passenger fares and advertising revenue. BC Transit's budgets are confirmed on a year by year basis making it difficult to plan for future growth. Local government identified that the funding of the local share of transit investments, particularly major capital investments with property taxes alone as a challenge.

As a part of BC Transit's 25-year Strategic Plan, one of the priorities is to "develop stable and predictable revenue sources."

The proposed actions for this are:

- Develop stable revenue sources
  - » Assess various approaches to developing stable, secure provincial investment in transit
  - » Work to identify and implement new revenue sources
  - » Assess various approaches to developing stable, secure local investment in transit
  - » Initiate a revenue committee to manage fare revenue strategies in partnership with local authorities
- Increase predictability
  - » Examine and implement improvements for conveying transit system budget information to local governments, such as the provision of multi-year budgets aligned to municipal calendar years

  - » Continue to confirm the Provincial Government's BC Bus Pass program pricing (an annual pass program for lower income seniors and people with disabilities)
- Implement new partnerships and revenue opportunities
  - » Seek to revise legislation, policies and procedures to encourage profitable commercial use of BC Transit assets and resources for reinvestment to further transit service objectives
  - » Explore opportunities to offset BC Transit costs by leveraging BC Transit expertise and scope with other organizations (for example, synergies with other local transportation providers, BC Transit fleet procurement expertise or bulk fuel contracts)
  - » Continue to support local governments to offset costs from identifying and creating local transit funding partnerships with other agencies

Alternative local funding options

BC Transit has heard from local government that continuously increasing property tax to fund the local share of transit projects and operations, particularly for major capital investments, is a challenge. Reducing the local share funded through property taxes might be achievable through alternative funding sources. BC Transit would be interested in further developing concepts for alternative funding methods with local partners and the provincial government. Below are a number of concepts that are worth further consideration. These options may require legislative changes and /or provincial government approval.

Local Fuel Tax

A tax on fuel could be collected at the pump at all gas stations in the Cowichan Valley to help fund transit. A transit tax is levied on fuel in Greater Victoria and Vancouver to help fund transit services.

Community Pass

Each household could receive an annual transit pass. Each household could be charged approximately half of the cost of an annual pass as part of their property taxes.

Parking Tax

A parking tax could be used to offset transit costs. It acts as an incentive to decrease parking demand, which in turn can make transit more attractive.

Capital Reserve

A portion of property taxes could be put aside each year to build a capital reserve for transit infrastructure.

Vehicle Levy

An annual vehicle levy could be collected when vehicle insurance is renewed.

Implementing the Plan

The Implementation Strategy section of the Transit Future Plan directs immediate and short-term investment in the Cowichan Valley Transit System, and informs the three year service planning process, called the Transit Improvement Program (TIP). The TIP seeks to provide a closer link to municipal/ regional budgeting process in order to ensure that funding availability is better aligned with local needs and provincial funding. It is also performance based and allocates a percentage of annual service hours to groups of transit systems across the province. The groupings are created from performance criteria and thresholds, as described below:

- **Boardings per service kilometer** – A measure of productivity. Longer regional services or systems that have a spread out urban form will not perform as well compared to compact urban communities (a boarding is an entry to a transit vehicle)
- **Boardings per service hour** – a measure of effectiveness
- **Cost per passenger trip** – measures how expensive a service is to operate relative to the volume of people using the service
- **Cost recovery** – measures the cost of providing service versus the rate of return through the fare box
- **Passengers per capita** – a relative measure of the overall service level

Keys to success

BC Transit will work with the CVRD and other local partners to begin to take steps to guide the Transit Future Plan from a vision to a reality. These efforts will only be successful if done in partnership with continuous dialogue between these partners to ensure strong links between:

- Land use planning and transit planning
- Provincial and regional transportation and transit planning
- Transportation policy and funding availability

How will BC Transit and the CVRD use this plan?

- As a tool to communicate the vision for transit to partners, stakeholders, and the public
- To identify where and in what order key transit investments will occur
- To strategically move projects through the capital planning process
- To inform the three year service planning process
- To work with partners on integrating transit plans and investments with other major infrastructure plans and projects
- To respond to planning and development proposals

What actions do BC Transit and the CVRD need from our municipal partners for success?

- Ensure that as local plans are updated, future transit plans are integrated with land use plans and transportation plans
- Integrate and consider the Transit Future Plan network when developing sustainable transportation infrastructure plans and projects. For example, a pedestrian and cycling infrastructure project on a transit corridor could improve access to transit by providing or improving sidewalks
- Integrate and consider the Transit Future Plan network when developing local corridor plans or any road infrastructure projects. For example, incorporating transit priority measures with an intersection upgrade project
- Ensure that local and major development proposals and projects are received and reviewed by BC Transit and support the Transit Future Plan
- Implement travel demand management strategies that encourage shifting automobile trips to transit such as implementing high occupancy vehicle lanes, transit priority measures, marketing, restructuring parking fares, and reducing parking availability/requirements in areas well served by transit
- Support and encourage transit oriented development and work with BC Transit to explore incentives to attract high density and mixed use development to areas well served by transit

Appendix

Paratransit and Rural Transit Services Options

There is a wide range of transit services operating in rural and low-density areas across North America. These range from conventional transit services using larger buses on fixed routes and schedules to flexible, demand-responsive services using smaller vehicles which operate within defined areas rather than on specific routes. This section provides a description of each type of service, including a discussion of the conditions which best suit each.

Five types of rural transit services are described in this section:

- Conventional transit with buses operating on fixed routes and fixed schedules
- Flex-route transit where buses deviate from fixed routes on request
- Dial-a-bus, where routes are variable but schedules are fixed
- Demand-responsive transit, where routes and schedules are variable
- Vanpools, where one of the passengers is also the operator of the service.

Table 1 indicates how the first four types of service differ based on fixed and variable routes and schedules.

Route			
Fixed	**Variable**		
Conventional	Flex-Route, Dial-A-Bus	**Fixed**	Schedule
–	Demand-Responsive	**Variable**	

Paratransit offers the potential to reduce costs and/or improve quality of service. These benefits can only be achieved, however, if paratransit is used in conditions for which it is suited. Implementing a paratransit service in the wrong conditions would not only fail to achieve these benefits, it might actually result in higher costs and a poorer quality of service.

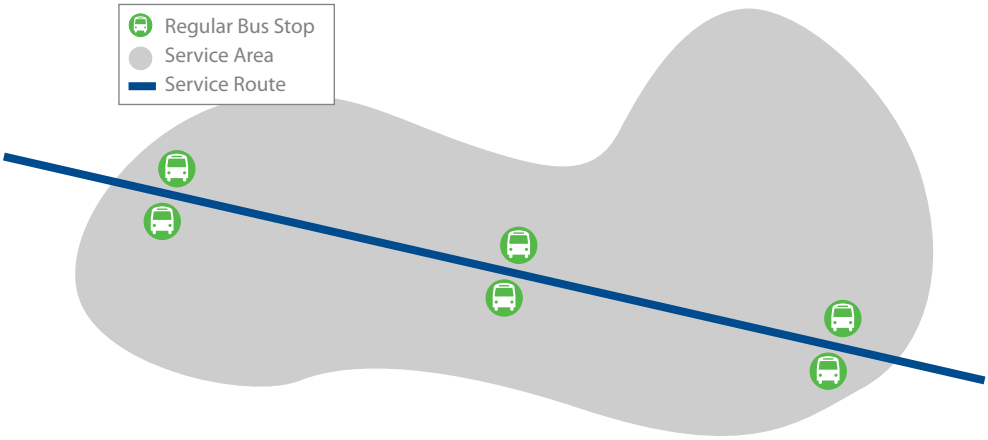
Before implementing any paratransit services and particularly before replacing conventional service with paratransit service detailed planning and market analysis should be undertaken to determine potential ridership, costs and other aspects of the service, to ensure that paratransit service is appropriate.

Conventional Transit

As the name implies, conventional transit is the conventional and most common form of transit service. Buses operate on established routes at scheduled times, stopping at designated bus stops. Figure 4 illustrates an idealized conventional service.

The Lake Cowichan route 7 service is an example of a conventional service. The "non-conventional" feature of this service is that passengers may flag down buses at points along the route where the bus can safely pull off the road.

Figure 4 — Conventional Transit



Conventional transit services are best suited to higher-density areas with popular origins and destinations concentrated along main arteries. In these conditions, conventional service can attract sufficient ridership to support reasonably frequent service throughout the day, in evenings and on weekends. On the other hand, in many rural and lower-density areas, conventional service cannot attract sufficient ridership to be financially viable.

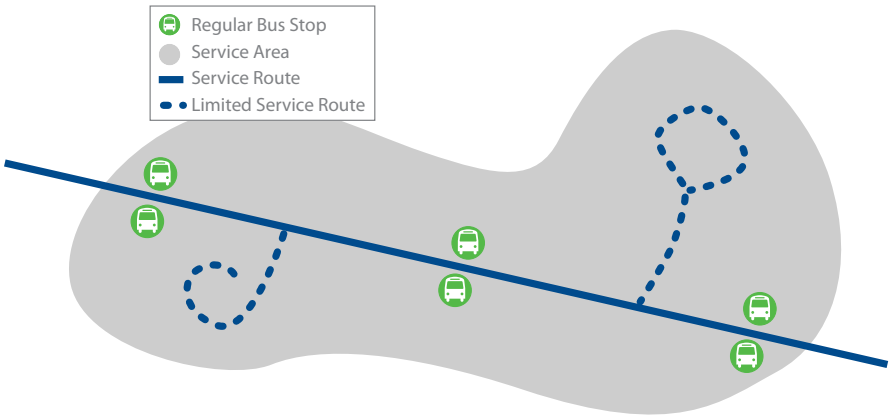
Where conventional transit services do operate in rural and low-density areas, they are characterized by the following limitations:

- **Infrequent service.** A limited number of trips per day and the lengthy time between trips means that in many cases, passengers must travel earlier or later than their desired times. This might mean arriving at work 45 minutes early, for example, or waiting two hours after a medical appointment for the trip home.
- **Limited hours of service** mean that passengers cannot return home in the evening, for example, and cannot make trips on the weekend. A teenager using the service to travel to a job after school would not be able to use transit to return home in the evening, and service would not be available on Sunday to take people to church.
- **Limited coverage.** A conventional transit service on a fixed route can only cover a small part of a large rural or low-density area. Many residents will be beyond a reasonable walking distance to a bus stop, which for most people is 400 m or about a 5-minute walk.

Flex-Route Transit

Like conventional services, flex-route buses follow a fixed route and fixed schedule. The difference is that buses can deviate from the route to pick up or drop off passengers at nearby locations, such as a house, child care center or employment site, for example. After completing the pickup or drop off, the bus returns to the bus route at the location where it deviated. Figure 5 illustrates an idealized flex-route service.

Figure 5 — Flex-Route Transit



For the majority of users who do not require a deviation from the route, a flex-route service is no different than conventional transit. They board and alight at designated bus stops along the route, at scheduled times. For those who do require a route deviation, the only disadvantage of flex-route service is the need to call in advance to request a trip. Typically, customers are required to call at least one hour in advance.

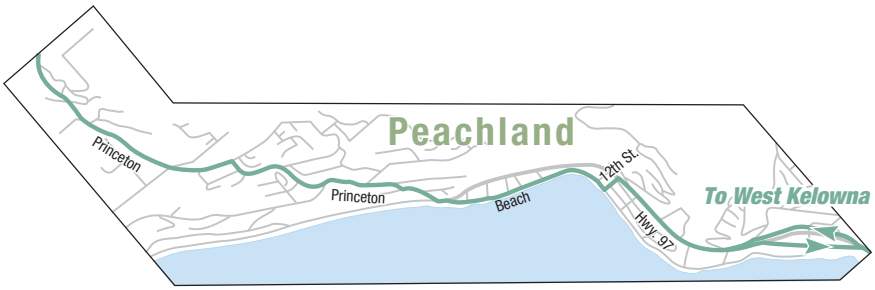
A flex-route service is scheduled with extra time in the schedule to accommodate route deviations. To ensure that buses remain on schedule, transit operators may:

- Limit the distance from the route or the area within which the bus will deviate. Typical limits are 1 km to 2 km.
- Limit the number of deviations on any given trip.
- Limit short deviations (up to 400 m) to persons with physical disabilities.

For the transit operator, the option of deviating from the route introduces the need for a dispatcher to respond to trip requests, and the need to manage trip requests to avoid impacting schedule reliability. However, because the number of deviations is small, this is usually not an onerous requirement.

An example of a flex-route service is route 22 between Peachland and Westbank in the Central Okanagan. The route follows Highway 97 and parallel roads along the waterfront, where the downtown commercial area and much of the population are located. The flex-route bus will deviate anywhere within the municipal boundaries, as illustrated in Figure 6, which can mean a deviation of more than a kilometre from the designated route. The schedule incorporates an additional 15 minutes for each round trip or run to allow sufficient time for route deviations. In practice, if someone has scheduled a pick-up or drop-off requiring a large deviation, and someone else requests another large deviation on the same run, the second person will be asked to travel on an earlier or a later run, to avoid two large deviations on the same run.

Figure 6 — Peachland Route 22 Service Area



Flex-route applicable conditions:

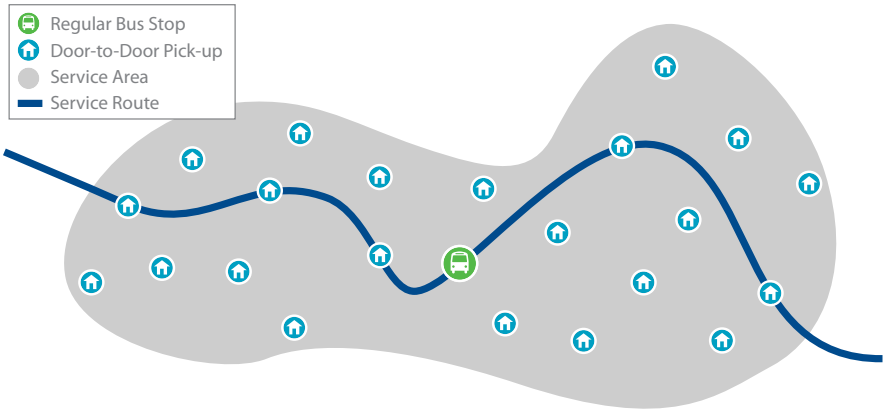
- Moderate ridership in a corridor linking major destinations and conventional transit
- Low ridership in areas beyond a reasonable walking distance of the corridor that cannot be economically served with conventional transit
- 90% or more trips to/from bus stops — at most 1 to 2 route deviations per hour

Dial-A-Bus

Dial-a-bus services also follow a fixed schedule, but buses do not follow a fixed route. Instead, drivers determine their own route as needed to pick up and drop off passengers who have requested service in advance. Buses may also stop at specific designated bus stops at scheduled times without the need for any advance requests for service. These bus stops are typically located at popular destinations such as shopping centres, community centres and downtown locations. Figure 7 illustrates an idealized dial-a-bus service.

Some dial-a-bus services provide "door-to-door" service, while others pick up and drop off passengers at "request stops." Door-to-door service means passengers are picked up and dropped off at the curb in front of their home or destination. Drivers may assist passengers with physical disabilities to or from the bus. Request stops are designated bus stops located throughout an area. When a passenger requests a pick up, he or she walks to the nearest request stop to meet the bus. Returning passengers are dropped off at the request stop nearest their destination.

Figure 7 — Dial-A-Bus



Dial-a-bus services operate on a fixed schedule, which means that travel times are limited to specific time periods during which a bus is scheduled to operate in the area. For example, a dial-a-bus service might be scheduled to operate in a specific area at three times during the day, from 8:00 to 9:00 a.m., noon to 1:00 p.m. and 4:00 to 5:00 p.m.

An example of dial-a-bus is the service provided in the rural areas north and east of Kingston, Ontario (the north dial-a-bus service area is illustrated in Figure 8). The service operates on Tuesdays and Thursdays. Buses operate in the east area from 9:30 to 10:30 a.m. and from 5:30 to 6:30 p.m., and in the north area from 10:00 to 11:00 a.m. and 4:00 to 5:00 p.m. Service is provided door-to-door within the dial-a-bus service area, with connections to conventional transit services in Kingston. Passengers must request trips at least 24 hours and up to seven days in advance. Dispatchers are available from 7:30 a.m. to 4:30 p.m. Mondays through Fridays to book trips.

Dial-a-bus route applicable conditions:

- Areas served by conventional transit during peak times
- Evenings, weekends and holidays
- 5 to 20 trips/hour per bus

Figure 8 — Kingston Dial-A-Bus North Service Area

Demand-Responsive Transit

Unlike conventional, flex-route and dial-a-bus services which operate at fixed times, demand-response transit services operate only in response to requests for service. Service is provided only when and where it is requested. If no service is requested at a particular time or in a particular area, no service is provided. This avoids the undesirable scenario of a bus repeatedly driving through a neighbourhood with no-one on board, which is unfortunately a common sight in many rural and low-density areas across North America.

Key features of demand-responsive services include:

- **Flexible schedule.** With a demand-responsive service, a customer calls in advance to request transportation from one location to another at a specific time. If there are already enough requests for that time that additional requests cannot be served, the customer is asked to travel at an earlier or later time.

- **Advance booking.** Typically, customers are asked to call at least one hour or one day in advance to request a trip. Last-minute requests can often be accommodated if the driver does not have too many other trip requests to serve. Persons who make regular trips to the same destination at the same time can pre-book "subscription trips," and only need to call when they wish to cancel a trip.
- **Flexible routes.** Vehicles providing demand-response service do not follow a fixed route. Instead, drivers are free to choose the best route between requested pickup and drop off locations. This means that after a passenger boards the bus, the driver might stop one or more times to pick up and drop off other passengers before dropping off the first passenger.
- **Door-to-door service.** Demand-responsive services are typically "door-to-door," which means passengers are picked up and dropped off at the curb in front of their home or destination. Drivers may assist passengers with physical disabilities to or from the bus.
- **Small vehicles.** Depending on ridership levels, demand-response services can be provided with small buses, vans, taxis or other automobiles. Vehicles are generally accessible for persons who use wheelchairs and with other physical disabilities.

The most common type of demand-responsive service is the specialized services provided for persons with disabilities known as handyDART. In urban areas, eligibility to use demand-responsive services is typically limited to persons with a documented physical or cognitive disability that prevents them from using conventional transit services. In rural areas, on the other hand, all persons are eligible to use demand-responsive services.

An example of a demand-responsive service is the local service in Princeton, in the Regional District of Okanagan-Similkameen. This service operates on Tuesdays, Thursdays and Fridays from 8:30 a.m. to 4:30 p.m. within the Town of Princeton. Service is provided door-to-door. Most trips are booked in advance, but last-minute requests can often be accommodated as the dispatcher and driver are in radio contact. Passengers are asked to complete a form providing their contact information so that they can be contacted in case of service disruptions or other issues.

The primary users of the Princeton service are elderly and low income persons, and the primary trip purposes are shopping and medical appointments. The service carries approximately two dozen trips per day. Although some passengers occasionally request service in evenings and on other days of the week, most users have adjusted their travel patterns to match the hours of service.

Demand-Responsive transit applicable conditions:

- Areas with low ridership throughout the day
- Areas served by conventional transit during peak times
- Evenings, weekends and holidays only, or all day
- Up to 7 trips/hour in one area

Vanpools

A vanpool is a group of up to 15 commuters who travel to the same destination at the same time each day. The group travels in a van provided by a transit agency or other organization, and each person in the group (sometimes with the exception of the driver) pays a monthly fare calculated based on the distance travelled and the costs of operating the van. A vanpool rider continues to pay the monthly fare when on vacation, although some vanpools maintain a list of occasional riders who will fill and pay for the empty seat.

Vanpools applicable conditions:

- Longer-distance trips of at least 25 km and 30 minutes travel time each way.
- Regular commute trips such as work and post-secondary school.
- Trips that are made at the same time each day.
- Trips to destinations with a large number of persons, such as downtowns, hospitals, post-secondary institutions and business parks

An example of a vanpool program is Jack Bell Rideshare, which operates vanpools in the Lower Mainland and on Vancouver Island between the Cowichan Valley and Victoria. Vanpools use eight-passenger minivans purchased by Jack Bell Rideshare and operated by a designated vanpool driver. All passengers except the driver pay a monthly fare calculated to recover capital and operating costs. Seven persons is the minimum number required to start a vanpool, although a vanpool can be started with only six persons if the group is prepared to pay for the empty seat until a seventh person can be found. The Jack Bell Rideshare program is offered province-wide. Administrative costs of the vanpool program are partially funded by BC Transit (and by TransLink in the Lower Mainland).

BC Transit and the CVRD would like to thank all those who were involved in the creation of this plan.