Transit Future Plan

COMOX VALLEY | 2014

Comox Valley Regional District | BC Transit

TRANSIT future

TRANSIT FUTURE PLAN **COMOX VALLEY**

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TRANSIT *future*

Executive Summary

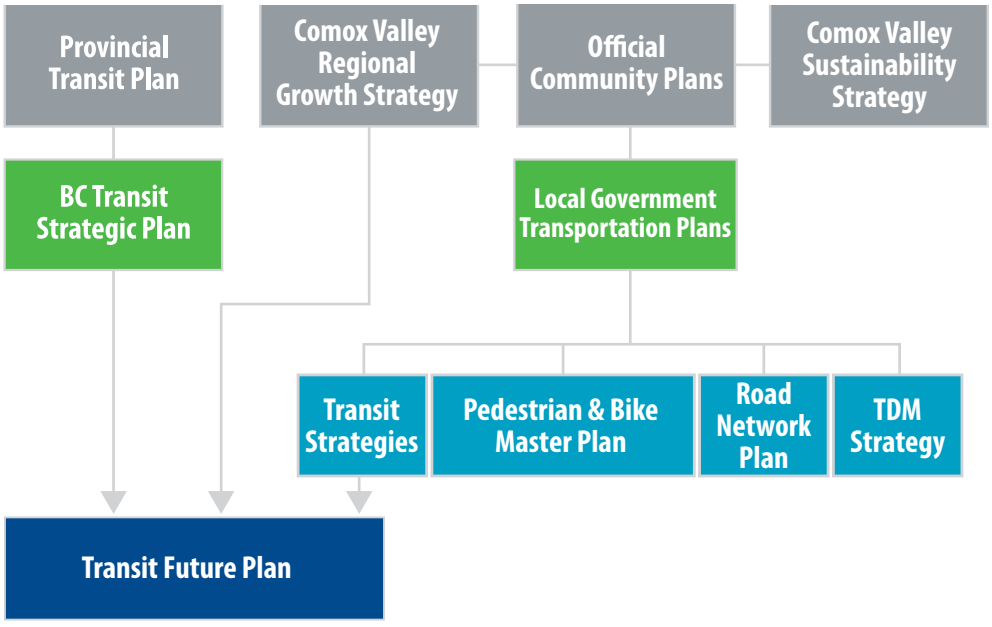
Transit has tremendous potential to contribute to more economically vibrant, livable, and sustainable communities. The need to realize this potential in the Comox Valley is increasingly important due to factors such as climate change, population growth, an aging demographic and availability of affordable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

The region has established a policy framework and guidelines to move towards sustainable development of which transit supportive land use is an important aspect.

In addition to these planning initiatives in the Comox Valley, the *BC Provincial Transit Plan* and BC Transit 2030 Strategic Plan inform the Transit Future Plan.

The Transit Future Plan builds on the Comox Valley land use and transportation policies and includes an implementation strategy for transit investments. *See Figure 1.*The Transit Future Plan was developed through a participatory planning process involving a stakeholder advisory group and broad community consultation. The Transit Future Plan envisions the Comox Valley transit network 25-years from now and describes the services, infrastructure and investments that are needed to achieve that vision.

Figure 1: Transit Future Plan Framework



Vision and Goals

Vision Statement

"An affordable, efficient and convenient transit network with routes that connect transit users with neighborhoods and other transport modes and contribute to a vibrant and equitable quality of life in the Comox Valley"

Goals

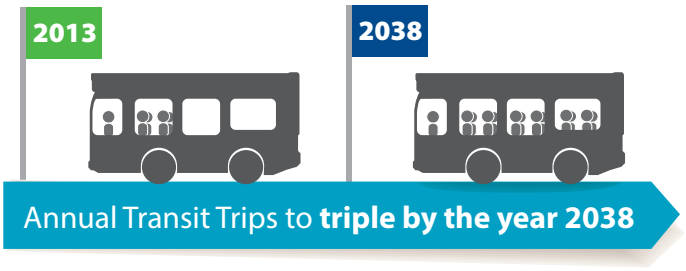
Six transit plan goals have been created to support the achievement of the vision statement. They work towards a vision that encompasses more than simply carrying more transit passengers in the most cost efficient manner. The goals look to getting more people on the bus and making the experience convenient and enjoyable in that they continue to choose transit as their preferred travel mode.

The Comox Valley transit system will:

- Attract new riders and increases ridership
- Direct and align with the regions key centres
- Integrate with other modes of transportation
- Be efficient and cost effective
- Be safe and accessible
- Be collaborative and customer focused

Ridership Targets

The Transit Future Plan sets a transit mode share target of three per cent (3%) for all trips by 2038, which will require the Comox Valley transit ridership to grow from 626,043 to 2.7 million trips per year. This target aligns with the *Provincial Transit Plan's* transit mode share target for regional centres in British Columbia.



The Transit Future Plan Network

The Comox Valley Transit Future Plan network includes four distinct layers of transit service to better match transit service to demand. The network is designed to be competitive with automobile travel by improving the directness, reliability and frequency of the transit system. The network focuses on services between neighbourhoods and key centres, connecting these centres with the ferry terminals, train station and airport; supporting opportunities for inter modal connections. The Transit Future Plan may require more customers to transfer from one route to another to complete their journey, with the trade-off that trips will be more frequent and overall travel will be more direct.

Frequent Transit Network (FTN)

The Frequent Transit Network (FTN) provides medium-to high-density mixed land use corridors with a convenient, reliable and frequent (30 minutes or better and 15 minute service in the peaks) weekday transit service between 7:00 am and 10:00 pm. The goal of the FTN is to allow customers to spontaneously travel without having to consult a transit schedule. The FTN will carry the majority of the transit system's total ridership, and for this reason it justifies capital investments such as a high level of transit stop amenities, service branding and transit priority measures.

Local Transit Network (LTN)

The Local Transit Network (LTN) is designed to connect neighbourhoods to local destinations and to the FTN. LTN services allow customers to plan a trip to work, school, the local shopping centre or the ferry terminals and Comox Airport by transit. Frequency and vehicle types are selected based on demand with LTN routes sub categorized into either a Ridership or Coverage LTN. In some cases, smaller transit vehicles can be utilized to better match customer demand and operating conditions on local roads.

Ridership Local Transit Network

- Frequency 30 minutes or greater
- Connection to local destinations and FTN

Coverage Local Transit Network

- Frequency 60 minutes or greater
- Connection to local destinations, FTN and interregional networks

Targeted Services

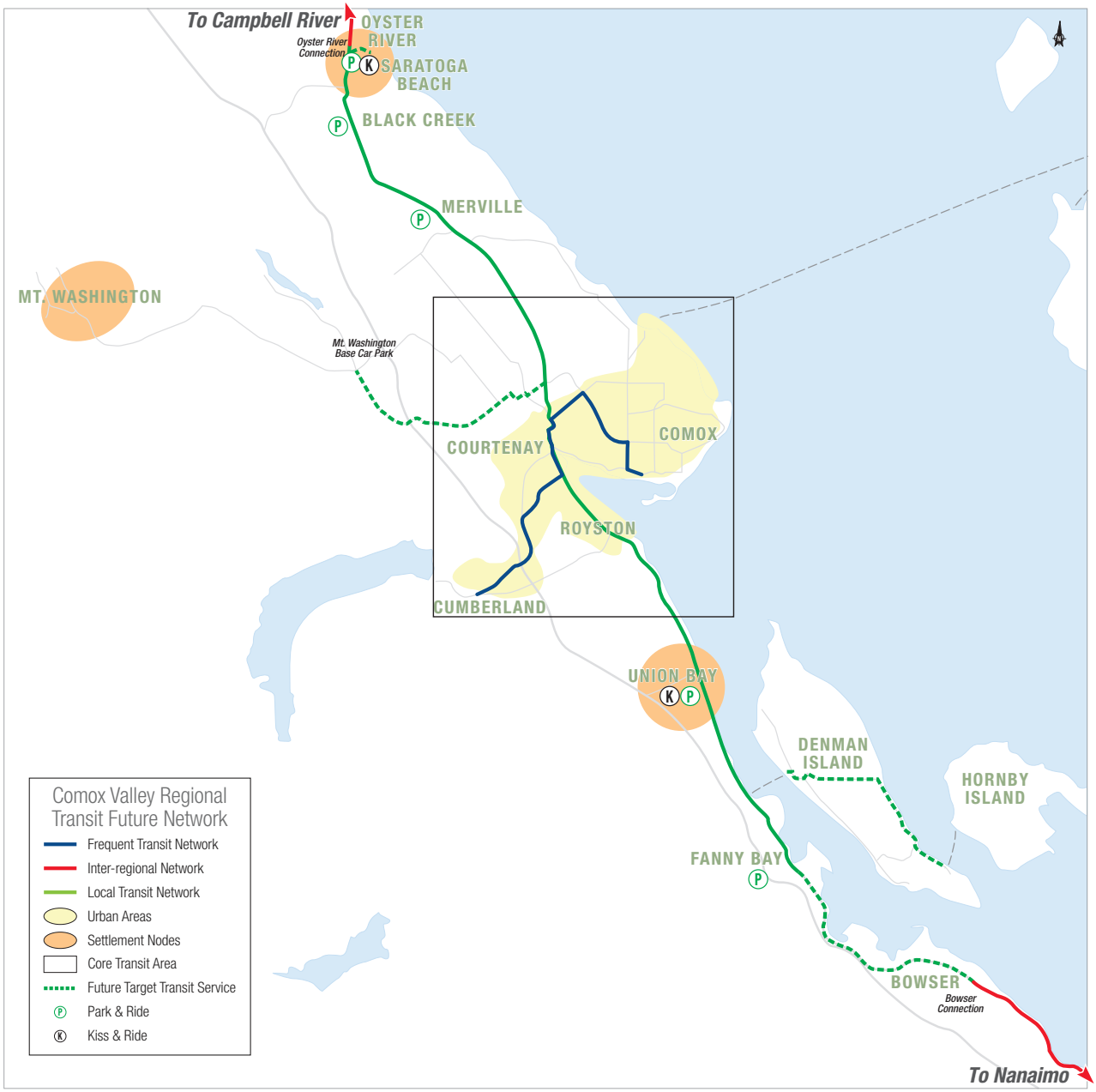
Targeted services are a collection of transit services that do not fit into the frequent or local transit network definition and are more focused on the needs of specific customers. These services include:

- Interregional connections
- School specials
- Paratransit (Community Transit): may include transit services that are demand- responsive or operate with flexible routes and schedules in low ridership areas

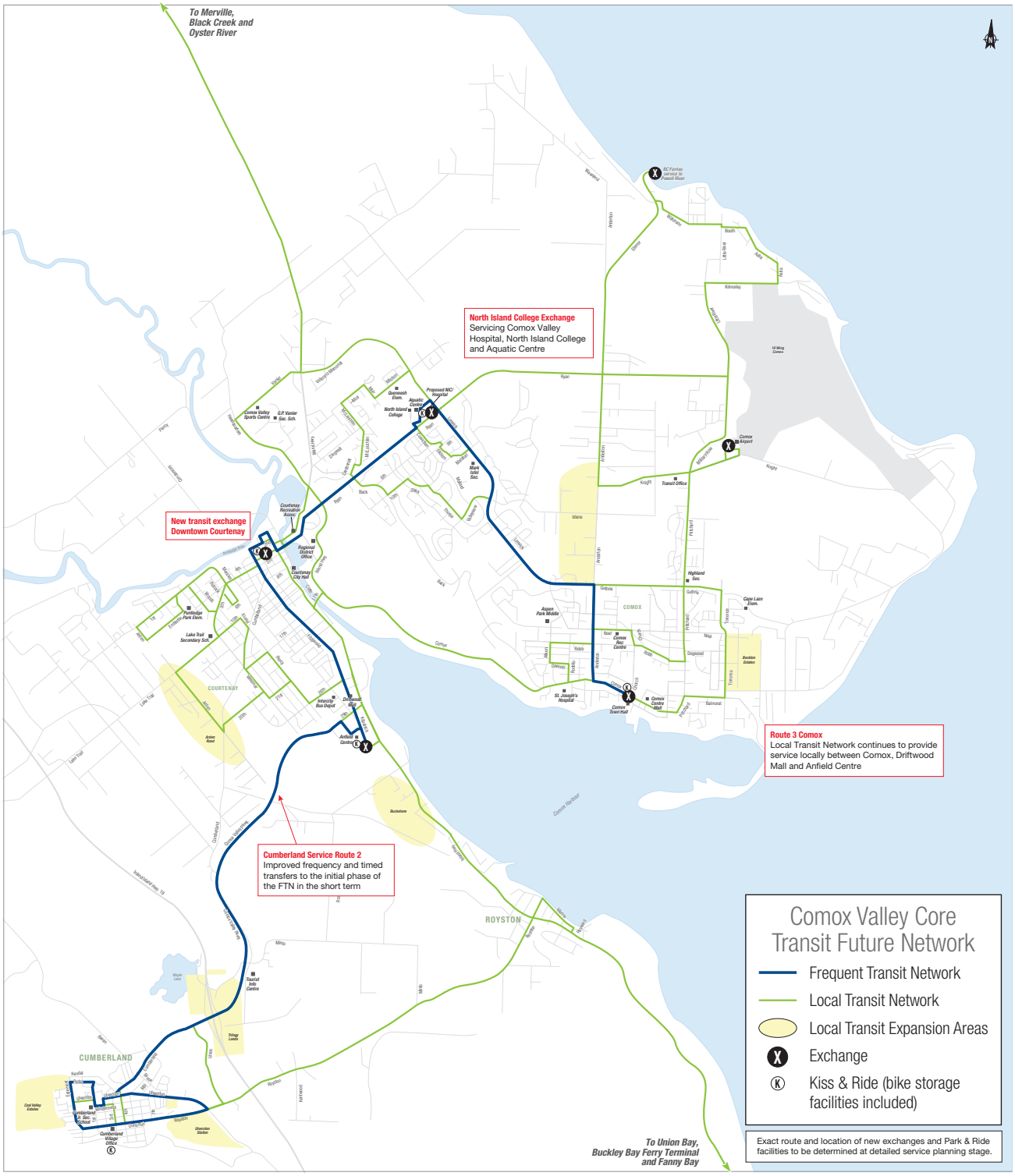
Custom Transit

Custom/handyDART: door-to-door services for customers unable to use conventional service some or all of the time

Comox Valley Future Regional Transit Network Map



Comox Valley Future Urban Transit Network Map



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.

Short-term Implementation Priorities (0–5 years)

	Short-term Service Improvements	Resources
1	**Begin to develop the Frequent Transit Network (FTN)** **Phase 1: Introduce commuter express limited peak services on Route 3 and 4 Comox.** This express (limited stop) service operates between downtown Courtenay and downtown Comox via North Island College. • Weekday peak services between 7 a.m. - 9 a.m. and 4 p.m. - 6 p.m. with a 30 minute or better frequency. • Saturday peak services between 8 a.m. - 9 a.m. and 5 p.m. - 6 p.m. with a 30 minute or better frequency. • This phase will use the existing (850) non-peak express hours already in operation on these routes and increase by 500 annual service hours to implement the service improvement. **Phase 2: Introduce frequent service between Driftwood Mall, downtown Courtenay, North Island College and downtown Comox.** This is the first major step to implement the FTN. Transit services on the existing Route 4 Comox and Route 1 Fitzgerald will be restructured to form the frequent transit route. The likely FTN corridor from Driftwood Mall to downtown Courtenay will be along Fitzgerald Ave, a Community Collector road designated for corridor improvements within the 2014 City of Courtenay 25 Year Vision for Multi-Modal Transportation. This route will also serve Ryan Road, Anderton Road and Comox Ave which are all designated as Arterial Mobility Connectors highly suited to conventional transit vehicle use. • Weekday services between 6 a.m. - 10 p.m. with a 15 minute frequency in the peak and 30 to 60 minute frequency at other times. • Saturday services between 8 a.m. - 10 p.m. with a 30 to 60 minute frequency. • Sunday services between 9 a.m.- 6 p.m. with a 60 minute frequency	**Phase 1:** One vehicle and 500 additional annual service hours. **Phase 2:** One vehicl and 4 ,500 additional annual service hours. Phase 2 will use the existing 7,000 service hours in operation on Route 4 Comox and Route 1 Fitzgerald to implement this service improvement.
2	**Realignment of existing Local Transit Route 3 Comox, to compliment the introduction of the Phase 2 of the FTN** The introduction of the FTN in Phase 2 will include realignment and schedule adjustments to many of the routes within the network. This provides the opportunity to avoid overlapping of services and the reallocation of existing hours to well performing routes. This realignment primarily serves the Comox community providing Local Transit service through the more densely populated areas and directing service to Driftwood Mall. • Weekday and Saturday services 7 a.m.-10.p.m. with a 60 minute frequency • Sunday services 7 a.m.- 9.p.m. with a 60 to 120 minute frequency	Vehicle requirement unlikely to change. This phase will use the existing 4,285 service hours in operation on Route 3 Comox to implement this service improvement.
3	**Improve frequency and structure to Local Transit Route 12 North Valley Connector** The proposed realignment will omit the transfer required in downtown Courtenay, giving passengers north of the Comox Valley a one seat journey to the North Island College and new hospital precinct. Service enhancements to include increased frequency Monday to Saturdays, as follows: • Increased weekday services with the addition of one trip (340 service hours) • Increased Saturday services with the addition of two morning trips between 9 a.m. and 11 a.m. (130 service hours) • Realignment of Oyster River to downtown Courtenay trips, to travel via North Island College (210 service hours)	Vehicle requirement unlikely to change, an additional total of 680 annual service hours.

4	**Improve frequency and structure to Local Transit Route 7 Arden** Phase 2 of the FTN would provide the opportunity to investigate the restructure of the Route 7 Arden, increase coverage between the Arden Road and Lake Trail Road area, providing additional evening and Saturday services • Weekday services 7 a.m. – 10 p.m. with a in the and at all other • Saturday services 7a.m. – 10 p.m. with 60 minute frequency	One Vehicle required and an additional total of 650 annual service hours.
5	**Expand services to Local Transit Route 6 Uplands** Increase span and frequency of services. Route 6 is a key Local Transit Route servicing the Uplands to downtown area of Courtenay. Upon completion of the new Comox Valley hospital, it is intended that Route 6 Uplands will be modified to provide direct drop off and pick up at the proposed bus stop to be located at the hospital entrance. • Weekday services 7 a.m.–10 p.m. with a 60 minute frequency • Saturday services 7 a.m.–10 p.m. with a 60 minute frequency	Vehicle requirement unlikely to change. An additional total of 325 annual service hours to include: Increased weekday services (270 service hours) Increased Saturday services (55 service hours)
6	**Improve Structure and Frequency to Local Transit Route 2 Cumberland** This route will be realigned to achieve the minimum service design standard of 400 metres access to a transit route for Cumberland residents. To improve the directness of service, a Southern Comox Valley Area Service Plan will be also be developed to determine the optimal direct routing for Route 2 Cumberland and Route 10 Royston. Once the FTN is established, the trip schedule for Route 2 Cumberland is to be revised to enable timed transfers of Route 2 at Driftwood Mall. This may result in reallocation of service hours into improved frequency for Route 2 Cumberland to be in accordance with the minimum Service Design Standards for the Comox Valley Local Transit Network including a 30 minute frequency in the peak and 60 minute frequency at all other times.	Vehicle requirement unlikely to change, no additional hours required.

Short-term Infrastructure Improvement

1	**Develop a Comox Valley Regional District Frequent Transit Corridor Study** This will include the preferred alignment, location and timing of transit priority measures, other key stop locations and existing transport infrastructure capacity assessment to be provided by each municipality. Collaborative exercise between BC Transit, CVRD, MoTI, City of Courtenay, Town of Comox and Village of Cumberland staff.
2	**Examine primary exchange improvements at downtown Courtenay and North Island College Precinct** • Downtown Courtenay requires an exchange that can accommodate six bus pullouts complete with shelters and other customer and bus driver amenities. Ideally the exchange would be located on the perimeter of the downtown and on route to allow cost efficient structure of the services and remove circuitous routing of services through the downtown Courtenay residential streets. • This new exchange is required to coincide with the introduction of the Frequent Transit Network (Phase 2) and the expansion of 4,500 hours within the transit system • The North Island College Primary Exchange is a key destination point on the Frequent Transit route. This exchange needs to accommodate four bus platforms and would still allow for the inclusion of a bus stop at front door of new hospital for limited routes to operate by.
3	**Continue to improve transit customer facilities** Continued improvement and maintenance of transit facilitates and on-street customer amenities are important for the successful operation and future growth of the transit system. Some improvements that have been identified are : • Space transit stops along a corridor at appropriate intervals between 300m - 400m. In some locations, transit stops are spaced too closely together leading to slower transit trips and higher transit stop maintenance costs. Corridor transit and transportation projects should include a review of stop locations prior to investing in infrastructure • Invest in on-street customer amenities such as transit shelters, customer information, benches. Bike racks at key stops and pedestrian-oriented lighting at transit stops • Improve universal accessibility of transit stops

Medium and Long-term Implementation Priorities (6–25+ years)

Medium-term Service Improvements

1	**Evaluate effectiveness of the community bus service operating in the Cape Lazo/Point Holmes and Huband Road/ Seal Bay areas.** • Consider expansion of Community Bus services to other rural areas where appropriate transit density and road design and network exists to allow effective and efficient operation.
2	**Service Improvements Local Transit Route 12 North Valley Connector** • Improve alignment of route 12 at Oyster River • Expand evening and weekend service
3	**Service Improvements Local Transit Route 3 Comox** • Expand services on Route 3 Comox to include 30 minute frequency in the peak and investigate increased span of hours
4	**Service Improvements Local Transit Route 10** • Increasing span of services to 7 a.m. - 10 p.m. Monday to Saturday and increased Sunday service.
5	**Investigate the expansion of Summer Beach Services**
6	**Introduce interregional weekday service** connecting Comox Valley Transit and Nanaimo Transit Services • The Comox Valley Regional District and BC Transit will discuss opportunities to establish a transit service connection between the Comox Valley and Nanaimo Transit systems.
7	**Service Improvements to Local Transit Route 2 Cumberland:** Improve frequency and span to minimum Service Design Standards set for the Local Transit Network. • Monday to Saturday service 7 a.m. to 10 p.m. with a 30 minute frequency in the peak • Sunday 7 a.m. to 9 p.m. with a 60 minute frequency all day
8	**Commence a Community Transit Feasibility Study for Denman and Hornby Islands**
9	**Introduce local transit services as required into new development areas**
10	**Investigate splitting Local Transit Route 11 Little River route to become 11A and 11B** • **11A Courtenay to Airport** – Improve direct service to Comox Airport from downtown Courtenay expanding transit opportunities to CFB Comox and surrounds. • **11B Comox to Airport** – Introduce a direct service to Comox Airport and Powell River Ferry from downtown Comox; focus on service coverage for all communities in this area of the region.
11	**Investigate the realignment and operation of the Comox Valley transit routes to connect with the proposed reinstatement of the E &N rail services at Courtenay train station.**

Medium-term Infrastructure Improvements

1	**Examine secondary exchange improvements at downtown Comox and Driftwood Mall/ Anfield Centre** • Downtown Comox requires an exchange that can accommodate minimum two bus pullouts plus layover for 2 buses, (four in total) complete with shelters and other customer amenities. Ideally the exchange would be located close to the centre of town along Comox Ave or in location developed through the Comox downtown revitalization project. Placement of the exchange must ensure for the most efficient operation of the Frequent Transit Network. • Anfield/ Driftwood Centre requires a secondary exchange that can accommodate 4 bus pullouts and would act as the key transfer point for targeted and local services connecting riders to the Frequent Transit Network
2	**Improve minor exchange located at Oyster River** • In partnership with the City of Campbell River and the Regional District of Strathcona, look at opportunities to improve passenger amenities, vehicle access and potentially location of this exchange.

3	**Examine the construction of Park & Ride stations at:** • Union Bay • Saratoga Beach/Merville/Black Creek • Investigate the co-location of the Park & Ride stations with existing commercial facilities
4	**Examine the expansion or relocation of the existing Transit Operations and Maintenance Facility** • The existing facility will likely be nearing operational capacity by 2018

Long-term Service Improvements

- Investigate service improvements to Local Transit route 10 Royston/ Buckley Bay, in particular expansion of Sunday services.
- Continue service improvements on the established Frequent Transit Network.
- Investigate Local Transit route 2 Cumberland to operate as an extension of the Frequent Transit Route which would be in operation between Driftwood Mall, downtown Courtenay and downtown Comox.
- Investigate the introduction of a service to the Mount Washington base car park.
- If supported by the feasibility study, explore the implementation of a community bus service on Denman Island connecting Hornby and Denman residents to the Ferry enabling transfers to the transit service at Buckley Bay.
- Plan for increased Local Transit service in Saratoga Beach and Union Bay.
- Expand the interregional service from Comox Valley to Nanaimo, in particular increased regular weekday service.
- Introduce new local transit services as required into new development areas.

Custom Transit Service and Transit Accessibility

Short, Medium and Long term Service Improvements		Timeframe
1	**Complete the handyDART pilot project**	2014/15
2	**Examine the recertification of existing handyDART registrants** • Rollout dependent on recommendations from pilot study assessment.	2015/16
3	**Upon completion of the pilot project examine improvements to the handyDART service in the existing Custom Transit service area** The following priorities for service improvements have been identified: • Service on statutory Holidays **Resources:**100 annual service hours, no additional vehicle required • Weekday service at peak times **Resources:** 500 annual service hours, no additional vehicle required • Expanded hours of service on weekdays and weekends **Resources:** 300 annual service hours, no additional vehicle required	Short-term
4	**Develop a travel training program** A 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. The travel training program would be based on handyDART referrals and outreach to seniors and people with a disability. For example, in Kelowna 95 per cent of training participants have chosen to ride conventional transit following their training.	Medium-term
5	**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

Cost of Short Term Implementation Priorities

Preliminary costs have been developed for the short- term service improvement priorities requiring expansion hours. *See Table 1and 2*. Cost and revenue projections are based on the 2013/14 Annual Operating Agreement (AOA) budget figures, and actual costs and impacts may vary depending on the finalization of service and operating details. Ridership projections are also estimates based on analysis of current ridership trends and expected trends associated with the proposed service change.

At the request of the Comox Valley Regional District Board of Directors, service implementation priorities and preliminary cost estimates for the total **annual net local government share** for both the Conventional and Custom Transit short term (5 year) service priorities is limited to expenditure of $270,000 and to those priorities best positioned to increase ridership and revenue.

Table 1: Short Term Conventional Implementation Priorities & Preliminary Cost Estimates*

	Service Option	Buses**	Estimated Additional Annual; km	Annual Service Hours	Estimated Annual Rides	Estimated Total Revenue	Estimated Annual Total Costs	Estimated Net Local Share of Annual Costs***	BC Transit Estimated Share of Annual Costs****
1	Develop Frequent Transit Route	2	145,800	5,000	125,000	$113,300	$487,900	$172,800	$201,800
3	Improved Structure and Frequency to Route 12 North Valley Connector	0	19,900	680	10,200	$9,200	$57,200	$21,300	$26,700
4	Improved Structure and Frequency to Route 7 Arden	1	19,000	650	7,800	$7,100	$87,700	$52,200	$28,400
5	Expansion Service Route 6 Uplands	0	9,500	325	3,900	$3,500	$27,300	$11,100	$12,700
Total		**3**	**194,200**	**6,655**	**146,900**	**$133,100**	**$660,100**	**$257,400**	**$269,600**

**Estimate based on 2013/14 budgets. Final costs may change based on final budgets and confirmation of final operational details*

***The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date*

**** Net Local Share of Costs represents local share of costs less estimated revenue*

*****BC Transit share of costs do not include BC Transit share of Vehicle Lease fees*

Table 2: Short-term Custom Service Implementation Priorities & Preliminary Cost Estimates*

Service Option	Buses	Annual Service Hours	Estimated Annual Rides	Estimated Total Revenue	Estimated Total Annual Costs	Estimated Net Local Share of Annual Costs***	BC Transit Estimated Share of Annual Costs
Introduce Holiday Services	0	100	200	$400	$2,200	$300	$1,500
Expanded Weekday Peak Service	0	300	900	$1,700	$16,600	$3,800	$11,100
Expand weekday services at peak times	0	500	1,500	$2,800	$27,700	$6,500	$18,400
Total	**0**	**900**	**2,600**	**$4,900**	**$46,500**	**$10,600**	**$31,000**

** Estimate based on 2013/14 budgets. Final costs may change based on final budgets and confirmation of final operational details.*

*** The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date.*

The combined conventional and custom transit estimated total for the Net Local Share of Annual Costs is $268, 000. Proposed new vehicles have been considered as either medium duty or light duty additions to the fleet.

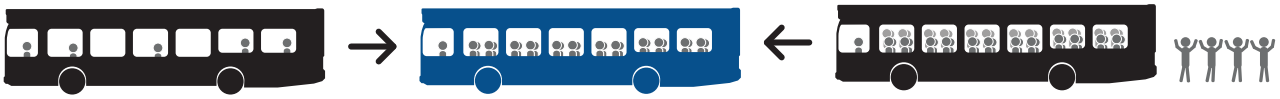
This combined conventional and custom transit estimated total service hour expansion provides an additional 7,555 annual service hours to the Comox Valley Transit System in the short-term.

Service Design Standards and Route Performance Guidelines

As part of the ongoing management of the transit network, service design standards and performance guidelines have been developed as tools to facilitate service planning decisions and measure how well the transit system is progressing towards achieving its goals.

- Service standards define service levels, the service area and when service should be introduced or reduced to an area.
- Performance guidelines measure service effectiveness by defining numerical thresholds and targets for the system and its routes and services.

The Comox Valley Transit Future Plan establishes conventional transit system targets of 30 rides per service hour and a cost recovery of 30 per cent by the year 2038. These measures are meant to ensure an acceptable level of service quality to the customer, and along with the Transit Future Plan, guide planning decisions and recommendations of BC Transit and the Comox Valley Regional District staff to the decision makers.



Over-supply | Efficient and Productive | Overcrowded/pass-ups

Moving Forward

Funding the Plan

Meeting the mode share and ridership targets of this plan will require capital and operating investments in the transit system over the next 25 years. Annual operating costs are based on conventional service hours that are projected to increase from the existing 28,019 hours in 2013/14 to approximately 80,000 hours by 2038. The plan also calls for capital investments that include:

- Expanding the transit fleet from the existing 20 vehicles to 48 vehicles
- New transit exchanges at downtown Courtenay and Comox
- New transit exchange at the North Island College
- Improvements to customer amenities at transit stops and transit priority measures as required

Given the level of transit investment anticipated over the coming decades, the way in which transit is 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.

Budget Development Process

The Comox Valley Transit Future Plan Implementation Strategy section establishes milestones over the next 25 years which strategically guide the system from where it is today to the Transit Future network vision.

The Transit Future Plan implementation strategies are also dependent on allocation of available provincial transit expansion funding between all regional transit systems as determined through BC Transit's Transit Improvement Program (TIP). The TIP's process informs the three year service expansion initiative letters sent out annually (April) to local governments in order to confirm the council/board's intent to commit to the expansion and to align the local budget accordingly. Upon Local Government confirmation, the expansion budget is included in BC Transit's annual Service Plan to the Province to secure the operational and capital budget necessary to implement service changes.

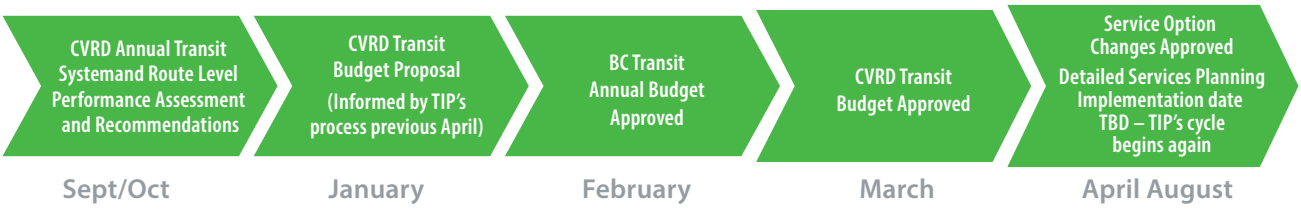
Figure 2 provides the indicative timing of budget and planning processes for future CVRD service improvements to occur. This includes alignment of detailed route level performance assessment, service change recommendations, Provincial and CVRD budget processes and detailed service planning to implementation phase.

A detailed route level performance assessment against the Comox Valley performance guidelines and targets will seek to provide service efficiencies where apparent as part of any proposed service expansion, by ensuring appropriate allocation of the existing operational budget and the proposed expansion budget.

Since provincial funding for transit is confirmed on an annual basis, implementation of any service or infrastructure option requiring expansion is dependent on confirmation of BC Transit's fiscal year budget, normally in mid-February/ March each year.

Once local and provincial funding has been approved and the local government approves a service option or combination of options for implementation, an Implementation Agreement Memorandum of Understanding (MOU) will be developed for signature by all required parties including BC Transit. This MOU outlines the service changes to be developed for implementation and the roles and timeline for implementation.

Figure 2: Budget and Service Planning Implementation Process

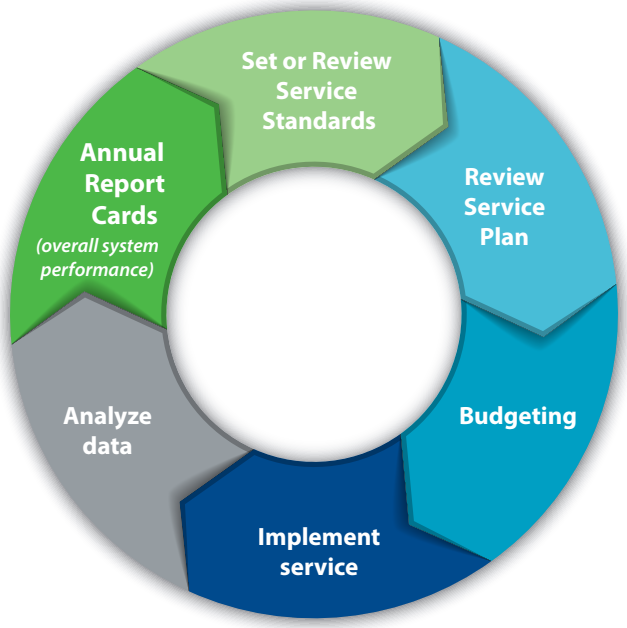


Keys to Success

To guide the plan from vision to reality will require an on-going dialogue between the Province, BC Transit and the Comox Valley on transportation policy, funding and the connection between land use and transit planning.

The Transit Future Plan builds upon previous plans (the Official Community Plans, Transportation Plans) and will be used to communicate the vision and direction for transit in the Comox Valley.

Other steps required to ensure the success of the plan include integrating the transit strategy into other municipal projects, supporting travel demand management measures, transit oriented development and transit supportive land use 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 Comox Valley is increasingly important because of factors such as climate change, population growth, an aging demographic and the need to preserve 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 Comox Valley and in other communities across the province to better integrate transit and land use planning to support the creation of more sustainable and livable communities. Transit Future Plans are intended to:

- Focus public investment in public transportation (the movement of people and personal 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 neighborhoods 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 greenhouse gas emissions primarily by reducing the use of single occupancy vehicles
- Encourage greater transit use and help reduce congestion on the road network and in turn reduce and or delay expenditure on the expansion of road infrastructure to service 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?

A Transit Future Plan envisions what a region's transit network will look like 25 years from now and describes what services, infrastructure and investments are needed to get there. 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 and regional governments, the Province of British Columbia and BC Transit.

The Transit Future Plan intends to promote and influence land use in Comox Valley that will facilitate an increase in the use of public transit and other sustainable modes of transportation. The plan is designed to accommodate the ridership necessary to achieve the community's mode share target. However,

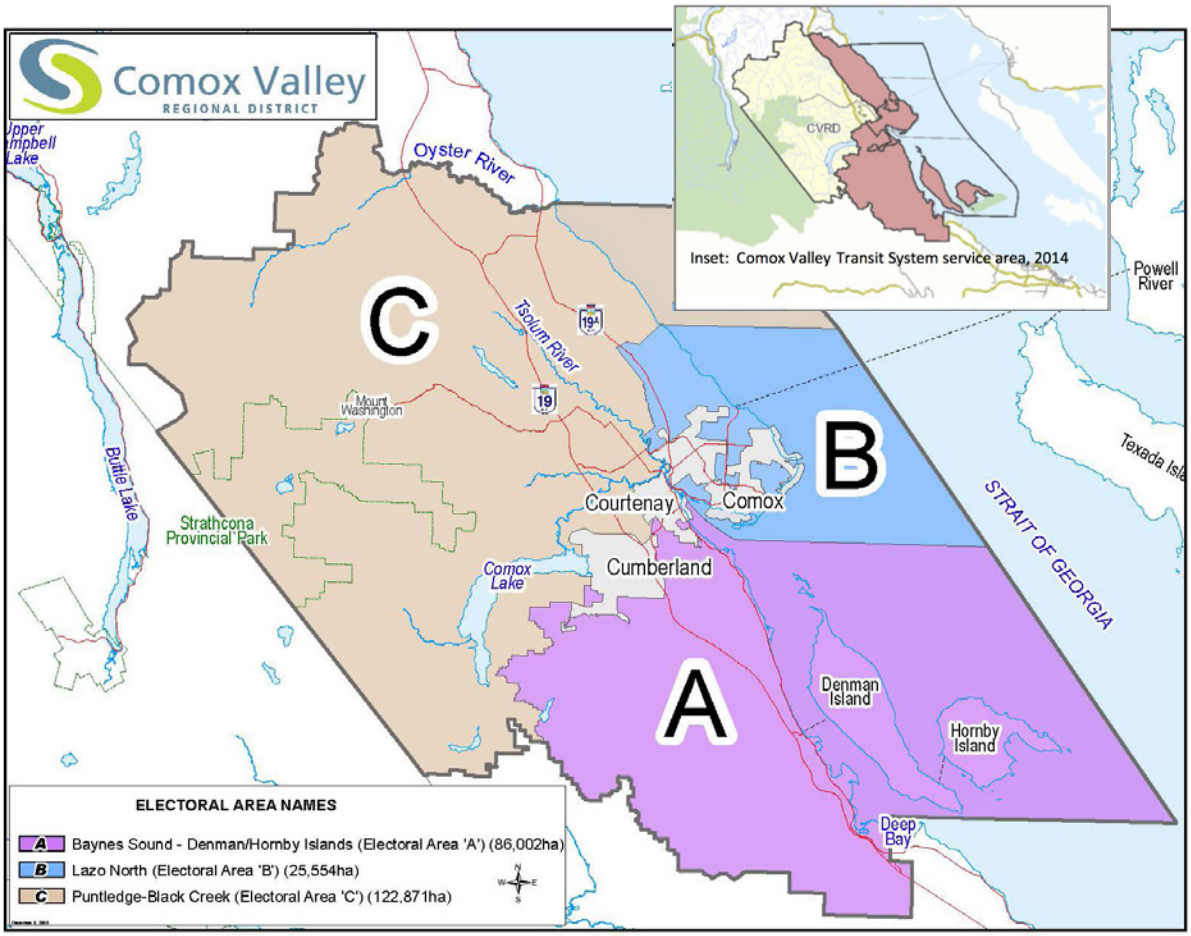
municipal, regional and provincial planning agencies are pivotal in the creation of demand through strategic transit-oriented development, transit-friendly land use practices, travel demand management practices and the provision of right-of-way for transit priority measures.

Study Area

This plan has been created for the Comox Valley Regional District (CVRD). The Regional District is comprised of three incorporated municipalities including; the City of Courtenay, Town of Comox, Village of Cumberland, along with three Electoral areas of Baynes Sound (A), Lazo North (B), and Puntledge- Black Creek(C) and the K'òmoks First Nation Lands. The region has a population of approximately 63,538 (2011 Statistics Canada) with the majority of this population residing in the urban areas of Courtenay, Comox and Cumberland. Refer to Map 1.

The Comox Valley is a large area with three distinct town centres of Courtenay, Comox and Cumberland which provide varying services to the entire CVRD community. The intent of the Transit Future Plan is to continue to develop the transit network as a regional system providing transit opportunities across all communities. The Comox Valley transit system serves most of the Comox Valley and links up with the Campbell River transit system at Oyster River.

Map 1: Comox Valley Regional District (Inset Comox Valley transit system service area 2014)



Links to Other Planning Initiatives

The Transit Future Plan supports and is guided by other existing and approved documents.

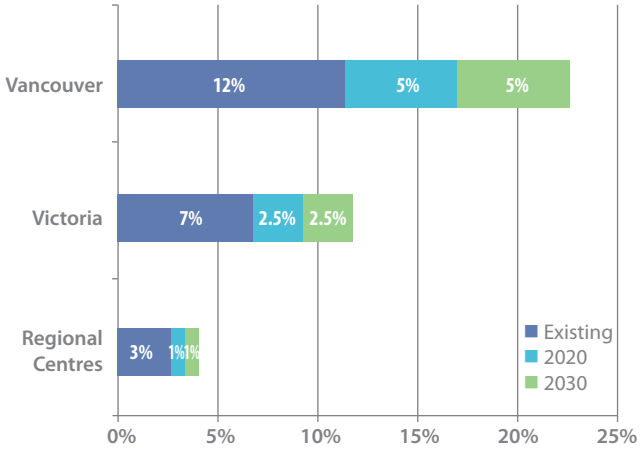
Provincial Transit Plan (2008)

The Provincial Transit Plan is British Columbia's 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 Comox Valley.

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

- Reducing greenhouse gas emissions and air contaminants from cars by 4.7 million tonnes by 2020
- Doubling transit ridership in BC to over 400 million trips a year by 2020
- Increasing the transit market share in regional centres from three per cent to four per cent by 2020 and five per cent by 2030, as shown in Figure 3. For the Comox Valley transit network this translates into increasing transit ridership from 600,000 to over 2 million passengers a year

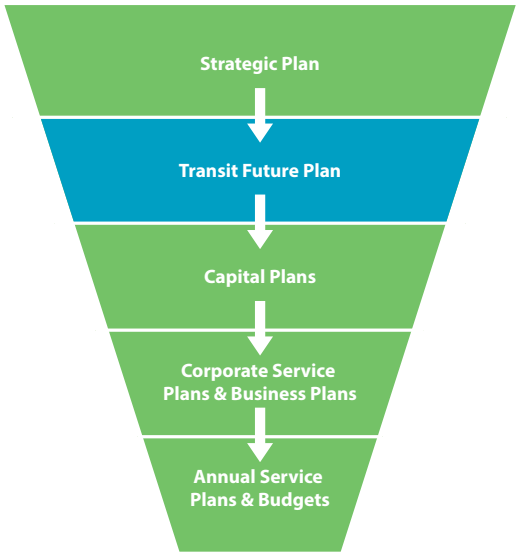
Figure 3: Provincial Transit Plan Mode Share Targets



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 connect people and communities to a more sustainable future. See Figure 4.

Figure 4: BC Transit Planning Hierarchy



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
- 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.

Integration with local planning initiatives

The integration of transportation and land use planning at the municipal, regional and provincial level is one of the most important considerations in the design of the Transit Future Plan.

The Comox Valley Regional Growth Strategy identifies a key goal across the region of increasing transportation choices, especially the coordination of land-use patterns that will support transit use and a multi modal transportation network that connects Core Settlement areas and designated Town Centres, linking the Comox Valley to neighboring communities and regions.

The Transit Future Plan has been drafted in a manner that will assist in the realization of this goal by connecting identified neighborhood centres to regionally significant service centres, providing local residents and visitors to the region with access to major services. A key driver of the Regional Growth Strategy was to keep development largely within the existing developed footprint allowing for the best utilization of existing and future infrastructure investment and protecting valuable agriculture land and the natural environment. The Transit Future Plan identifies expansion largely within the existing footprint of the current built up areas in Courtenay, Comox and Cumberland and along key transport corridors connecting key centres within the region and surrounding rural communities.

The suite of Official Community Plans across the region, as outlined further in the Setting the Scene section of this document, all direct their focus to building more compact complete neighborhood areas and encouraging transportation opportunities other than the motor vehicle to access work and daily activities.

Participation

This Plan was created through the collaboration between BC Transit, the Comox Valley Regional District, the City of Courtenay, the Town of Comox and the Village of Cumberland to ensure the plan aligned with and built on existing and approved land use and transportations plans. A Transit Future Plan working group was established to guide the creation of the plan. BC Transit completed a range of public consultation initiatives including the formation of a stakeholder advisory group, two phases of public consultation with BC Transit's mobile open house the Transit Future Bus, online and print surveys and project updates on the Transit Future project website. These initiatives were completed to raise awareness of the plan, receive input on determining priorities for implementation and to ensure delivery of a plan that will meet the diverse needs of the people within the Comox Valley region.

Transit Future Plan Consultation

The Transit Future Plan consultation initiatives included the following:

Stakeholder Advisory Group

The role of the group was to provide open, honest and constructive feedback and act as the liaison between each individual participating organization and BC Transit. The group was comprised of major institutions, community groups, business groups, residential associations, local and regional government staff and Ministry of Transportation and Infrastructure (MoTI) staff. Key meetings included:

- An initial stakeholder advisory group meeting in July 2013 to discuss the planning process and community context
- A meeting focusing on network development exercises in November 2013
- A meeting to establish implementation priorities in March 2014

Public Consultation

Consultation with the broader community was conducted in two phases at key milestones of the plan to ensure the final plan reflects the needs and priorities of the community. Presentations were delivered to the Comox Valley Regional District (CVRD) to inform elected officials of the Transit Future Plan process, with a subsequent presentation delivered at the end of the planning process that sought the CVRD Board endorsement of the Transit Future Plan vision, goals and network and implementation plan.

Phase One: Listening Phase

BC Transit Future Project Website – A dedicated web page was established for the Transit Future Plan, which provided materials developed throughout the plan, updates on upcoming events, reports, presentations and online surveys to allow feedback during consultation. The BC Transit Future Project website provided tools for public feedback and comment.

Transit Future Bus – June/July 2013, twelve Transit Future Bus events were held in the Comox Valley during Phase One – Listening Phase. The Transit Future Bus is an out-of-service bus that has been converted into a mobile open house facility complete with information on the Transit Future Plan, BC Transit and a Kids' Zone. Events were held at the following locations:

- **Thursday, June 27** – I-HOS Gallery (K'ómoks First Nation Grounds)
- **Thursday, June 27** – Downtown Courtenay
- **Friday, June 28** – Comox Quality Foods
- **Friday, June 28** – Union Bay Post Office
- **Friday, June 28** – Buckley Bay Ferry Terminal
- **Saturday, June 29** – Comox Valley Farmers Market
- **Saturday, June 29** – Crown Isle Mall
- **Sunday, June 30** – Comox Centre Mall
- **Sunday, June 30** – Dunsmuir Ave, Cumberland
- **Monday, July 1** – Canada Day, Lewis Park
- **Tuesday, July 2** – Driftwood Mall
- **Tuesday, July 2** – Oyster River, Discovery Foods

Attendees were able to provide feedback directly to BC Transit staff and municipal staff on-board or via an on-board survey and comment board. Setting the public consultation attendance record for Transit Future phase 1 events, a total of 1,750 visitors were welcomed on-board the bus during this stage.

Phase One Public Feedback Highlights

Public feedback from the Stakeholder Advisory Group and the Transit Future Bus events revealed the following unranked major themes:

- Improved frequency of most services
- Smaller transit vehicles to match demand
- Increased, holiday, weekend and evening services
- More direct services especially between Anfield Centre, Courtenay and Downtown Comox
- Interregional connections to Nanaimo and improved Campbell River connections
- Enhanced passenger amenities, including bike racks
- Improved passenger information including Transit Trip Planner and Rider's Guides
- Improved intermodal connections at the Airport and Ferry terminals and the train station
- More attention to services meeting school session times
- Respondents suggested the following areas are not being sufficiently served by the existing transit system and should be considered for future expansion of the transit service area including:
    - Cape Lazo
    - Point Holmes
    - Merville
    - Black Creek
    - Arden Road area
    - Comox Valley Market and Sports Centre
    - Cumberland

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 the proposed future transit investments. This phase of public consultation was in April 2014 and included ten Transit Future Bus events listed below, as well as online and onsite surveys.

- **Wednesday, April 23** – Cumberland, Dunsmuir Ave (outside Library)
- **Wednesday, April 23** – Oyster River at Discovery Foods
- **Thursday, April 24** – Driftwood Mall
- **Thursday, April 24** – Union Bay Post Office
- **Thursday, April 24** – Downtown Courtenay
- **Friday, April 25** – Comox Quality Foods
- **Friday, April 25** – Comox Centre Mall
- **Friday, April 25** – Buckley Bay Ferry Terminal
- **Saturday, April 26** – Comox Valley Framers Market
- **Saturday, April 26** – Earth Week Festival at Lake Trail Community School

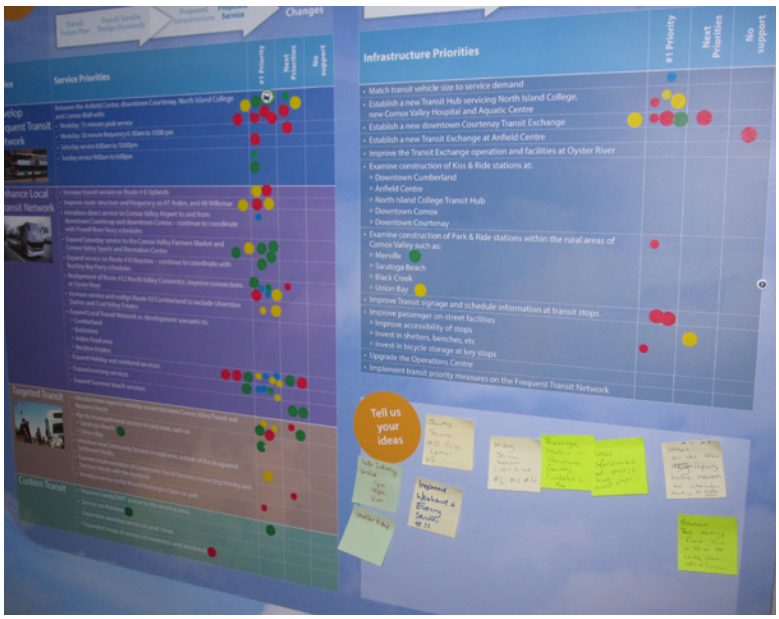
Phase Two Public Feedback Highlights

Over 430 people came on board the Transit Future Bus during the phase two stage to provide feedback and input to the plan. The information presented on the Transit Future bus engagement focused on the following:

- The draft Transit Future Network, which was developed and refined in the third and final Stakeholder workshop
- Priorities for improvements to the existing transit service based upon the feedback from the first phase of engagement

Public feedback provided many valuable ideas on the proposed network and priorities included the following major themes. There was overwhelming support for the Frequent Transit Network with residents supportive of the overall proposed network structure and the service priorities including:

- Establishing the Frequent Transit Network between Driftwood Mall/ Anfield Centre, downtown Courtenay, North Island College and downtown Comox
- Improving route 12 North Valley Connector including: better links with North Island College, improved connections at Oyster River, increased frequency and span of hours
- Improving route structure and frequency on route 7 Arden and route 8 Willemar
- Improving route 10 Royston including enhanced Buckley Bay ferry connections
- Introduction of a weekday interregional connection between Comox Valley Transit and Nanaimo Transit
- Expanded Holiday and weekend services
- Improving evening services on all routes
- Expanding Saturday services to Comox Valley Farmers Market and Comox Valley Sport and Recreation Centre
- Improving handyDART services
- Establishment of a new transit exchange to be located near the North Island College and the new Comox Valley Hospital
- Support for examining Park & Ride locations at Merville/Black Creek and Union Bay
- Establishment of a new downtown Courtenay exchange
- Support for bicycle storage at key stops



Setting the Scene

Population growth, demographic characteristics, land use and settlement patterns are important factors in planning a successful transit network. The subsequent sections identify existing and future demographic, land use and transportation trends for the Comox Valley, specific to the City of Courtenay, Town of Comox and Village of Cumberland.

Population and Demographics

Comox Valley's population is 63,538 as of the 2011 census. Regional population is distributed between three incorporated municipalities, three Electoral Areas and two K'òmoks First Nation Lands. The incorporated municipalities and their relative populations are: Courtenay, with the highest population of 24,099, Comox with a population of 13,627 and Cumberland with a population of 3,398. Combined, they support approximately 65 per cent of the region's population. *See Table 3.* The remaining 35 per cent of the region's population lies within the three Electoral Areas. *See Map 2.* There are numerous other communities with notable resident populations, including Merville, Royston and Union Bay.

Regional population is concentrated along the east coast. The highest densities are experienced in Courtenay and Comox. Much lower densities are experienced in Electoral Area A and Electoral Area C. The majority of Cumberland's population is contained in approximately 2km^2. The greater part of the western portion of the region has little to no population. Population density is an important determinant of potential transit ridership.

Map 2: Comox Valley Regional District

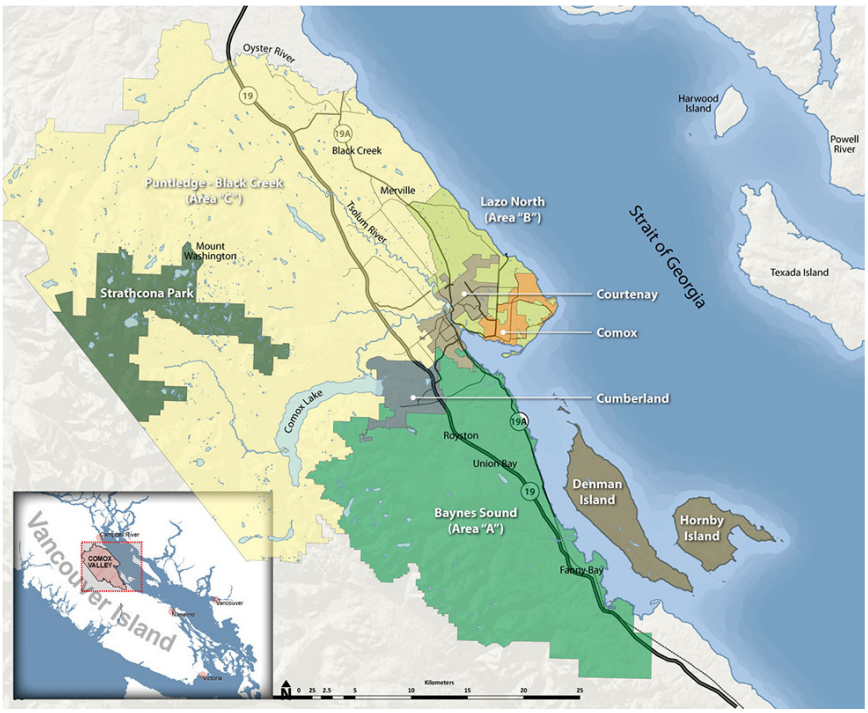


Table 3: Comox Valley Population and Density by jurisdiction

	Population			Density per km²	
Area	**2011***	**2038****	**Percentage of Population (%)**	**2011**	**2038**
City of Courtenay	24,099	33,196	37.9	820.2	1,129.9
Town of Comox	13,627	18,770	21.6	814.3	1,122.3
Village of Cumberland	3,398	4,660	5.6	117.2	158.1*
Electoral Area A, Comox Valley (Baynes Sound-Denman/Hornby Islands)	6,899	9,457	10.8	14	19.1
Electoral Area B, Comox Valley (Lazo North)	6,939	9,544	10.9	122.3	168.3
Electoral Area C, Comox Valley (Puntledge-Black Creek)	8,325	11,456	13.1	7.7	10.6
Comox 1 Indian Reserve	251	345	0.4	431.3	592.8
Total	**63,538**	**87,428**	**100**	**37.4**	**51.2**
Unincorporated Communities					
Merville	2,115				
Royston	1,562				
Union Bay	1,156				
Denman Island (Trust Area)	1,022				
Hornby Island (Trust Area)	958				
Fanny Bay	815				

**Source: Statistics Canada*

***Based on BC Statistics Population Growth Projections. Density assessed using developable land (including Crown Land) excludes parks and waterways*

Historical and Projected Population

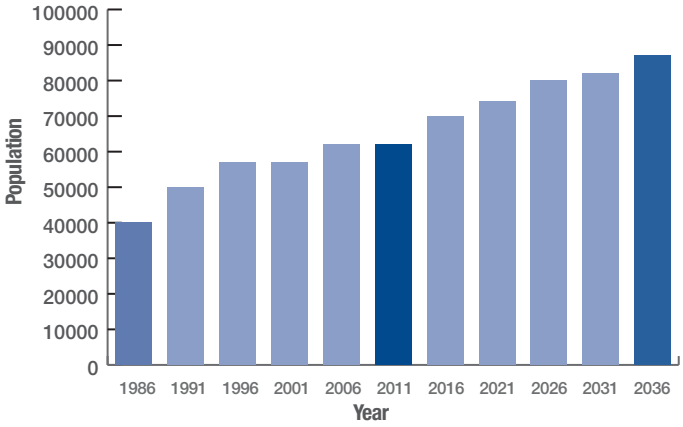
Comox Valley

The Comox Valley's population has increased from 38,804 in 1986 to 63,538 in 2011, a 25-year increase of 63.7 per cent. This is higher than the provincial population increase over the past 25 years of 52.6 per cent.

The Comox Valley is projected to reach a population of 87,428 in 2038, an increase of 36.6 per cent from 2011. The provincial projected population increase is 37.7 per cent in the next 25 years. Generally, the region's population will continue to increase in the future, although the rate of increase is projected to slow slightly. *See Figure 5.*

The increase in population will require related investments in transportation infrastructure and public transit to support the growing population.

Figure 5: Historical and Projected Regional District Population



Courtenay

Courtenay has experienced 33.6 per cent population growth over the last ten years increasing from 18,034 in 2001 to 24,099 in 2011. Courtenay's Official Community Plan, 2013, indicates a 3.5 per cent annual growth rate equating to a 41 per cent increase in population in 2021 from 2011 levels. This will result in a population of 33,987 in 2021. There will be substantial growth in the next 10 years in Courtenay, making it the highest contributor of population in the Comox Valley.

Comox

Comox has experienced a population growth of 20 per cent over the last 10 years increasing from 11,391 in 2001 to 13,627 in 2011. The Comox Official Community Plan, 2011, indicates a 1.45 per cent increase annually, reaching 15,602 in 2021, a 14 per cent increase.

Cumberland

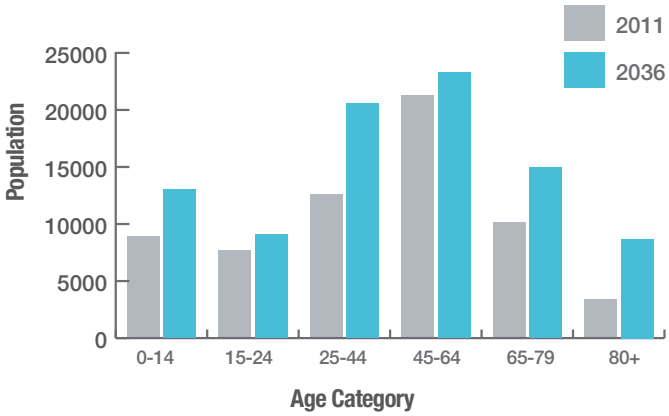
Cumberland has experienced a population growth of 29 per cent over the last 10 years, increasing from 2,633 in 2001 to 3,398 in 2011.

Population by Age

Comox Valley

The Comox Valley has a large population of seniors relative to the population as a whole. 21 per cent of the population is aged 65+ in 2011, which is slightly higher than the 16 per cent of people aged 65+ in the province. The median age in 2011 is 48.3, which is significantly higher than the provincial median age of 41.9. As seen on Figure 6 there is a significant amount of population in the 45-64 range in 2011. BC Statistics has projected that there will be similar amounts of people in the 45-64 range in 2036; however, there will be a significant increase in the population in the 65-79 range. The climate, natural areas and opportunities for recreation have made the region an extremely attractive place for retirees. This will affect transportation (specifically transit), land use and social services to accommodate this aging population.

Figure 6: Current and Projected Regional District Population by Age Group



Courtenay

Courtenay has a median age of 46.5 in 2011, which is older than the provincial average, but younger than the regional district. 22 per cent of the population is 65 years or older, which is 37.5 per cent higher than the provincial amount.

Comox

Comox has a median age of 49.1 in 2011, which is older than the region, and significantly older than the province. Comox has 26 per cent of seniors over the age of 65 which is 62.5 per cent higher than the provincial amount.

Cumberland

Cumberland has a median age of 38.2 in 2011 which is younger than both the regional and provincial average. Cumberland has 13 per cent of seniors over the age of 65; however, the largest portion of the population lies within the 25-44 range which holds 29 per cent of the total population.

Employment and Population

The numbers of jobs in the region is expected to grow along with Comox Valley's overall population, and between 12,000 and 22,000 new jobs are expected by 2030. Due to the aging population, the Comox Valley continues to be a sought after retirement destination. The largest employers in the Comox Valley are:

- The Canadian Forces Base, unit 19 Wing Comox, employs approximately 1,400 military personnel and 700-800 civilian personnel. It is located at 1250 Knight Road, 2.5 km northeast of Comox.
- School District 71 consists of 23 schools and employs 1,400 people. It encompasses the communities of Courtenay, Comox and Cumberland as well as the surrounding rural areas and the adjacent islands of Denman and Hornby.
- St. Joseph's General Hospital employs 1,049 employees and is located at 2137 Comox Avenue. It is estimated that by 2017/18 the New Comox Valley Hospital located on Ryan Road and Lerwick Road will be operational, establishing a growing health employment base with over 500 new health services jobs anticipated as a result of the expansion.
- Mount Washington Alpine Resort employs approximately 950 employees during the winter months. It is located at 1 Strathcona Parkway, a 45-minute drive from Courtenay.
- North Island College's Comox Valley campus is located at Ryan Road and Lerwick Road. It offers 900 courses and 70 credit programs and employs approximately 400 people in total. In 2011/12 there are 2,255 students enrolled in credit courses and 1,809 students enrolled in other courses offered at the Comox Valley campus. The campus continues to expand in academic and trade course availability, attracting more domestic local students and continues to have steady growth in their international programs. The North Island College Comox Valley Master Plan April 2013 indicates expansion of teaching and student facilities including on campus residential buildings.

Population & Demographic Challenges

Aging population

Large proportions of residents currently aged 45-64 will increase the proportion of residents aged 65+ in the future, further expanding the population of older residents more highly reliant on transit. Transit service will become increasingly important for accessing daily services especially medical appointments. The challenge will be to encourage the growing senior population in the Comox Valley to use the conventional service where able and provide Custom Transit solutions for those less ambulatory or able to use the conventional network.

Low rural densities

Population concentrations are relatively high in Courtenay and Comox, but much lower elsewhere in the region. Providing conventional, fixed route transit service is financially challenging in areas of low density. Lower frequency conventional service and on-demand Paratransit (Community) service may be more applicable in these areas.

Small employment base, fewer people commuting

Commuters are a relatively easily targeted transit rider market because they exhibit consistent travel habits five days per week; the lower proportion of employment in the Comox Valley reduces the potential commuter transit riders.

Land Use

Transit Supportive Land Use

There is a strong relationship between transit and land use. Transit supportive land use is critical for the success of the transit system and conversely, transit can help to attract and support higher density, mixed-use development. Therefore, land use and transportation needs to be planned in a coordinated way.

Transit supportive land use typically includes the following features:

Medium to high residential density

Medium and higher density development can better support transit because a greater number of potential transit users are located within walking distance of a transit stop or station, thus maximizing the potential transit customer base and leading to increased ridership. For example a transit stop in an area such as Booth Road Comox with a density of 1,000 persons or less per square kilometer (which includes large lots and would likely be zoned as a low density single family development) would have limited potential customers within a 400 metre walking distance, while a transit stop in an area such as McLaughlin Drive Courtenay with a density of 3,500 persons per square kilometre (a mix of low-rise and medium-rise apartments) would have many potential customers within walking distance. Figure 7 compares the 2011 with the projected 2038 density per square kilometre for the Comox Valley Neighbourhood areas;

Non-residential density (which relates closely with employment density)

Employment and other non-residential destinations can be much more efficiently served by transit when they are concentrated.

Nodes and corridors of medium and higher density

Nodes and corridors of medium and higher density can be very effective since they concentrate a large proportion of the population and the non-residential activities into areas that are within walking distance of transit.

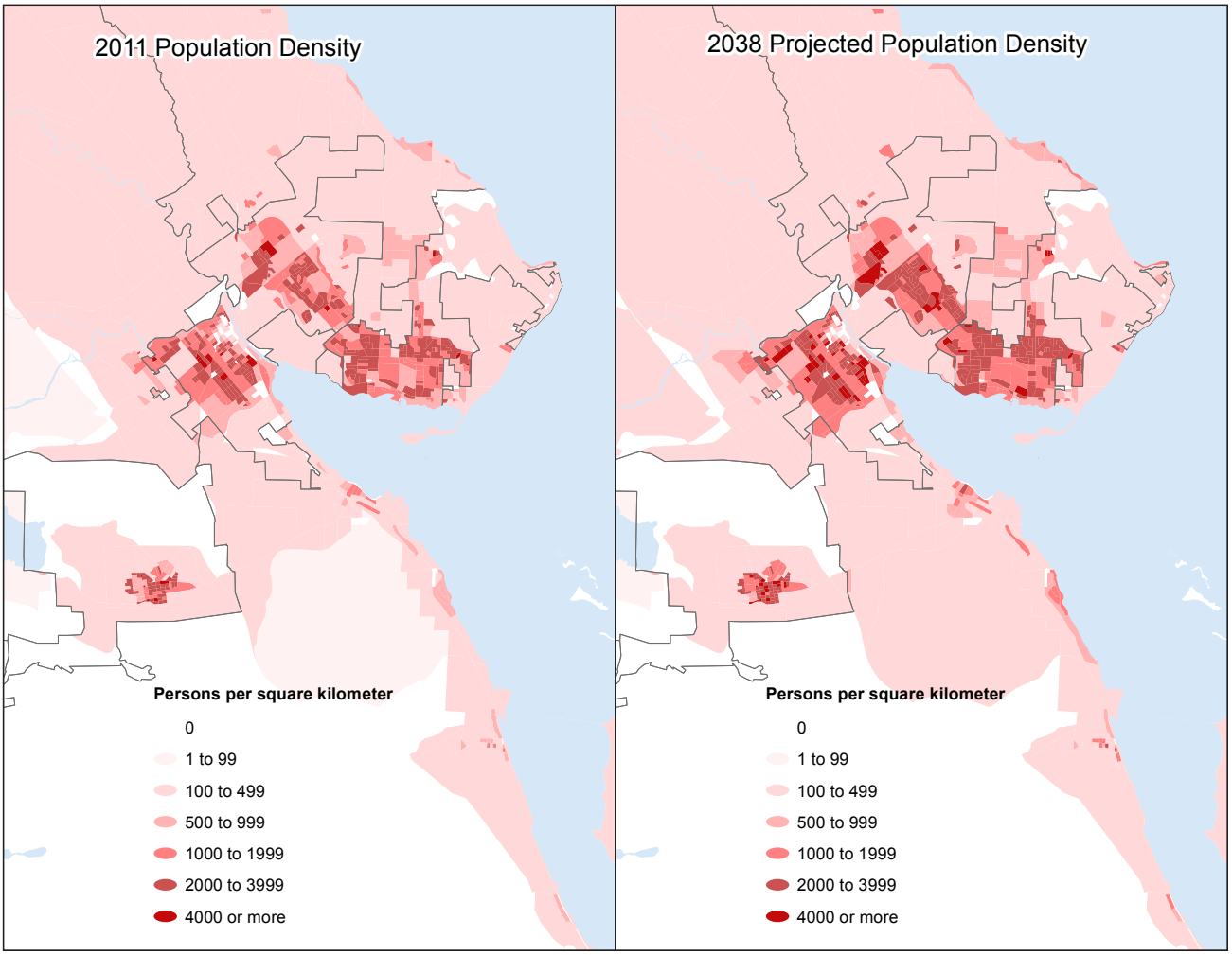
Mixed use development

Differentuses attract activity at different times of day. Therefore, mixed uses tend to lead to more balanced travel flows throughout the day and in multiple directions, which reduce peaking and one-directional travel. In addition, people who live or work in a mixed-use area are more likely to use transit since they don't need their cars to run errands during lunch or after work.

Pedestrian friendly design and active modes of transportation

Transit users begin and end their trips as pedestrians, so pedestrian friendly design will also make using transit more attractive. This could include aesthetically designed sidewalks, pedestrian zones, and buildings that are located close to the sidewalk rather than behind large parking areas. Consideration should also be given to cyclists that use the transit system, with connections to the cycling network and integration of cycling storage facilities with transit stops and exchanges.

Figure 7: Comparison 2011 to 2038 Projected Population Density



Source: BC Transit

Comox Valley Land Use and Transit Strategies

A key driver of the Comox Valley Transit Future Plan is to respond specifically to the Land Use and Transport Planning strategies already developed as part of the Regional District and the local municipalities' long range planning frameworks.

Each municipality and electoral area in the Comox Valley has an Official Community Plan. The Comox Valley Regional Growth Strategy has reinforced these OCP's and each plan presents a long term vision for the community and establishes policies, priorities and guidelines for land use and community development in order to achieve the vision. Land use policies and proposed transit strategies for each area have been summarised for the Transit Future Plan.

Comox Valley Regional District

REGIONAL GROWTH STRATEGY, BYLAW NO.120

The Comox Valley Regional District completed a Regional Growth Strategy, Bylaw No. 120 in 2010. Its purpose is to build consensus among local governments on future policies on land use and improving transportation options over the next 20 years.

Development in the Comox Valley will be directed in a manner that creates a sustainable long-term development pattern that use both land and infrastructure in an efficient manner. See Figure 8. The Regional Growth Strategy (RGS) outlines the following policies and goals on land use patterns and development:

- Locate housing close to existing services and direct 90 per cent of new, residential development to Core Settlement Areas. (Policy 1A-1)
- Nodes are to be developed within centres that are walkable and limited to local services with a range of housing types focusing on low density multi-residential and medium density. (Policy 1A-4)
- Growth in Settlement Expansion Areas will occur in a phased and orderly manner and will undergo a public planning process to determine appropriate scale and form of development. (Policy 1A-7)

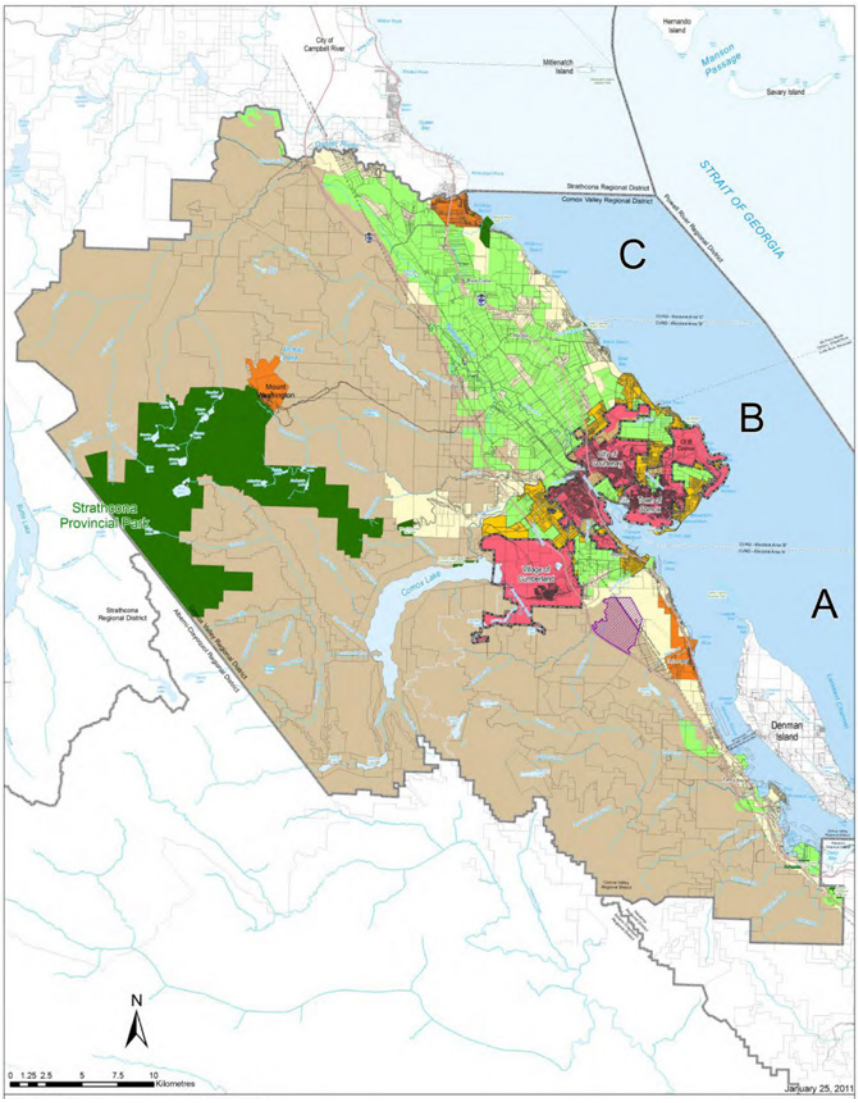
Transit-oriented land use planning considers the location of density, a mix of uses and road networks. Road networks should provide a direct route for transit through population employment areas. Transit use in the rural areas requires strategies that consider the lower density nature of rural residential development, the cost of transit and the nature of daily trips. Specialized services such as smaller community bus programs can help to tailor transit service to rural areas. Working with BC Transit, significant investments will need to be made in public transit and coordination of land-use patterns that support transit use. Below are RGS policies directed towards improving transit:

- Increase Public Transit (Objective 4-A)
  - » Design of a direct transit route through the centre of a population or employment area, without the need for circuitous routing
  - » Specialized services such as smaller community bus programs can help to tailor transit service to rural areas

- Local governments should work with BC Transit to ensure that bus schedules facilitate access between major destinations including Town Centres, K'omoks First Nation Lands, CFB Comox, the new hospital site, North Island College, the Comox Valley Airport and connections to Mount Washington and Settlement Nodes. (Policy 4A-2)
- Major public institutions and employment should be located in Core Settlement Areas and served by frequent transit and active recreation infrastructure. (Policy 4A-3)
- Through municipal OCP reviews, develop strategies to reduce parking requirements in town centres in order to encourage better use of land resources and shift to more public transit use. (Policy 4A-6)

The Strategy includes numerous policies to support active transportation in its transportation, growth management, public health and safety, and climate change chapters. In BC, the provincial government established Canada's most stringent greenhouse gas (GHG) reduction targets (33 per cent reduction from 2007 levels by 2020, 80 per cent by 2050) and has required all regional districts and municipalities to update their plans to include GHG reduction targets and supporting policies. The RGS identifies active transportation as a key tool for meeting these targets. Given that transportation is the largest contributor to GHGs in the Comox Valley, developing more pedestrian, cycling and transit-supportive land use will be critical in reducing GHGs.

Figure 8: Growth Management in the Comox Valley



Courtenay

COURTENAY OFFICIAL COMMUNITY PLAN (OCP), BYLAW NO. 2387, 2013

The Courtenay OCP outlines short term considerations (5 years) and long term considerations (15-20 years) for transportation, utilities, land use recreation and housing.

Below are a list of the goals, policies and strategies relative to land use:

- Protect downtown Courtenay as an integral part of the community's social and cultural life, its identity and its economy. (Goal 4.1.2.8)
- Move toward a greater balance of development between the east and west sides of Courtenay, and maintain downtown as the core of the community, by creating neighborhoods that provide different housing types close to recreational facilities, educational institutions and other destinations. (Strategy 2.1.4)

The City Of Courtenay OCP lists the following policies and strategies relative to transportation:

- Support transportation planning initiatives designed to match population growth to major destinations and centres of importance. (Policy 3.1.3.9)
- Develop a transit terminal downtown, where multiple modes of transportation can converge at Cumberland Road and the E&N Railway Terminal. (Policy 4.1.3.6)
- Promote transit by installing bus shelters in cooperation with the Downtown Courtenay Business Association and service clubs at locations as determined by the City, BC Transit and the Business Association. (Policy 4.1.3.8)
- Continue to develop the transit system in the City and Comox Valley. The City will continue to participate in any region-wide initiatives to enhance the current system. The City supports a joint public transportation facility linking public transit and the railway station. (Policy 5.3.4)
- Maintain a pedestrian orientation in downtown and integrated transportation planning. (Strategy 2.1.1) by developing a transit terminal downtown where multiple modes of transportation can converge, developing more bicycle paths in the downtown core and developing "friendly" streets and sidewalks.

CITY OF COURTENAY 25 YEAR VISION FOR MULTI-MODAL TRANSPORTATION PLAN, APRIL 2014

Courtenay's 25 Year Vision for Multi-Modal Transportation Report provides a blueprint for meeting the City's transportation needs over the next twenty-five years. The vision for transportation is a balanced, sustainable, multi-modal system that accommodates and embraces alternative travel modes such as walking, cycling and transit.

Below are policies and actions recommended in the Plan:

- Direct growth toward residential, commercial/community services and downtown nodes.

  - » Prepare an urban structure concept to confirm the optimal location for new residential and commercial/community service nodes located in areas appropriate for more intense density, use and activity.
- Commercial/community service nodes are locations of more intense density, mixed use and activity.
  - » Orient nodes around intersecting corridors that can be easily accessed by walking, cycling and transit
- Design road corridors in accordance with "Complete Streets" principles.
  - » Pedestrian, cyclist, transit and motorist needs to be routinely accommodated in all road reconstruction and new construction projects.
- Collaborate with BC Transit and the Comox Valley Regional District to improve transit service.
  - » Pursue options for a new transit exchange downtown which meets bus routing requirements, yet also provides a welcoming waiting area for pedestrians, with landscaping/artwork, shelters, benches, information panels, wide sidewalks, bicycle parking and lighting. It would be conveniently located near downtown destinations and retail establishments that cater to bus patrons
- Implement transit-supportive measures within the City.
  - » Establish transit amenity standards for shelters, accessibility features, and lighting. Upgrade existing bus stops and apply the standards in all new developments
  - » Consider the application of transit priority treatments at signalized intersections to improve transit service in key areas

Comox

COMOX OFFICIAL COMMUNITY PLAN (OCP), BYLAW NO. 1685, 2011

Comox Official Community Plan, Bylaw No. 1685, 2011 is the primary document which sets out community objectives and statements to guide Council's decisions on land use, zoning, development and servicing. The guiding principles relative to transportation include a transportation network that is accessible, affordable and efficient for all transportation modes, with priority given to alternative modes (bicycle, pedestrian and transit).

The Plan seeks to accommodate future housing needs primarily through redevelopment of large sites within walking distance of services, amenities and public transit. Downtown Comox will provide an intensified mix of residential, commercial, cultural and recreational uses where walking is the preferred transportation choice. More and more people will choose to live in Downtown in a variety of housing types, helping to support a strong commercial base served by efficient and frequent public transit. The development form for downtown Comox will be predominantly mixed use, compact and readily accessible by foot, wheelchair, bicycle, transit and car.

The Plan anticipates by 2030 over three-quarters of development will be within 400 metres of existing transit routes and outlines goals, objectives and strategies to achieve this:

- Reduce the environmental footprint of transportation by promoting alternative transportation and encouraging development patterns that support active transportation and transit.
- Develop an accessible community for residents of all ages by providing an accessible downtown for wheelchair, bicycle, transit and vehicle users.
- Work with BC Transit to enhance the transit system through increased service frequency and age-friendly planning.
- Provide direct connectivity between Downtown Comox, the Canadian Forces base and the Comox Valley Airport over time as additional development takes place along Pritchard Road.
- Secure a transit exchange in Downtown Comox.

COMOX TRANSPORTATION STUDY, 2011

The Comox Transportation Study identifies road and intersection improvements, as well as pedestrian, cycling and transit improvements. It provides a framework to guide implementation of transportation infrastructure over the next 20 years.

The following are the key recommendations to enhance and encourage transit use in Comox:

- Work with BC Transit to develop and implement a transit route within Comox between the Airport, Downtown and St. Joseph's Hospital.
- Review opportunities to implement a shuttle service in the short term until the proposed new route is available.
- Pursue advertising money for space on bus shelters.
- Develop bus stop guidelines to provide consistent, recognizable and accessible stops.
- Develop at least one transit exchange.
- Provide bicycle lockers at key transit stops to facilitate cycling to bus stops.

Cumberland

CUMBERLAND OFFICIAL COMMUNITY PLAN (OCP), 2013

The Cumberland Official Community Plan, 2013 provides goals, objectives and policies to guide decisions on planning and land management in Cumberland. The goals and policies outlined in the Plan relative to land use and transportation are as follows:

- Maintain a compact urban form by directing new commercial or employment uses to the village core and along major transportation corridors that are served by frequent transit service, and by focusing new office development in the Historic Village Core. (Objective 5.1.2.a)
- Contain areas with a wide range of land uses that provide for the employment, service, retail and housing needs of Cumberland's existing and future population.

- Achieve Smart Growth principles by encouraging complete communities, infill, mixed uses and more compact built form.
- Provide a cost-effective, safe and efficient road network through development of a network of vehicle, transit, bicycle and pedestrian routes that keep pace with development.
- Increase emphasis on alternative transportation modes (walking, cycling, and transit) while maintaining automobile, commercial goods and emergency vehicle mobility.
- Maintain a base level of transit service (every 30 minutes) to provide convenient transit in areas with sufficient population and employment intensity.

Unincorporated Communities

Transit, transportation and land use policies are summarized for the unincorporated areas. See Table 4.

Table 4: Summary of Electoral Area Official Community Plan

Area	Planning Document	Summary of Key Policies
Rural Comox Valley	Rural Comox Valley Official Community Plan, Bylaw No. 2042, 1999	• Encourage land use patterns that minimize urban sprawl and (C.1.a) promote compact and complete communities.(C.3.a) • Rural settlement areas shall incorporate a mix of land uses to reduce private automobile use to promote alternate means of transportation, and create self-contained communities. (C.4.f) • Community design guidelines that illustrate pedestrian, equestrian, public transit and bicycle-friendly design shall be developed. (C.8.b) • Public transport systems and programs or initiatives which promote shared ridership, pedestrian and bicycle movement shall be supported. (C.8.d) The Regional District has initiated a Rural OCP review process that will result in a new OCP and transportation network plan. A key Transit Policy of the draft Rural OCP is: • Seek new opportunities to support existing commercial centres and/or community halls as central hubs where a range of transportation services can be provided for rural residents including transit stops, park and ride facilities, ride share and car stop stations and bike storage can be provided.
Electoral Area A, Comox Valley (Baynes Sound-Denman/Hornby Islands)	Electoral Area Plan, Bylaw No. 2192, 1999	• Implement and maintain roadside trails using a cooperative agreement between the Regional District and the Ministry of Transportation and Highways. (C.8.b) • Limit commercial services in the countryside, with such services concentrated in designated areas where residents can park and walk between businesses. (B.6.b)
	Union Bay Local Area Plan, Bylaw No. 2193, 1999	• Implement Smart Growth principles where the development proposal is transit and pedestrian-oriented, and where a variety and mix of residential and commercial uses will be found. (C.6.i.1) • Developers are encouraged to consider all modes of transportation to relieve congestion and to provide people with realistic choices. (C.6.i.2) • Mixed-use development shall be encouraged to improve compact land use and diversity that allows citizens to live near where they work and socialize, and supports alternative methods of transportation such as walking and cycling. (C. 19.b)

Area	Planning Document	Summary of Key Policies
	Royston Local Area Plan, 1998	• Locate local commercial services to encourage the use of alternative modes of transportation. • Create a residential land use framework that is supported by a range of commercial and community services. • Integration of transit and other travel modes shall be improved by coordinating greenways, bikeways, trails and transit services. (7.3.e) • BC Transit shall be encouraged to extend hours and routes for public transit, particularly on weekends and increase the range of specialized and flexible transit services, including direct weekend shuttle buses to recreational destinations in Courtenay. (7.3.g)
Electoral Area B Comox Valley (Lazo North)	Electoral Area Plan and Greenway Plan	• Limit commercial services in the countryside, with such services concentrated in areas where residents can park and walk between businesses. (B.6.f)
	Anderton Rd. Local Area Plan, 2001	• Limited commercial support services in the countryside, with such services concentrated in areas where residents can park and walk between businesses. (B.6.d)
	Quenville- Huband Local Area Plan, 2003	• Work cooperatively with senior levels of government to ensure the implementation and maintenance of a comprehensive transportation network for non-motorized forms of transportation. (B.5.3.4. i)
	Croteau Beach Neighborhood Plan, 1998	• New services and upgrades be minimized to maintain the character of the neighborhoods and minimize tax increases. • High density multiple-family residential development is considered incompatible with the rural residential quality of the neighborhoods.
Electoral Area C Comox Valley (Puntledge-Black Creek)	Land Use and Greenways Plan Saratoga/Miracle Beach Local Area Plan, 1999	• The cycling network plan is intended to promote transportation (commuter) cycling and to provide a safe cycling environment. • Limited commercial support services in the countryside, with such services concentrated in areas where residents can park and walk between businesses.
	Mount Washington Local Area Plan, 1998	• Encourage alternative transportation modes and minimize the impact of surface parking on the Resort's natural environment and overall ambience. (Goal 10) • Ensure appropriate community services are available to support the pattern of development and protect the well-being of the residents and visitors of the Resort. (Goal 11) • Encourage transportation to and from the resort with the maximum number of people and the minimum amount of vehicles. (3.6.1.vi)

Land Use & Planning Challenges

Strengthening the link between land use and transportation planning

The updating and integration of the Regional Growth Strategy document, the Sustainability Strategy and other planning documents are critical steps to ensure a strong link between transportation and land use planning. It is important to ensure that as development proposals and transportation projects are implemented they support the vision of these plans.

Finding transportation solutions for areas of low density

Providing transit to areas with lower density such as the Electoral Areas can be difficult without decreasing the efficiency and economic success of the entire transit system. If land use does not generate adequate demand, conventional fixed transit routes will not be viable in some locations. The challenge will be to develop community led transit solutions for sparse communities of distance.

Creating multi-modal transit exchanges in Downtown Courtenay and Comox

Both Courtenay and Comox have expressed a desire to create downtown exchanges. Transit service planning must be coordinated with municipal infrastructure plans as new downtown exchanges are developed.

Servicing new neighborhoods by transit

In order for transit to be viable in new neighborhoods it is important that new developments have strong pedestrian connectivity, transit friendly road network design, bus stop considerations and higher land use densities. For the introduction of new transit services, density in new development areas will need to accord with the minimum Service Design Standards established for the Comox Valley (refer to the Service Monitoring Section of this report).

Transportation

The transportation system in the Comox Valley is made up of a number of distinct elements operated and managed by different levels of government and a variety of authorities. Major components and operators include two major provincial highways, a network of local roads, the E&N Rail Line, the Comox Valley Airport, BC Ferries, BC Transit and private and interregional bus services such as Greyhound.

An overview of these transportation options are provided to formulate an understanding of travel options available to Comox Valley residents, resident travel behavior, and the interconnectivity between various modes.

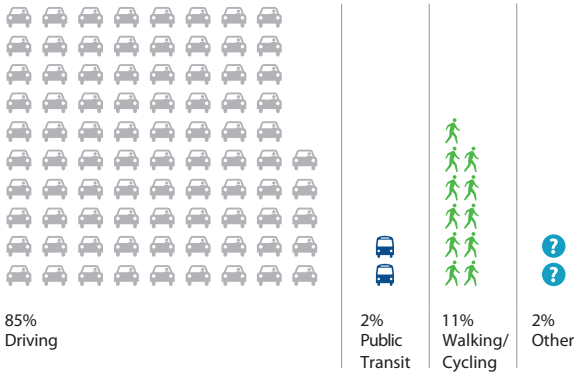
Travel Mode Share

Travel Mode Share for the Comox Valley is heavily dependent on vehicles. In 2011, 85 per cent of commuter[8] trips are by personal vehicle use, which was the same in 2006. Public transit trips represented 2 per cent of commuting in 2011 and in 2006. In 2011, walking/cycling represents 9 per cent of commuter trips, and in 2006 it represented 11 per cent, a decrease of 2 per cent. See Figure 9.

The province has a plan to double the transit modal share in BC by 2020. To meet this goal, existing transit service levels (28,019 service hours) in the Comox Valley would need to increase to 38,000 by 2020. In terms of service this means on a Frequent Transit Network there would have to 30 minute service frequencies, with peak period 15-minute service. Annual ridership would increase to 1,150,000 to meet the goal of doubling transit mode share by 2020.[9]

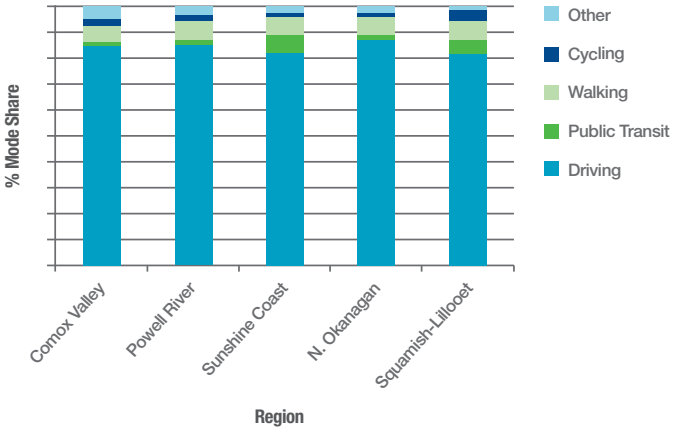
Comox Valley is compared to other similar sized transit systems in British Columbia including Powell River, North Okanagan, Sunshine Coast and Squamish-Lillooet in Figure 10. All Regions heavily rely on personal vehicle use to get to work. The Comox Valley has the highest proportion of "other" transportation modes which can include rideshare or carpooling. After vehicle use, walking is the next most commonly used mode of transportation.

Figure 9: Travel to Employment for the Comox Valley



Source: 2006 Stats Canada

Figure 10: Travel to Employment Mode Share in Peer Communities



8 *Commuter Trips are trips taken specifically for work or education purposes*
9 *Transport Canada*

Trip Origins – Destinations

Origins

Travel originates at an individual's home or at access points to the region (i.e. ferries, airports). As noted previously, resident population is concentrated in Courtenay (37.9 per cent), Comox (21.4 per cent) and to a lesser extent Cumberland (5.3 per cent). *See Table 3.*

Destinations

Travel destinations are the locations of employment, shopping, services, or recreation that residents access most commonly. The majority of employment and shopping/services are concentrated in Courtenay and Comox. The most common regional destinations are as follows:

- Downtown Courtenay provides shopping, restaurants, cultural, education and government services. Downtown is focused at Cliffe Avenue and 5th Street.
- Downtown Comox provides a range of shops, restaurants, as well as a golf course, parks, gardens and beaches. The Downtown core is focused on Comox Avenue between Church and Stewart Streets.
- Downtown Cumberland offers small shops and restaurants. Downtown is focused on Dunsmuir Avenue.
- The Canadian Forces Base, unit 19 Wing Comox, employs approximately 1,400 military personnel and 700-800 civilian personnel. It is located at 1250 Knight Road, 2.5 km northeast of Comox.
- School District 71 consists of 23 schools and employs 1,400 people. It encompasses the communities of Courtenay, Comox and Cumberland as well as the surrounding rural areas and the adjacent islands of Denman and Hornby.
- St. Joseph's General Hospital employs 1,049 employees and is located at 2137 Comox Avenue. The Vancouver Island Health Authority is developing a new regional hospital. The new proposed hospital is located on Lerwick Road at Mission Road.
- Mount Washington Alpine Resort employs approximately 950 employees during the winter months. It is located at 1 Strathcona Parkway, a 45-minute drive from Courtenay.
- North Island College's Comox Valley campus is located at Ryan Road and Lerwick Road. It offers 900 courses and 70 credit programs and employs approximately 400 people in total. In 2011-2012 there are 2,255 students enrolled in credit courses and 1,809 students enrolled in other courses offered at the Comox Valley campus. Comox Valley Aquatic Centre is also located adjacent to the College.
- Driftwood Mall is the primary shopping centre in Courtenay and is located at 2751 Cliffe Avenue.
- Comox Valley Sports Centre provides 2 skating rinks, pool, wellness centre/ weight room, sauna, whirlpool and track and field. It is located at 3001 Vanier Drive in Courtenay.

- Comox Recreation Centre provides a fitness studio, multipurpose room, gymnasium, racquet courts and a gymnastics facility. It is located at 1855 Noel Avenue in Comox.
- Lewis Centre, located on Old Island Highway, Courtenay offers a range of recreational and community services including outdoor swimming pool and water park and a range of spaces for community activities.

Road Network

There are two provincial highways that run through the Comox Valley: Old Island Highway 19A and Inland Highway 19. The Old Island Highway is primarily a two lane highway which follows the coastline. Inland Highway 19 is a four lane limited access highway, that provides the fastest route travelling north or south on Vancouver Island. Highway 19A was first built in 1953, and was predominantly the main thoroughfare north of Nanaimo. Highway 19A extends from Parksville and north to Port Hardy. Between 1996 and 2001, the Inland Highway 19 was built as an express route between Nanaimo and Campbell River.

Approximate driving time and transit trip time between the regional destinations are shown in Table 5. To the south, Comox Valley is a 1.25 hour drive from Nanaimo, a 50 minute drive from Parksville, and a 46 minute drive from Qualicum Beach. To the north, Comox Valley is a 30 minute drive to Campbell River.

Roads within the City of Courtenay, Town of Comox and Village of Cumberland boundaries are the responsibility of the municipality. Roads in unincorporated areas are the responsibility of the Ministry of Transportation and Infrastructure as well as Highway 19 and Highway 19A. The department of Indian and Northern Affairs is responsible for the planning, construction and maintenance of roads on K'òmoks First Nation Lands located in the Comox Valley Regional District.

Table 5: Approximate Driving Time and Distance between Regional Destinations

	Courtenay	Comox	Cumberland	Saratoga Beach	Fanny Bay
Courtenay		5.17 km **7 min – Car** **23 min – Transit**	9.74 km **11 min – Car** **21 min – Transit**	26.05 km **26 min – Car** **35 min – Transit**	25.34 km **21 min – Car** **38 min – Transit**
Comox	5.17 km **7 min – Car** **30 min – Transit**		14.92 km **19 min – Car** ***51 min – Transit**	30.57 km **32 min – Car** ***35 min – Transit**	30.46 km **27 min – Car** ***51 min – Transit**
Cumberland	9.74 km **11 min – Car** **21 min – Transit**	14.92 km **19 min – Car** ***51 min – Transit**		37.14 km **30 min – Car** ***56 min – Transit**	24.30 km **19 min – Car** ***57 min – Transit**
Saratoga Beach	14.27 km **16 min – Car** **35 min – Transit**	18.79 km **22 min – Car** ***65 min – Transit**	24.02 km **27 min – Car** ***56 min – Transit**		56.12 km **38 min – Car** ***72 min – Transit**
Fanny Bay	25.34 km **21 min – Car** **38 min – Transit**	30.46 km **27 min – Car** ***51 min – Transit**	24.30 km **19 min – Car** ***57 min – Transit**	56.12 km **38 min – Car** ***72 min – Transit**	

**Does not include time required for route transfer*

Existing Transportation Options

E & N Rail Line

The E&N Corridor is approximately 223 kilometres long, running between Victoria and Courtenay with a branch line to Parksville and Port Alberni. The railway is owned by the Island Corridor Foundation (ICF) and operated under contract by the Southern Railway of Vancouver Island (SVI).

Passenger rail service was suspended in 2011 due to railway disrepair. Once-per-day passenger service was previously offered between Courtenay and Victoria, with stops in Parksville, Nanaimo, Chemainus and Duncan.

An E&N Rail Line Study was completed in 2010 to evaluate the cost to improve major sections of the line to support specific markets, as well as considering a full-corridor upgrade. It concluded current volumes of freight and passengers do not support significant infrastructure investment at this time. In July 2014 an agreement between VIA Rail Canada, the ICF and Southern Railway was signed to restart passenger services contingent on an agreed funding partnership between the Federal, Provincial and Regional partners and pending upgrades needed to the track. If a passenger service is reinstated in the Comox Valley the local transit network could be augmented to provide the necessary inter-modal connection.

Air

The Comox Valley Airport is located in Comox on the Canadian Forces base. The Comox Valley Airport is centrally located, providing easy access to all points on central and northern Vancouver Island with daily direct flights to and from Vancouver, Calgary and Edmonton and connections beyond. The Comox Valley transit network provides an important inter-modal link for airport passengers wishing to access downtown Courtenay via public transport.

A 2007 economic impact study, found that activities at the Comox Valley Airport combined with those of regional tourism industries and increased air access to the region directly generate: 11,300 direct jobs representing $237 million in wages, $701 million in direct economic output, and $119 million annually in tax revenue contributions to all levels of government

Below are airlines that serve the Comox Valley Airport:

- Pacific Coast Airlines offers flights between Comox and the Vancouver South Terminal
- WestJet Airlines operates flights between Comox and Calgary with connections to Edmonton
- Central Mountain Air provides direct flights from Comox to the Vancouver Main Terminal. Central Mountain Air code-shares with Air Canada allowing flights with Air Canada to originate in Comox through Central Mountain Air
- Flair Air charter service transports oil and gas personnel to and from Fort Nelson

Other air travel options available to Comox Valley residents include:

- West Coast Air offers harbor to harbor flights between the downtown Vancouver terminal and the Comox Bay Marina. One-way fares are $109
- Kenmore Air offers non-stop flights to and from Seattle Boeing Field to the Campbell River Airport, north of Comox Valley
- The Courtenay Airpark is a small public aerodrome located on the banks of the Courtenay River, within easy walking distance to downtown Courtenay. The Airpark offers charter service and marine air travel on the adjacent Courtenay River.

Ferry

BC Ferries operates two ferry services in the region. The first connects the Comox Valley to Powell River which runs between Little River and Westview terminals. The second is the Vancouver Island-Denman Island Ferry which runs between Buckley Bay and Denman West and allows connection to Hornby Island. The Comox Valley transit network provides a key inter modal link for those foot passengers travelling from Hornby and Denman Islands and the Powell River area. Table 6 shows ridership levels 2013 for both ferry routes. Ferry schedules are seasonally adjusted which creates challenges in coordinating transit services.

Table 6: Summary of Ferry Ridership in 2013

	Vehicles	Passengers	Vehicle Utilization Rate (%)	Round Trips
Comox Valley-Powell River	151,075	365,822	35.2	1,460
Denman Island-Buckley Bay	103,314	218,573	40.2	4,482

Bus

Daily Greyhound bus service connects all parts of Vancouver Island. Greyhound stations are located at Oyster River, Black Creek, Merville, Courtenay, Royston, Union Bay, Buckley Bay and Fanny Bay. There are two buses southbound per day and two buses northbound. A bus ticket one way from Victoria to Courtenay is $26.

Island Link bus services links the Comox Valley with the broader Island. The Bus Link extends from Victoria to areas in the Comox Valley: Powell River Ferry, Fanny Bay, Buckley Bay, Union Bay, Royston, Courtenay, Cumberland, Comox, Merville and Black Creek. A bus ticket from Courtenay to Victoria is approximately $50.

The Mount Washington Alpine Resort Shuttle offers a daytime shuttle bus throughout the ski season. The shuttle is $10 return and has pick-up and drop-off points in Courtenay.

School Busing

School District 71 provides transportation for students to facilitate attendance at the school in their catchment area. Those eligible for school busing must live beyond the walking limits from their area public school. For primary students this distances 1.6 kilometers and for secondary students this distance is over 4 kilometres.

The Comox Valley conventional transit system transports many school students living within the municipal boundaries. Many students live within the 4 kilometer walking limit and it estimated 2,090 students attend schools outside their catchment area. Due to high passenger demand for school travel, a "school special" Route 99 VMP Connector operates a morning and afternoon trip between downtown Courtenay and G.P. Vanier Secondary, Mark Isfeild Secondary, and Highland Secondary via Canadian Air force base, 19 Wing Comox. Several students travel on the other local transit routes to transfer to the school services. Special school trips also operate on the Route 5 Vanier and Route 3 Comox. The Comox Valley Transit school special services are an integral part of the fixed route system and are available to all transit riders within the

Comox Valley. This Route 99 VMP Connector service transports on average 70 students a trip equating to over 29,000 annual trips in the 2013/14 year and 6.3 per cent of the total Comox Valley transit system ridership.

School District 71 contracts busing services to First Student Canada for busing to and from schools in the communities of Cumberland, Courtenay, Comox and the Comox Valley Regional District.

First Student has a fleet of 40 buses operating an average of 2,958 kilometers per day and transporting over 2,415 students per day. The school buses are housed at the First Student bus garage on McPhee Avenue in Courtenay.

Active Transportation

There are few dedicated cycling lanes and separated paths with no integrated network between the town centers, which makes commuting by bicycle difficult in the Comox Valley. Local Governments are working together with the CVRD to implement the Comox Valley Cycling Plan, aimed to link the key centres and provide effective active transportation links and infrastructure throughout the valley.

Ride Share/Ride Matching

Island Rideshare is a website that facilitates shared rides either in one's own vehicle or someone else's on a one time basis or for regular commuting rides. Those sharing rides negotiate their own requirements such as stops, destinations and cost-sharing arrangements. The interactive website is free to use, and allows users to limit their search to carpools originating in their home community.

Transportation Challenges

Active transportation infrastructure in support of transit

Creating a more extensive, better connected sidewalk, bikeway, and trail network will enhance access to public transit, improving the transit experience and growing ridership. BC Transit, MoTI, local governments, and the Regional District must coordinate to ensure active transportation facilitates access to public transit and so that future transit services changes are communicated and supportive infrastructure can be provided.

Permanent transit for impermanent interregional travel options

Long-term transit planning involves creating certainty in the transit system so that land use, infrastructure, and supportive travel options can also be planned in a coordinated manner. Ferries, air travel, passenger rail and coach bus are the primary interregional travel options available to Comox Valley residents, however these services are impermanent and some, particularly passenger rail, unclear as to their long-term viability. These interregional travel options may not necessarily need to be considered in short-term service planning, but long-term service planning and transit infrastructure should be developed in consideration of linkages to interregional travel options.

Reaching mode share goals

Current transit mode share is small compared to other forms of transportation. If transit ridership and mode share are to increase, all aspects of service quality must improve to retain existing customers and attract new customers. The network of the future will also have to capture more personal trips (shopping, medical), a travel market that is difficult to capture.

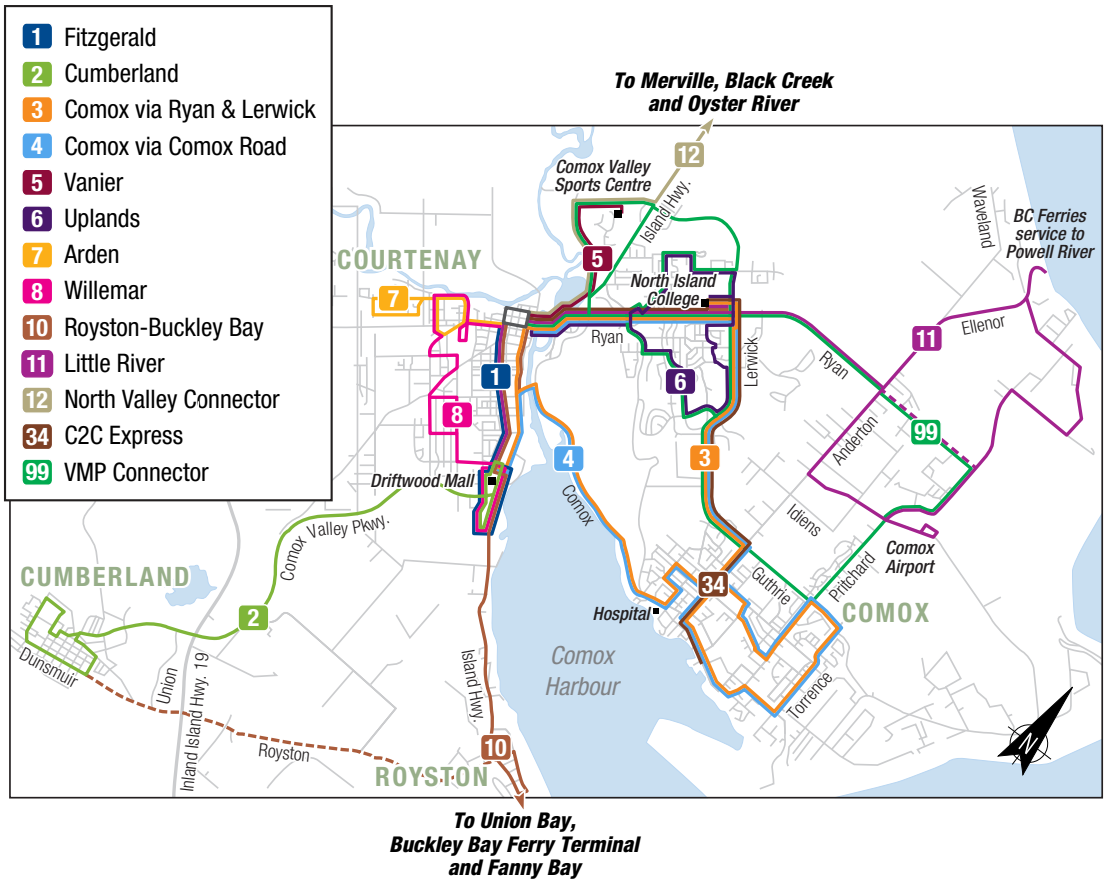
Transit Today

The existing transit system performance and the degree to which it meets or does not meet the needs of the region must be understood in order to develop the future network. This section examines the existing conventional and custom transit services, outlining challenges and opportunities to support the development of an efficient and effective future system.

The Comox Valley conventional transit system consists of twelve routes as shown in Table 7 and Figure 11. Service extends north to connect with the Campbell River transit system at Oyster River and south to Fanny Bay. The system connects to BC Ferries terminals at Little River and Buckley Bay, and with the Comox Valley Airport.

Conventional Transit System

Figure 11: Comox Valley Conventional Transit Routes



Conventional Transit Service Description

Table 7: Summary of Conventional Transit Routes

Route	Description
1 Fitzgerald	Provides service between the downtown Exchange in Courtenay and Driftwood Mall with stops at Anfield Centre and the Greyhound Bus Depot.
2 Cumberland	Provides service between the downtown Exchange in Courtenay and Cumberland with stops at Anfield Centre, Greyhound Bus Depot, Driftwood Mall and the Cumberland Village Office. This route has an option which combines Route 2 and Route 10.
3 Comox via Ryan	Provides service between the downtown Exchange in Courtenay and downtown Comox with stops at the North Island College, Aquatic Centre, Highland Secondary School, Cape Lazo Middle School, Comox Centre Mall, Comox Town Hall, Comox Recreation Centre and St. Joseph's Hospital. This route has an express option.
4 Comox via Comox Rd	Provides service between the downtown Exchange and downtown Comox with stops at St. Joseph's Hospital, Comox Town Hall, Comox Centre Mall, Cape Lazo Middle School, Highland Secondary, Comox Recreation Centre, Aquatic Centre and North Island College. This service has an express option.
5 Vanier	Provides service between the downtown Exchange in Courtenay and travels north towards the Comox Valley Sports Centre. This route has a morning routing that starts from Driftwood Mall.
6 Uplands	Provides service from the downtown Exchange with stops at Mark Isfeld Secondary School, Aquatic Centre, North Island College and Queenesh Elementary.
7 Arden	Provides service from the downtown Exchange in Courtenay and has stops at Lake Trail Secondary School, Intercity Bus Depot and Driftwood Mall. This route has a limited service to Driftwood Mall, northeast along 20th Street and Arden passing the Lake Trail Secondary School and going back to the downtown Exchange.
8 Willemar	Provides service between the downtown Exchange in Courtenay and Driftwood Mall with stops at the Greyhound Bus Depot and the Anfield Centre.
10 Royston/Buckley Bay	Provides service between the downtown Exchange and Fanny Bay with stops at Driftwood Mall, the Anfield Centre, Royston, Union Bay, Buckley Bay and Fanny Bay. This route has an option of combining Route 2 and Route 10.
11 Little River	Provides service from the downtown Exchange in Courtenay with stops at the North Island College, Little River ferry terminal, Canadian Air Force Base and the Comox Valley Airport.
12 North Valley Connector	Provides service between the downtown Exchange in Courtenay and Oyster River with stops at Comox Valley Sports Centre, Merville, Black Creek and Oyster River. This route also provides the important interregional connection between Comox Valley Transit and the Campbell River Transit System.
99 VMP Connector	Provides service from the downtown Exchange with stops at the Comox Valley Sports Centre, North Island College, Mark Isfeld Secondary School, Comox Valley Airport, the Canadian Air Force Base and Highland Secondary.
Beach Bus	During the summer months June to September a Beach Bus operates 7 days per week providing service from downtown Courtenay via Comox Road and North Island College via Lerwick and Guthrie Road to Goose Spit.

CONVENTIONAL TRANSIT FLEET

The Comox Valley conventional service operates a fleet of 12 buses with 10 buses operating during the weekday peaks. The fleet is comprised of a mix of eight heavy duty vehicles and four medium duty vehicles. Table 8 provides a description of the Comox valley Transit Fleet including the light duty Custom Transit vehicles.

The Transit Future Plan is a key strategic tool to help direct how the fleet transitions over the next 25 years. There may be opportunities to transition to smaller transit vehicles as buses in the Comox Valley fleet come up for renewal and as expansion occurs.

Table 8: Description of the 2014 Comox Valley Transit Fleet

Conventional	#	Type	Renewal	Specification's
Heavy Duty 	4	35' Denis Darts	2018/19	• Heavy Duty • 31 seats • 57 max capacity • 1 Wheel Chair position
Heavy Duty 	4	Nova	2028	• Heavy Duty • 32 seats • 70+ max passenger capacity • 3 wheel chairs positions
Medium Duty 	4	30' Denis Darts	2016/17	• Medium Duty • 27 seats • 49 max passenger capacity • 1 wheel chair position
Light Duty 	1 7	Arboc Ford Polars	2017 2013-2015	• Low Floor • Max Capacity 20 with no wheel chair • Max capacity 16 with wheel chair • No Standees • Limited capacity to carry strollers • Ford Polars are high floor vehicles (steps at front entrance) with a maximum capacity of 20

HOURS OF SERVICE

Hours of service for the conventional transit system are shown in Table 9. Route 4 is the most frequent route with 29 trips on weekdays, in comparison to Route 99 which has only two trips. Schedules become less frequent on weekends and holidays.

Table 9: Conventional Transit Hours of Service

		Monday-Friday		Saturday		Sunday and Holidays	
		Total Trips	Start/End	Total Trips	Start/End	Total Trips	Start/End
1 Fitzgerald	To Driftwood Mall	14	7:15 am/ 9:04 pm	8	10:46 am/ 9:04 pm	4	9:40 am/ 4:06 pm
	To Downtown	12	6:52 am/ 8:05 pm	7	9:06 am/ 7:13 pm	2	2:23 am/ 4:14 pm
2 Cumberland		14	6:19 am/ 10:51 pm	11	8:58 am/ 10:51 pm	4	11:35 am/ 5:47 pm
3 Comox via Ryan & Lerwick		21	6:10 am/ 7:10 pm	16	8:08 am/ 7:06 pm		
4 Comox via Comox Road		29	6:18 am/ 10:07 pm	18	8:15 am/ 10:07 pm	8	9:00 am/ 7:34 pm
5 Vanier		5	8:07 am/ 4:41 pm	1	3:16 pm/ 3:31 pm		
6 Uplands		15	6:10 am/ 8:52 pm	13	8:13 am/ 8:52 pm	4	10:45 am/ 4:52 pm
7 Arden		11	6:58 am/ 8:18 pm	6	8:46 am/ 7:14 pm		
8 Willemar	To Driftwood Mall	12	6:42 am/ 9:41 pm	9	8:45 am/ 9:41 pm	4	10:10 am/ 5:16 pm
	To Downtown	16	6:44 am/ 9:18 pm	9	10:57 am/ 9:18 pm	5	9:51 am/ 7:00 pm
10 Royston/ Buckley Bay	To Buckley Bay	11	7:40 am/ 9:58 pm	11	8:45 am/ 9:58 pm	3	10:31 am/ 6:11 pm
	To Courtenay	12	7:55 am/ 10:20 pm	11	8:59 am/ 10:30 pm	4	11:05 am/ 6:42 pm
11 Little River		9	7:02 am/ 10:51 pm	5	9:21 am/ 10:51 pm		
12 North Valley Connector	To Oyster River	5	6:07 am/ 6:12 pm	2	11:38 am/ 6:13 pm		
	To Courtenay	5	6:45 am/ 6:57 pm	2	12:17 pm/ 6:59 pm		
99 VMP Connector	AM to Schools	1	8:02 am/ 9:05 pm				
	PM from Schools	1	3:25 pm/ 4:12 pm				

FARES

A one-way fare is $1.75 for adults and $1.50 students/seniors. Monthly passes are $52.00 for adults and $42.00 for students/seniors. See Table 10. Fare rates vary between BC Transit's systems, but rates in Comox Valley are generally lower than other systems in BC. A fare review conducted as part of this Transit Future Plan process may result in increased fares for Comox Valley in the near future.

Table 10: Comox Valley Conventional Transit Fares

	Adult	Student/Senior
1 ticket	$1.75	$1.50
10 tickets	$15.75	$13.50
Day Pass	$4.50	$3.75
Monthly Pass	$52.00	$42.00

System Performance Urban Network

The Conventional system ridership in 2013/14 was 589,444, an increase of eight per cent from the previous year. 28,019 service hours are provided, representing an average of 21 passenger trips per service hour. See Table 11.

Table 11: Summary of Conventional System Performance

Service Hours	28,019
Annual Ridership	589,441
Passenger Trips per Hour	21
Passenger Trips per capita	14

System and route performance measures have been established for the Comox Valley network. These measures will be used to help determine the effectiveness of route and service structure.

System performance is considered Monday to Friday for each route, see Table 12. The most effective routes in terms of rides per service hour (excluding targeted school specials) are routes 1 Fitzgerald, 3 Comox, 4 Comox and 6 Uplands. These routes average over 20 rides per service hour. Over 62 per cent of the total service hours provide transit service primarily within the Courtenay and Comox jurisdiction, with services to low density or rural locations including, Oyster River, Merville, Little River, Cumberland, Royston, Union Bay and Fanny bay serviced by the remainder of the service hours. Targeted school services comprise less than four per cent of the total weekday service hours.

Table 12: Weekday Conventional Transit Ridership by Route - 2013/14

	Annual Service Hours	% of total hours	Annual Ridership	% of total ridership	Rides per service hour
1 Fitzgerald	1,118	5%	28,106	6%	25
2 Cumberland	2,055	9%	29,162	6%	14
3 Comox via Ryan	3,705	16%	88,434	19%	24
4 Comox via Comox Rd	4,413	19%	98,366	21%	22
5 Vanier	360	2%	9,501	2%	26
6 Uplands	2,150	9%	52,313	11%	24
7 Arden	800	3%	12,842	3%	16
8 Willemar	2,313	10%	45,352	10%	20
10 Royston/Buckley Bay	2,203	10%	32,903	7%	15
11 Little River	1,513	7%	16,107	4%	11
12 North Valley Connector	1,918	8%	23,519	5%	12
99 VMP Connector	533	2%	29,377	6%	55
Annual Weekday Totals	23,078	100%	465,982	100%	n/a

Community Bus

The community bus is conventional transit that provides service in certain areas not served by the fixed-route service including Cape Lazo and Huband Rd area. Passengers have the opportunity to travel to major exchange points and transfer to and from conventional service. Trips are booked at least two working days before travel. Two types of bookings are accepted: regular trips once a week or more often and one-time trips typically for shopping, social events or recreation.

The times listed in Table 13 are the approximate times when service is available to Cape Lazo/Point Holmes area and Huband/Seal Bay areas. See Map 3. Service operates Monday through Friday, excluding statutory holidays. Fares are the same as the fixed route service trip costs outlined in Table 9. Ridership on this Community Bus Service is relatively low, and future initiatives will investigate opportunities to improve ridership and the practicability of the service.

Table 13: Community Bus Service Windows

21 Cape Lazo/Point Holmes Community Bus	22 Huband Road/Seal Bay Community Bus
9:00 – 10:00 am	8:00 – 9:00 am
1:00 – 2:00 pm	12:00 – 1:00 pm
4:00 – 5:00 pm	4:00 – 5:00 pm

HISTORY

The Comox Valley Transit system sprung to life July 1990, with transit service hours and ridership steadily increasing over the last two decades.

Ridership has grown from 271,497 in 2003 to 589,441 in 2013, a 10 year increase of over 100 per cent. See Figure 12.

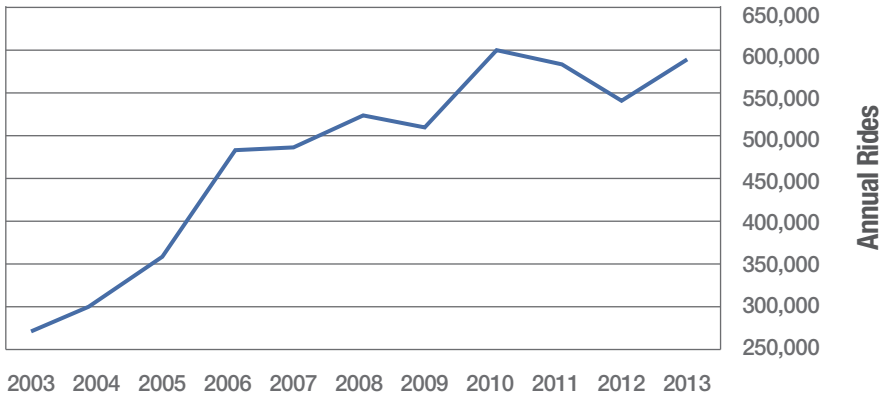
Over the last decade transit services have expanded to respond to the growing residential footprint in the Comox Valley and the need for increased frequencies and services as the commercial footprint has magnified.

Ridership profile trends have seen a swing away from primarily servicing the needs of students and seniors to a growth in Adult trips. In 2013, it is estimated that 51 per cent of ridership was by adult full fare paying passengers compared to 39 per cent in 2008.

The most recent changes include the introduction of a summer beach bus service to Goose Spit and the expansion of route 11 Little River to provide early morning trips for 19 Wing Comox base workers, travelling from downtown Cumberland and Courtenay.

These latest targeted type services have seen some moderate growth in ridership and will continue to be monitored to determine their overall effectiveness and cost efficiency in promoting increased transit ridership.

Figure 12: Comox Valley Revenue Passengers



Benchmarking

The Comox Valley Conventional system performance measures are compared with other similar sized BC Transit communities for 2013/14 fiscal year. Peer communities that are compared have more than 25,000 and less than 50,000 residents who are within convenient access to transit (400 meter walking distance to a fixed route service) and offer some extended regional type services beyond the core urban areas. Benchmarking helps to inform the Performance Guidelines for the Comox Valley, included within the Service Monitoring chapter of this Plan. Table 14 provides a summary of the peer community's transit measures.

- For 2013/14 Comox Valley ridership was 21 per cent higher than the average ridership among peer communities.
- Rides per hour are 21 which is 10 per cent higher than the average rides per hour among peer communities.
- The Comox Valley system offers 28,019 service hours annually which is 10.7 per cent higher than the average in peer communities (25,303).
- Total revenue is $647,762 which is 9.41 per cent higher than the average among peer communities.
- Cost per service hour of $102.71 is three per cent lower than the average among peer communities.

Table 14: Summary of Conventional System Performance in Peer Communities 2013/14

	Approx. Service Area Population	Annual Service Hours	# Fixed Routes	Annual Passenger Trips	Revenue	Boardings per Service Hour	*Cost per Ride	**Cost per Service Hour	Cost Recovery	Adult Cash Fare
Comox Valley	**43,341**	**28,019**	**12**	**589,441**	**647,762**	**21.0**	**$4.88**	**$102.71**	**22.5%**	**1.75**
Campbell River	30,900	23,295	9	599,856	641,147	25.8	$3.86	$99.37	27.7%	2.00
Cowichan Valley	37,460	26,471	13	365,656	485,795	13.8	$7.54	$104.19	17.6%	2.00
Penticton	30,102	22,751	8	432,384	540,546	19.0	$5.52	$104.83	22.7%	2.00
Vernon	35,274	25,979	12	432,829	645,126	16.7	$6.88	$114.60	21.7%	2.00
Average	**35,415**	**25,303**	**10.8**	**484,033**	**592,075**	**19**	**$5.73**	**$105.14**	**22.4%**	**$2.00**

Source BC Transit Annual Summary Reports 2013/14
**Cost per ride calculated as total gross operating cost plus local lease fees divided by total annual rides*
***cost per service hour calculated as total gross operating cost plus local lease fee divided by annual service hours*

Conventional Transit Challenges

Invest to meet the local ridership targets

Increasing transit mode share will require significant investment in the transit system supported by transit supportive land use planning and travel demand management policies.

Increase the efficiency of the transit network

The existing transit network is overly complex. In the future, as congestion increases, investments in improving the directness and frequency including transit priority measures should be made to mitigate the impacts on the operating efficiency of the transit system and consolidate investment on key corridors.

Improve Community Transit service options for communities of distance within the Comox Valley

The existing Community Bus service experiences relatively low ridership and is not being effectively used as a conventional transit solution. To improve effectiveness and efficiency of the Transit Network, solutions include supporting the Draft Rural Comox Valley Rural OCP Transportation Policy to encourage the development of existing rural commercial centres and /or community halls as central hubs where community type transit solutions could be provided to allow residents the opportunity to transfer to major exchange points within the future Frequent Transit Network.

Balancing fleet size and cost and right sizing the transit fleet "matching service to demand"

There may be an opportunity as the life cycle of the Comox Valley fleet matures and expansion vehicles are required, to begin negotiations about the fleet size and the possibility of taking on newer smaller medium size transit vehicles as they become available in the BC Transit fleet. However, matching service to demand across the system as it grows and achieving cost effectiveness will continue to remain a key objective when developing the Comox Valley transit fleet.

It is best practice to look at opportunities to best match service levels and vehicle types to ridership demand, rather than just trying to save costs. However, some of the considerations need to be:

- Interlining services - whereby one bus may actually operate a number of routes - is a transit strategy used to reduce costs when scheduling the Comox Valley Transit System. A mixture of vehicle sizes and the strategy of interlining will result in some route trips using larger vehicles than warranted by the estimated demand, and as a consequence some buses will continue to be seen as carrying very few passengers or "running around empty."
- Transit use fluctuates by time of day and by season. How full the buses "look" will depend on when you see them and where you see them on a route. For instance, if you see a bus at the end of the line, it will likely not have many passengers on board.
- Transit is primarily a "people-intensive" business and in the Comox Valley, over 50 per cent of the transit operational budget is for people who make transit happen every day including: transit drivers, dispatchers, mechanics, etc. This means that the actual savings to be derived from using a smaller vehicle will not dramatically affect the bulk of the transit system's costs. Potential overall saving may also be negated if there are higher lease fees or additional travel required to/ from the garage due to a particular fleet strategy.

Custom Transit System

Service Description

Custom Transit consists of handyDART service and operates within the Comox Valley regional transit boundary, see Map 3.

HandyDART is a transportation service for persons who have a disability that is sufficiently severe that the person is unable to use conventional transit service without assistance. HandyDART service is provided to and from accessible building entrances. Riders must be registered with the handyDART office before they can use this service, however registration is free.

There are two types of service:

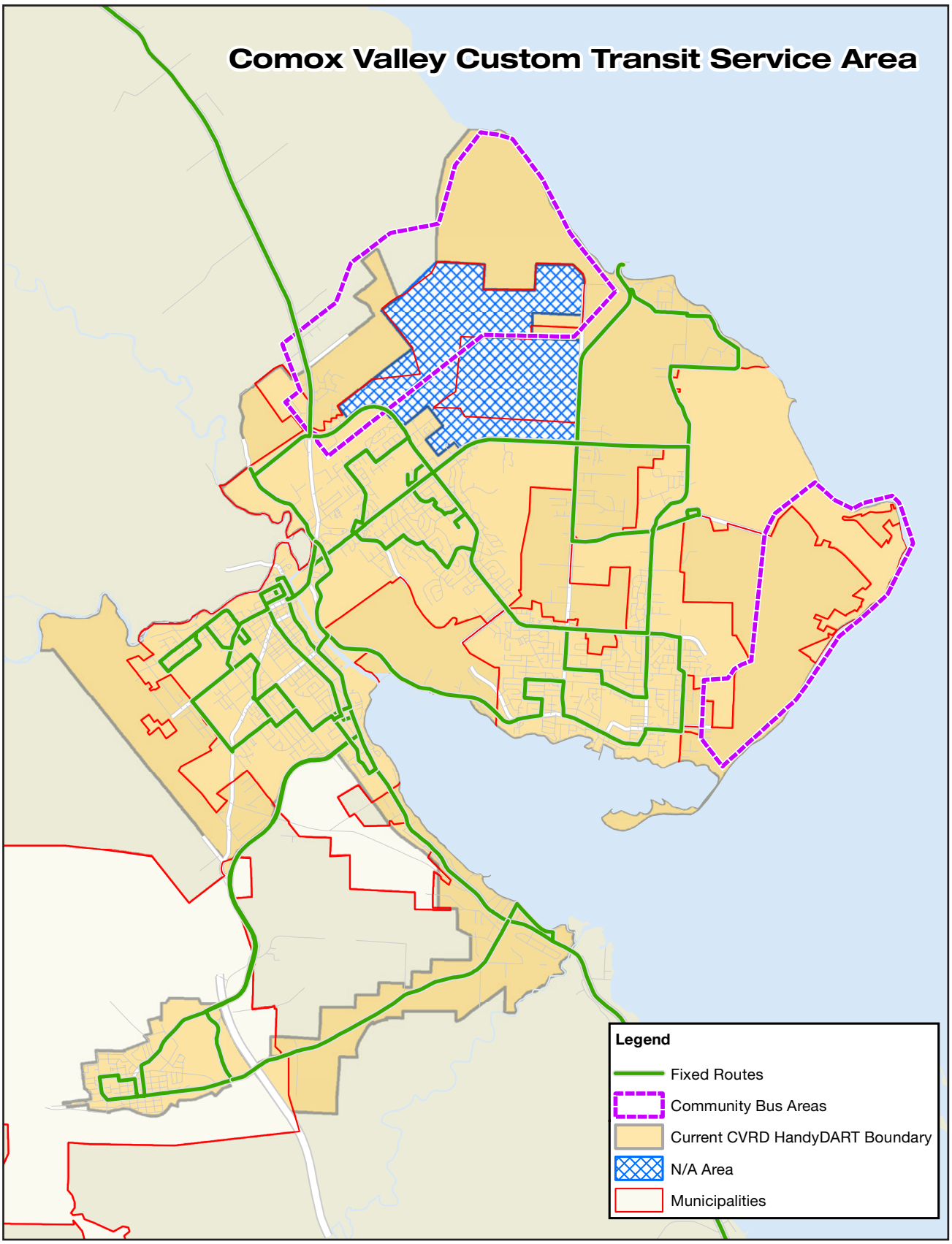
- Regular subscription trips once a week or more often
- One-time trips for purposes such as shopping, social visits or recreation

Customers using wheelchairs or scooters, registered handyDART customers or CNIB pass holders may travel with an attendant. Attendants travel free but must board and exit at the same time as the customer who requires assistance.

BC Transit also offers a Taxi Supplement Program, which enables the handyDART dispatcher to dispatch some handyDART trips to taxi when the handyDART vehicle is full or is otherwise unable to perform a trip. Passengers on trips dispatched to taxi still pay the same handyDART fare of $2.25 and—like the overall handyDART system—these trips may be shared.

Taxi Saver is a government-subsidized voucher program by which handyDART registrants has the option of purchasing $80 worth of taxi vouchers at a cost of $40. Registrants are permitted to purchase an $80 book of vouchers every 30-day period. In order to use these vouchers, handyDART registrants must obtain a handyPASS personalized photo identification card, available at the Regional Office, which they show when using the Taxi Saver vouchers to pay their total metered taxi fare. HandyPASS holders book these taxi trips independently, with the intention being that Taxi Savers help cover the cost of transportation for trips that are outside of handyDART hours or for spontaneous trips.

Map 3: Comox Valley Custom Transit Service Area



Custom Transit Service Span and Fleet Size

Comox Valley handyDART operates six light duty buses each day from Monday to Friday. Four buses operate from 8:00 – 4:30 p.m.; one bus starts and finishes 10 minutes earlier from 7:50 – 4:20 p.m.; and the sixth bus alternates service from 10:30 – 4:30 on Tuesdays and Thursdays with service from 10:30 – 6:30 p.m. on Mondays, Wednesdays and Fridays to accommodate dialysis trips to and from Cumberland.

Custom Transit System Performance

The custom system began in 1982 and had limited ridership levels until 1990. Custom ridership has increased from 734 in 1982 to 36,602 in 2013/14. Demand for handyDART services has steadily increased over the last decade; with ridership growth of over 49 per cent from 2003 to 2014, see Figure 13. Ridership increases correspond to the aging Comox Valley population and the continued growth in 80+ age cohort and the increase in Comox Valley residents living in care facilities and seniors homes.

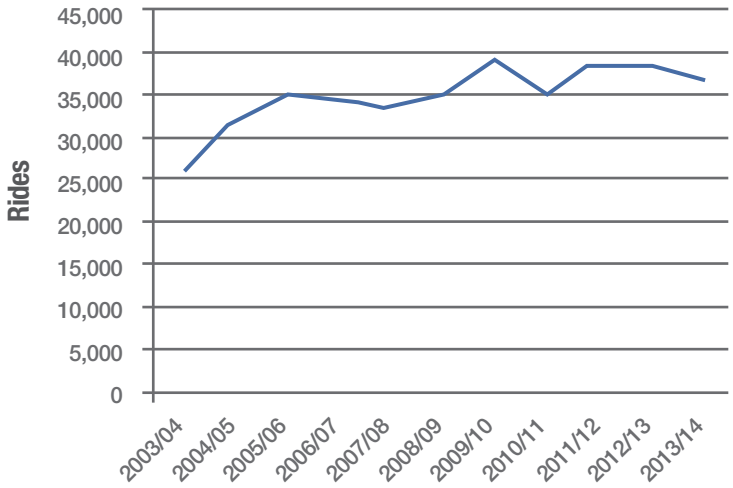


Figure 13: Custom Ridership Levels from 2003 to 2014

Custom Transit Benchmarking

Comox Valley Custom system performance measures are compared with other similar sized BC Transit communities for 2013/14 fiscal year. The peer systems compared operate in communities of more than 25,000 and less than 50,000 residents who are within convenient access to transit. Generally Custom Transit service areas are defined a kilometer and half beyond the conventional service routes. Comox Valley Custom Transit is not defined by this boundary definition and largely performs above average when compared with the other similar sized BC Transit systems. See Table 15. Below is a summary of key points:

- Comox Valley Custom Transit ridership was 18 per cent higher than the average in peer communities. This indicates a high reliance on these types of services
- Rides per hour are 2.7 which is generally the average in peer communities
- The Comox Valley custom system offers 11,584 service revenue hours per year which is 9.4 per cent higher than the average
- The Comox Valley is 42 per cent above the average for annual service revenue hours and cost per ride is 10 per cent higher when compared against the average

Table 15: Summary of Custom System Performance in Peer Communities 2013/14

Community	Annual Service Revenue Hours	Passenger Trips	Revenue	Rides/ Hour	*Cost/ Ride	** Cost/ Service Hour
Comox Valley, BC	**11,584**	**36,602**	**$66,601**	**2.7**	**$23.06**	**$70.91**
Campbell River	5,310	21,851	$18,249	3.5	$20.52	$73.20
Cowichan Valley, BC	7,372	15,669	$31,283	2.1	$33.98	$65.48
Penticton	3,000	21,428	$14,786	2.2	$11.06	$50.79
Vernon, BC	13,416	59,874	$79,863	4.3	$16.1	$75.60
Average	**8,136**	**31,085**	**$44,949**	**3.0**	**$20.94**	**$67.20**

Source: BC Transit Annual Summary Reports 2013/14
**Cost per ride calculated as total gross operating cost plus local lease fees divided by total annual rides*
***cost per service hour calculated as total gross operating cost plus local lease fee divided by annual service hours*

HandyDART Registration Process and its Challenges

Until early 2013, registration has been conducted only by paper with applicants filling in a form. This process has had a number of drawbacks:

- Does not allow for a conversation with the applicant
- Does not address:
  - » Individual needs and abilities
  - » Travel needs
  - » Ability to use fixed-route transit
  - » Variable medical conditions
  - » Conditional eligibility
  - » Travel training opportunities for fixed-route system

BC Transit, in partnership with the Comox Valley Regional District in 2013/14 is piloting a Custom Transit Registration project. In closer alignment with industry standards and best practices, this project will incorporate an in-person component to the custom transit registration process.

This revised process incorporates information about the family of accessible transit services available in each community and is intended to match each applicant with the transit service (or combination thereof) that best suits their individual needs and abilities. Based on the pilot's outcomes, the intent of this project is to develop a new approach, which will be fine-tuned and implemented across the province in all of BC Transit's applicable custom transit and paratransit systems.

Custom Transit Challenges

Limited custom transit service availability

HandyDART transit hours of operation are more limited than the conventional transit system. This limits riders' ability to rely on custom transit for evening and weekend service, requiring that they seek other travel modes. Ensuring year round easy access to the conventional service for ambulatory seniors will reduce unnecessary use of the Custom transit system and increase mobility options for the region.

Increasing demand for handyDART service

The aging population will increase the demand for handyDART and other accessible services in the future and may require an increase in service to allow those unable to use the conventional transit system to retain personal mobility as they become older.

Ensuring effectiveness and efficiency of the transit system

Due to the relatively high cost of providing handyDART service, it is important that customers are matched with the type of transit service they need and that only customers who meet the eligibility criteria use the handy DART services. Developing ways to increase the economic efficiency of custom transit services should also be investigated to establish appropriate scheduling and pricing.

Transit Infrastructure Today

The attractiveness of transit is based not only on transit service, but on the customer amenities that are provided at bus 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.

In addition, the transit system must be adequately equipped with an Operations and Maintenance Facility in order to efficiently store and maintain the buses.

Bus Stops

There are a total of 238 bus stops in the Comox Valley system with less than 20 per cent of these having transit shelters. The Comox Valley Regional District and the City of Courtenay as part of their annual infrastructure capital programs have commenced installing BC Transit standardized shelters at key stops located around the district. Shelters generally include some form of weather protection. For existing stops where passenger boarding activity or transit services (and thus passenger activity levels) are to be increased, improved passenger amenities at bus stops are recommended. The Village of Cumberland and the Town of Comox currently install their own vernacular shelters, with Comox having an ongoing program to install new shelters each year.

Exchanges

Exchanges are required when multiple buses converge on one location to facilitate transfer between buses in a safe and efficient manner. They also provide opportunity for vehicles to layover and for operators to take a break. They can be as simple as several bus stops on the side of the road and as complex as dedicated property with an island of bus shelters housing many vehicles at once.

The Comox Valley transit system's existing primary exchange is located in downtown Courtenay on the corner of Cliffe Avenue, and 4th Street, outside the Courtenay Museum. This exchange averages over 500 passenger movements per day. Driver facilities are not convenient at this location with no washroom facilities for the drivers or the general public other than those offered by private businesses close by.

There is a secondary exchange located at Driftwood Mall along Fitzgerald Avenue opposite the Rialto Theatre. There are some deficiencies with both exchanges especially during the peak periods. These deficiencies will become more prominent as service levels are expanded. Preferably in downtown

Courtenay a new location should be developed providing improved customer amenities and offer efficiencies in the delivery of the service, removing circuitous routing through the residential core. Table 16 provides a summary of existing capacity and routes served. Future capacity including bays where buses can layover is discussed further in the resource section of this plan.

Table 16: Summary of Transit Exchange capacity and route operation

	Bus Capacity	Routes Served											
		1	2	3	4	5	6	7	8	10	11	12	99
Downtown Courtenay	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Driftwood Mall	2	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✗	✗

Operations & Maintenance Facility

The Operations and Maintenance Facility, owned by the operator Watson and Ash, was built in 1990 and consists of an administration and maintenance building, covered diesel fuelling station, and parking. It is located at 1635 Knight Road, Comox. Additional planning work will be required to ensure there is capacity at the facility to serve the system for the next 25 years. The maintenance facility has four bays that can accommodate four full size buses with the site containing 14 conventional (heavy/medium duty) bus unpaved parking spaces, and 10 (light duty) handyDART unpaved parking spaces (total 24). The existing fleet is comprised of 12 conventional vehicles and nine light duty vehicles (total 20 vehicles). There is room for expansion at the existing location of both the facility and the parking area to accommodate additional vehicles as the fleet expands. Possible additions would include a proper washing facility, and a paved/concrete parking area for the transit vehicles.

Transit Infrastructure Challenges

Improve passenger facilities

Investments in bus stops will improve access to public transit. This means creating safe and comfortable bus stop areas with shelters, benches, bicycle storage and sidewalk, bike, and trail routes providing convenient access.

Standardized transit shelters

BC Transit has established a new set of standards for bus stop shelter designs for use around the province. These design concepts were created in an effort to standardize the look, feel and functionality of bus stop amenities, while improving the transit experience for customers. Municipalities can purchase shelters outright, or as an alternative BC Transit has introduced a capital upgrade cost sharing funding program to assist municipalities in acquiring these shelters.

The amount of provincial funding available each year for cost sharing under this program is allocated to each region based on operational ranking of the networks. Limited funding is available each year.

New Transit Exchanges downtown Courtenay, Comox, North Island College and Driftwood Mall/ Anfield Centre

The future placement of the downtown Courtenay and Comox transit exchanges will be instrumental to the revitalization of both these key town centres. Future planning has identified North Island College and the new Comox Valley Hospital as a key transit exchange area where many trips will start and end. The challenge will be to ensure placement of all exchanges improves the operation of the transit system delivering cost effectiveness in service delivery and overall efficiencies across the network.

BC Transit and the CVRD will coordinate all pre-feasibility work and exchange location and design with all jurisdictions, and the North Island College, to best deliver the desired network efficiencies and a route structure that is direct and easy to use for transit passengers.

Operation and Maintenance Facility

There is a need to balance operations centre location and reducing deadhead costs over the next 25 years. Capacity exists at the current site to consider expansion. However, there is a considerable distance between the facility and the operation of the majority of the routes, which increases operating costs associated with running the system. BC Transit will coordinate with the CVRD to develop an operations centre master plan, including cost benefit of upgrading existing site compared to options for investing in a new site.

Vision and Goals

Vision Statement

"An affordable, efficient and convenient transit network with routes that connect transit users with neighborhoods and other transport modes and contribute to a vibrant and equitable quality of life in the Comox Valley"

The development of the transit vision statement and goals was a collaborative effort, which included input from the community and stakeholders. The vision builds upon the direction outlined within the Comox Valley Regional Growth Strategy and the suite of Official Community Plans throughout the region.

Goals

Six transit plan goals have been created to support the achievement of the vision statement. They work towards a vision that encompasses more than simply carrying more transit passengers in the most cost efficient manner. The goals look to getting more people on the bus and making the experience convenient and enjoyable in that they continue to choose transit as their preferred travel mode.

The Comox Valley transit system will:

- Attract new riders and increases ridership
- Direct and align with the regions key centres
- Integrate with other modes of transportation
- Be efficient and cost effective
- Be safe and accessible
- Be collaborative and customer focused

Goal 1: Attract New Riders and Increase Ridership

How do we do that?

Frequent, Convenient and Reliable	• Increase service frequency, particularly on Frequent Transit Network corridors to a level where ultimately passengers are able to use transit without consulting a timetable • Improve services to the ferry terminals and airport • Improve connections between routes • Monitor schedule adherence
Fast and Direct	• Design direct transit routes and express routes to key destinations • Provide transit priority measures such as traffic signal priority as required • Ensure bus stops are spaced at appropriate distances to balance customer accessibility and efficient operations
Easy to Use	• Design easy to follow routes • Have consistent spacing between trips whenever possible • Ensure accessible and easy to understand route, fare and schedule information, through tools such as: a web-based trip planner, real-time information at the stop level, and way finding information at transit exchanges and transfer points. • Introduce convenient and technologically advanced payment options
Improved Image	• Actively work to change the perception of transit through education, creative marketing campaigns and the delivery of a quality transit service • Agencies with a vested interest in sustainable community outcomes should lead by example through the implementation of travel demand management (TDM) measures
Comfortable	• Provide adequate weather protection and lighting at transit exchanges, bus stops in high-density areas and stops in commercial centres • Ensure the inside of the bus is kept at a comfortable temperature throughout the year • Ensure buses and transit facilities are clean
Affordable	• Ensure affordable fare options and programs, making transit a viable transportation choice for residents of all levels of income.

Goal 2: Direct and align with the regions key centres

How do we do that?

Transit Supportive Land Use and Development	• Support transit-oriented design principles that increase density around the key town centres and corridors and manage parking to incentivize the use of more sustainable methods of transportation • Focus transit investments on corridors with transit supportive land uses (e.g. between town centres, other prominent destination points and densely developed residential areas) • Design a long-term transit network that will enable regional and local governments to focus medium and higher density mixed use development adjacent to the transit network • Locate and design transit exchanges to create a vibrant mixed-use hub of activity, which supports local business and maximizes connectivity • Support the creation of pedestrian-oriented design • Provide support and transit input to the Regional District and local authorities in the review of development applications and in the creation of land use plans and policy
Local economy	• Design the transit network to provide connections between the key town centres, commercial, business and industrial districts, activity centres • Develop the necessary transit service and infrastructure to attract and facilitate new and diverse business
Environmental Sustainability	• Develop service performance standards and targets that require rides per trip to exceed the minimum required to ensure GHG emissions are less than those should riders drive a single occupancy vehicle • Consider transit vehicle technologies that will reduce environmental impact and help achieve regional and provincial GHG reduction targets • Design and upgrade transit facilities that minimize environmental impact in construction and operations

Goal 3: Integrate with other Modes of Transportation

How do we do that?

Active Modes of Transportation	• Facilitate significant growth of Active Transportation by integrating the transit network with facilities, services and operations providing capacity for combined mobility of transit with cycling, walking (over 400 meters) and driving, or any combination of these • Integrate the transit network with regional and local cycling and pedestrian networks • Provide sufficient secure bicycle storage at appropriate stops and exchanges • Explore the ability to increase bicycle capacity on transit vehicles
Multi-Modal Corridors	• Maximize the use of existing key transportation corridors (e.g. Fitzgerald Ave, Ryan Rd & Lerwick Rd) as multi-modal facilities including integrating safe pedestrian sidewalks and separated bike lanes as well as bus priority measures and exchange facilities along those corridors • Encourage and create high quality and safe pedestrian and cycling links to transit exchanges
Connectivity	• Connect outlying areas with limited or low levels of transit service to the transit network by integrating Park & Ride facilities as part of the network

Goal 4: Deliver Efficient and Cost Effective Service

How do we do that?

Financial Sustainability	• Prioritize new service proposals according to a number of service performance indicators (e.g. rides per service hour, cost per passenger trip, cost recovery etc.) • Focus the majority of investment on corridors with transit-supportive land use and where service changes will result in the highest ridership and revenue per service hour • Ensure the Comox Valley Transit System has a high cost-recovery ratio to reduce operating costs and improve affordability for local government • Improve fare options for passengers and encourage the use of prepaid fares targeted at key transit markets
Transit Service Matched to Demand	• Match service levels to demand by creating a transit network with distinct layers of service, which utilizes smaller transit vehicles where appropriate • Support and compliment forms of independently operated transportation better suited to non-urbanized areas • Minimize transit service duplication along corridors
Future Proof the Transit Network	• Develop the Transit Future Network to ensure changes made in the short term are not redundant in the future years. Plan transit infrastructure that can respond to increased capacity over the 25 year horizon and beyond if required.

Goal 5: Deliver Safe and Accessible Service

How do we do that?

Safe and Secure Environment at Transit Facilities	• Create well-lit passenger transit facilities • Where possible, locate passenger transit facilities in areas of high activity (passive surveillance) • Where feasible, ensure that pedestrian and cycling linkages to transit facilities are well lit and utilize CPTED (Crime Prevention Through Environmental Design) principles • Continue training transit operators to handle unsafe situations that may arise on board the bus or at passenger transit facilities • Clearly outline passenger behaviour expectations on board
Universally Accessible	• Maintain a bus fleet that is 100 per cent wheelchair accessible • Invest in technology to make transit vehicles more accessible, such as audible stop announcements on vehicles and at stops • Build transit infrastructure that is universally accessible • Provide customer information in formats for people with hearing and visual impairments to make the transit system easier to use • Ensure bus stops are spaced at appropriate distances to balance customer accessibility and efficient operations • Provide courtesy seating on board transit vehicles for users with mobility issues or other disabilities
Custom Transit	• Improve accessible services and increase availability of handyDART to meet future increase in demand in line with an aging population • Refine eligibility criteria to better match applicants' needs to the most appropriate transit service • Refine the Custom Service Area Boundary to reflect future network changes on the conventional system • Increase integration with conventional transit • Consider new service types to ease future demand for custom transit (e.g. demand responsive service)
Access to Passenger Training and Education	• Provide training programs for potential transit customers to enable them to access the conventional transit system (e.g. ambassador programs for seniors and welcome programs for new residents to the Comox Valley)

Goal 6: Be Collaborative and Customer Focused

How do we do that?

Transit Stakeholders	• Collaborate with transit partners and stakeholders on a regular basis for the continued improvement of service • Monitor customer satisfaction and respond to feedback • Collaborate with BC Ferries, Comox Airport to integrate and align service, increasing reliability and passenger confidence
Transit Operators as Customer Service Agents	• Transit drivers are friendly and contribute to a positive customer experience and in turn are respected by riders • Drivers are knowledgeable about the system • Prioritize excellent customer service skills during hiring process for operators and front line staff
Flexibility	• Be flexible to customer needs in terms of service type and feedback

Ridership and Mode Share Target

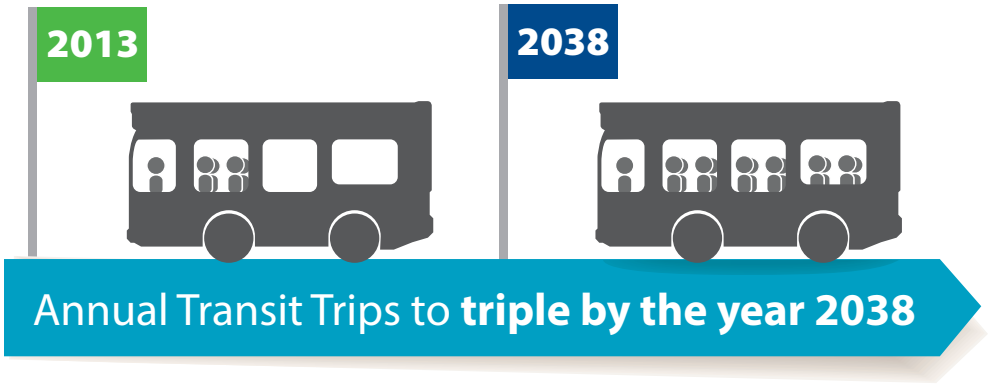
Targets are a critical component of the Transit Future Plan. They are an effective way to measure progress towards achieving the goals of the plan. Achieving the target is dependent on a number of factors such as transit system growth and investment and transit supportive land use.

Transit in the Comox Valley has only begun developing in recent years and is starting at a very low base with the majority of all trips[8] within the region by automobile, with the number of trips taken by transit estimated to be approximately one per cent. The Comox Valley Regional District (CVRD) Growth Strategy adopted by the CVRD Board in March 2011 sets a 2.5 per cent transit mode share target by 2030. Continuing with this trend in population and transit mode share to 2038 the Transit Future Plan establishes a mode share target of three per cent of transit trips as a percentage of all trips by 2038.[9]

The Transit Future Plan transit mode share target will require the transit ridership to more than triple from 589,441 annual transit trips in the year 2013/14 to 2.4 million transit trips by the year 2038.

The Provincial mode share target is an average of all regional centres within British Columbia (BC), with average targets set at three per cent in the near term, four per cent by 2020 and five per cent by 2030.This Comox Valley Transit Future Plan mode share target of three per cent when considered as part of all BC regional areas is therefore proportionally consistent with the provincial mode share targets.

A mode share target of 3.0 per cent for the Comox Valley Transit Future Plan is an ambitious target and will require a suite of coordinated strategic transit actions that encourage increased and continuous use of transit services if it is to be achieved.



8 *All trips refer to all modes taken to complete a travel task and it's not specified only as a work or school trip which is termed commuter trip. Stats Canada provides Mode Share figures based on commuter trips only*

9 *All trips and transit trip numbers are calculated as a representation against the total Comox Valley population figure for the year 2038. The total population estimate is multiplied by 2.9 (2.9 is a transport planning industry standard for estimating the daily trip rate per person) to determine the total all trips for the 2038 population. The total all trips is then multiplied by the 3 per cent transit mode share target to estimate the total annual transit rides for 2038)*


BCTransit

The Network

To achieve the vision and goals of the Transit Future Plan and the three per cent transit mode share target, the transit network must meet the future transportation needs of the Comox Valley and be competitive with automobile travel. As such, it should support the Regional Growth strategies and align with local Official Community Plans and Transportation Plans.

Service Layers

The Comox Valley Transit Future Plan network includes four distinct layers of transit service to better match transit service to demand. The network is designed to be competitive with automobile travel by improving the directness, reliability and frequency of the transit system. The network focuses on services between neighbourhoods and the key centres, connecting these centres with the ferry terminals, train station, and airport supporting opportunities for inter-modal connections. The Transit Future Plan may require more customers to transfer from one route to another to complete their journey, with the trade-off that trips will be more frequent and overall travel will be more direct.

Frequent Transit Network (FTN)

The Frequent Transit Network (FTN) provides medium-to high-density mixed land use corridors with a convenient, reliable, and frequent (30 minutes or better and 15 minute service in the peaks) weekday transit service between 7:00 am and 10:00 pm. The goal of the FTN is to allow customers to spontaneously travel without having to consult a transit schedule. The FTN will carry the majority of the transit system's total ridership, and for this reason it justifies capital investments such as a high level of transit stop amenities, service branding, and transit priority measures.

Local Transit Network (LTN)

The Local Transit Network (LTN) is designed to connect neighbourhoods to local destinations and to the FTN. LTN services allow customers to plan a trip to work, school, the local shopping centre or the Ferry Terminals and Comox Airport by transit. Frequency and vehicle types are selected based on demand with LTN routes sub categorized into either a Ridership or Coverage LTN. In some cases, smaller transit vehicles can be utilized to better match customer demand and operating conditions on local roads

Ridership Local Transit Network

- Frequency 30 minutes or greater
- Connection to local destinations and FTN

Coverage Local Transit Network

- Frequency 60 minutes or greater
- Connection to local destinations, FTN and interregional networks

Targeted Services

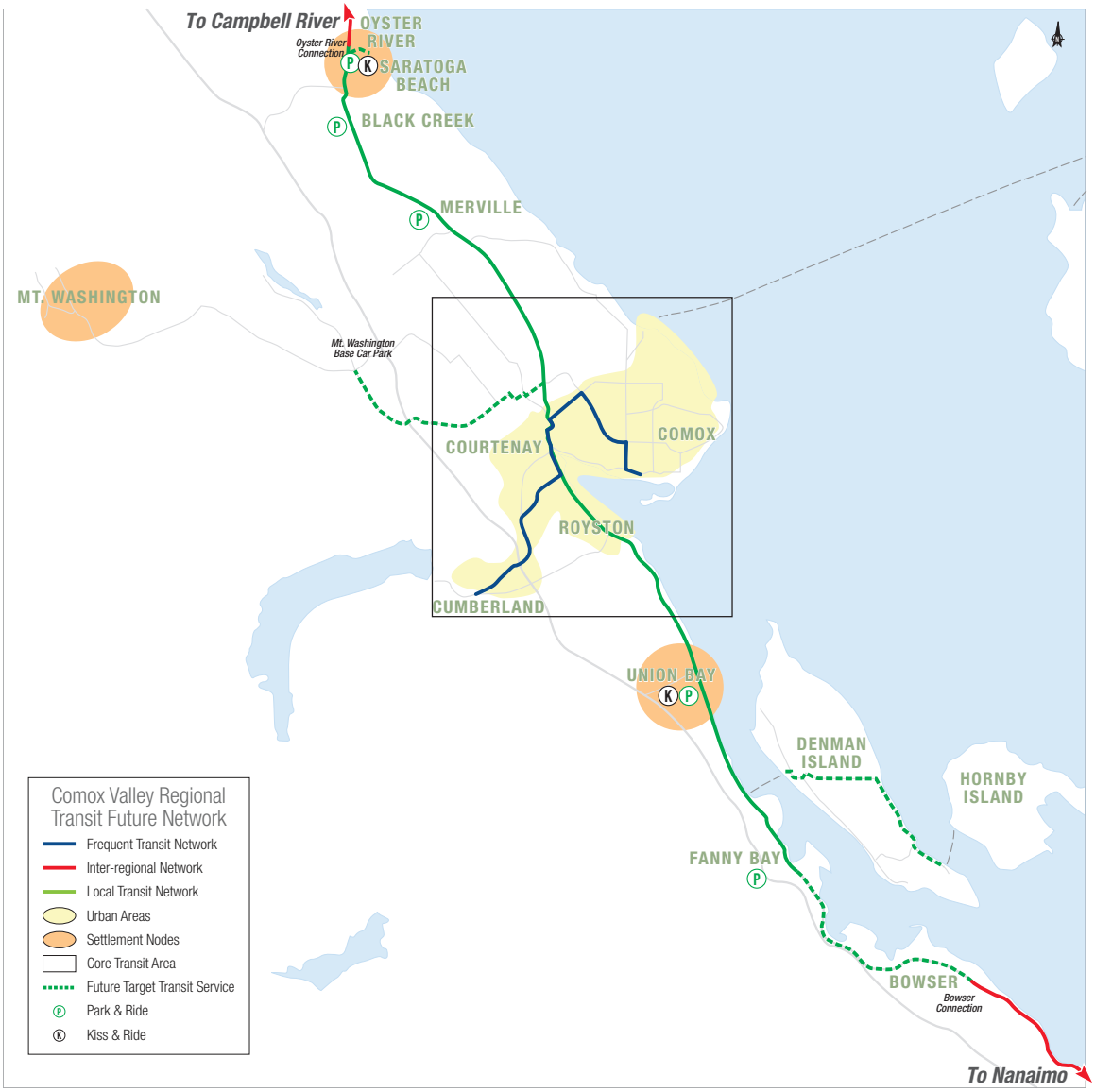
Targeted services are a collection of transit services that do not fit into the frequent or local transit network definition and are more focused on the needs of specific customers. These services include:

- Interregional connections
- Trips focused on servicing specific schools or major employers
- Paratransit (Community Transit): may include transit services that are demand- responsive or operate with flexible routes and schedules in low ridership areas

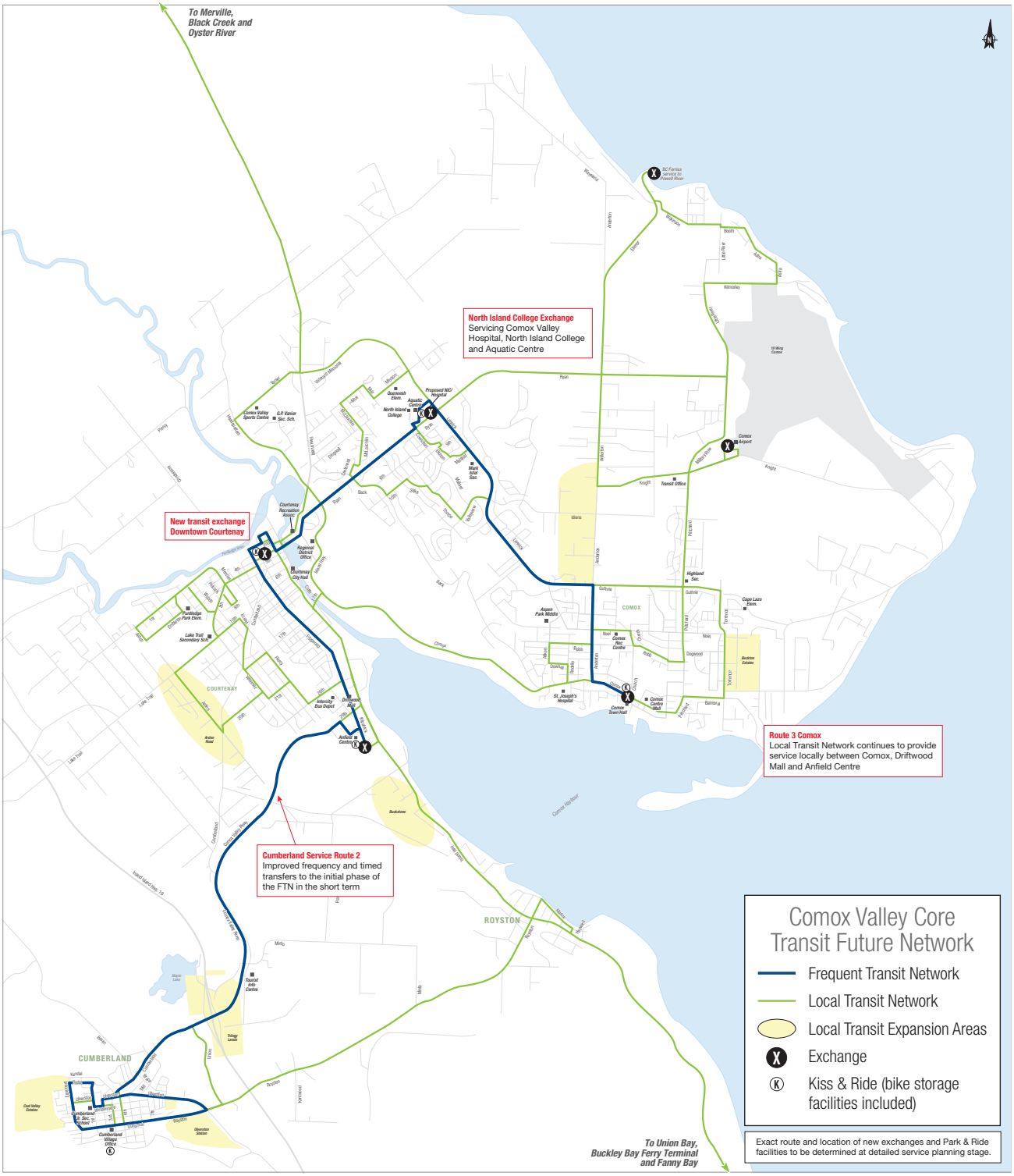
Custom Transit

Custom/handyDART: door-to-door services for customers unable to use the conventional service some or all of the time.

Comox Valley Regional Transit Future Network Map



Comox Valley Transit Future Urban Network Map



Benefits of the Transit Future Network

Transit underpins a range of social objectives by allowing people who may be disadvantaged to be able to participate in their local community. Importantly, access to good transit allows people with low incomes, aged people and people with disabilities to live independently and be able to affordably access medical, health, community, social and economic opportunities with minimal government subsidy.

It is now generally accepted in various transport planning and urban planning fields that car dependence and urban sprawl are, in turn, linked to fossil fuel use for transport energy. Increasing links are also being found between car dependence, public health and the environment.

There are growing research links to the lack of transit access and increased car dependence with social justice issues – people with limited income and decreased mobility struggle to participate in work and community life.

Investment in the Comox Valley Transit Future Network will have a number of associated benefits, all of which positively affect Comox Valley's triple bottom line. Transit impacts and benefits are multifaceted and collectively these benefits create more livable communities.

Building communities

Social capital

A key consideration in designing a transit network is the provision of services to areas of high transportation disadvantage. Transport disadvantage is defined as either someone who is too young to drive, too old to drive, financially unable to use private transport, disadvantaged through location or disabled.

By providing transit in areas of high need, people can connect to the broader community, building both individual and collective social capital. This results in an improved lifestyle as a direct result of additional personal travel options that would not otherwise exist, particularly for those who are transport disadvantaged.

Benefits include:

- access to training and employment opportunities
- access to essential community services, especially since this subset of the community traditionally has a greater need for these services
- access to entertainment, commercial and other social events to reduce social exclusion and build social capital
- assists the elderly in maintaining independence through providing an accessible transit option.

Improving health

The health benefits of using transit are well researched. The conclusions show that transit users on average walk or cycle more than those who use private transport.

Walking to and from the bus will help transit users get some of the Canadian Heart and Stroke Foundations suggested minimum of 30 minutes of physical activity a day needed to stay healthy.

Decreased congestion

It is generally accepted that road congestion decreases with increased use of transit. As congestion is most prevalent during peak hour travel, improved traffic flow as a result of mode share shifts will improve economic productivity. Additionally, travel times during peak hour will speed up for commuters, resulting in more time spent at home and less time in traffic.

From an environmental perspective, decreased congestion will also result in decreased idle time on roads, thus lowering emissions. From a financial perspective, the improved efficiencies on the road network will mean lower demand for investment in road infrastructure so funds can be directed to other community-building investments.

Economic resilience

Oil is a finite and non-renewable resource. As global oil reserves are limited there is a point, or 'peak', in the productive life of the industry in which the cost-benefit of extraction begins to decline. Once this peak is passed it cannot be reversed.

The transport sector is almost 100 per cent dependent on fossil fuels for energy. This degree of oil dependency is largely due to the level of car dependency in our communities: 85 per cent of all household trips in the Comox Valley are made by private motor vehicle.

An abrupt change in world energy pricing may also affect demand for transit with a shift to the Comox Valley transit network likely to be seen. The type and timing of the shift is relative to the pricing increases and the ability of the population to continue to afford private vehicle travel for all trips. Statistical evidence shows that regional populations like the Comox Valley are less resilient to fuel price spikes due to lower than average annual incomes when compared with larger regions within BC. Transit options will become increasingly important.

Development outcomes

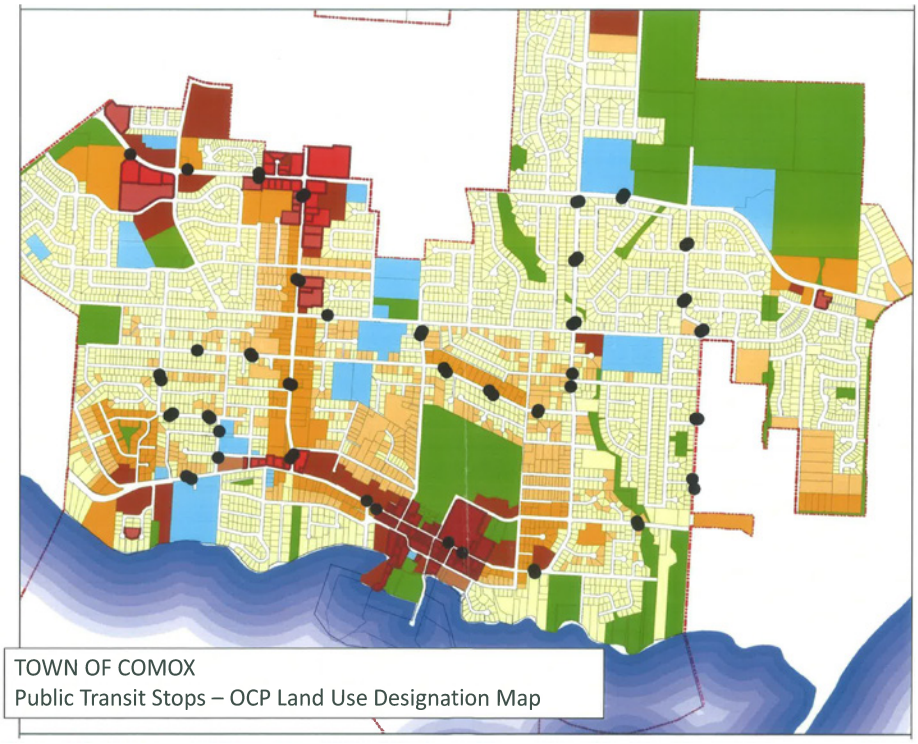
Transit serves an important role in the urban systems that make centres function. It is often hard to define where a system is either supportive or directive, and in the case of the transit system it plays both roles. For instance, as new developments come online in the Comox Valley urban areas, the transit network needs to expand and cater for change.

Where there is already an intensification of the network, transit-oriented developments will emerge around key nodes and corridors.

These developments foster a more livable community with a greater variety of land use options around transit corridors. The Town of Comox OCP, will strategically encourage density and growth including mixed use development along the proposed Frequent Transit Network. See figure 16.

Transit-oriented developments also reduce the need for car parking space around activity centres. This can make way for other uses such as parkland and community or commercial spaces. **Transit today is a major factor in determining how liveable our communities will be tomorrow.**

Figure 16: Town Comox Land use map and transit corridors



Cost saving benefits

Investment in low-cost transit options can create cost savings both for the Comox Valley and the users themselves. In most instances, the cost of upgrading road infrastructure to carry higher capacities of private vehicles is higher than the cost of investing in a more intensive transit network to carry those same people.

From a customer's point of view, residents who redirect their travel from personal vehicles to transit can reduce costs of maintenance, depreciation, annual fixed costs. The Canadian Automobile Association in its 2013 driving cost estimate has suggested that the average annual ownership and operating costs for a personal vehicle ranges from between $8,000 to $14,000 per year. These costs are based on depreciation values, finance payments and operating costs estimated over a range of actual kilometers driven by aw vehicle per year. These personal savings can be even greater in towns where there is a greater reliance on cars for personal transit. The ratio of registered motor vehicles per persons between the ages 15-65 in Courtenay is roughly 1.8[8] vehicles per person, indicating many households may have two or motor vehicles per household. Distances travelled by car in rural communities are typically further than in metropolitan areas. By directing a greater percentage of household daily trips to transit would dramatically increase the savings from having to own and maintain multiple vehicles per household. In comparison transit cost for an adult monthly ticket would be approximately $720 annually.

8 *A calculation of motor vehicles registered in the Courtenay ICBC Motor Vehicle District in 2011 and City of Courtenay 2011, BC Stats population data.*

Resources

To meet the mode share and ridership targets set out in the plan requires significant investment in transit operating and capital resources. This section of the plan outlines at a high level the estimated 25-year service hour and vehicle requirements and benchmarks them with those of other communities of a similar size.

Service Hours and Vehicles

Future Service Hours

Future service hours are forecast to the year 2038. Service hours for each route were 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 (additional time at the end of the trip to ensure the next trip starts on time). Cycle times were calculated by measuring the length of the route in kilometers and estimating the average trip speed (km/average trip time). The total numbers of service hours for each route is 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 have a significant impact on the number of hours and vehicles required to provide service.

Custom service hour projections are based on historical trends matched with past and future demographic trends. Table 17, compares the existing Comox Valley Conventional and Custom systems and projects service hours for the years 2018 and 2038.It is estimated that ridership will increase by over 149,500 trips on the conventional system with the implementation of the short term strategies.

Table 17: Existing and projected annual service hours – Conventional and Custom Transit

	Conventional Service Hours	Custom Service Hours	Total Service Hours	Total Ridership
Today 2013/14	28,019	11,584	39,603	626,043* (Actual)
Short -Term 2018/19	37,084	13,134	50,218	800,000 (Estimated)
Projected 2038	80,000	25,000	105,000	2,400,000 (Estimated)

** 2013/14 total ridership is a calculation of conventional and custom transit trips.*

Future Fleet Requirements

The Transit Future Plan also estimates fleet requirements for the conventional and custom transit systems over the next 25 years. The Comox Valley fleet is estimated to increase from the existing 20 conventional and custom vehicles to 48 conventional and custom vehicles by 2038, see Table 18.

The short term forecasted fleet requirements are based on BC Transits 2013 Fleet Usage Guidelines of 70,000 kilometres and 2,500 hours annually per bus as well as location and service specific spare vehicle requirements. Fleet estimations for 2038 are based on 80,000 estimated annual service hours and kilometres required to deliver a three per cent transit mode share.

Fleet Composition

Various routes and demographics have diversified fleet requirements. For example Route 12 North Valley Connector requires a vehicle better suited to the long stretches of limited stop highway driving and specialised school trips require heavy duty buses to carry the expected larger passenger loads. Similarly, smaller sized vehicles have a place in the network on routes with lower ridership such as Route 11 Little River. All vehicles will be fully accessible. Fleet composition requirements will continue to change as the system develops and ridership increases.

Table 18: Existing and Projected Conventional and Custom Fleet Requirements

	Conventional Vehicles	Custom Vehicles	Total Comox Valley Fleet
2013/14	12	8	20
Estimated short term requirements 2018/19	15	8	23
Projected 2038	32	16	48

Benchmarking the Transit Future System

Previously in the Transit Today chapter of this Plan (page 61) the Comox Valley Transit System was compared with its peer communities to ascertain how it was operating under today's metrics. The 2038 Comox Valley Transit Future Plan projected 2038 population and estimated ridership and service hour metrics are now compared to similar British Columbia communities operating under like metrics in 2013. This benchmarking exercise displays that the population projections, ridership target, future service hours and vehicle requirements forecast in the Conventional Network and the Custom Network are statistically comparable with these similarly sized communities operating efficiently and effectively today. The existing Comox Valley transit system performs well, but will need to perform at an even higher level to attain the ridership target in the Plan. Table 19 and 20 provide a forecast of the Conventional and the Custom Transit 2038 systems against the similar communities across British Columbia.

Table 19: Forecast 2038 Conventional Transit System Future Service Level Comparison

Regional System	Approx. Service Area Population	Annual Service Hours	Annual Ridership	Rides per Service Hour	Rides per Capita ($)	Cost Recovery (%)	Cost per Passenger Trip ($)
**Comox Valley Transit Future 2038	87,428	80,000	2,400,000	30	27	30	$4.60
Red Deer, AB (2013)	91,877	143,978	3,776,354	25.2	41	37	$3.55
Nanaimo (2013)	98,500	101,404	2,750,000	24.5	27.9	35.4	$4.23
Lethbridge,AB (2013)	90,417	106,510	1,220,426	11.45	13.5	35	$5.15
Average	**92,379**	**107,973**	**2,536,695**	**23**	**27**	**34.4**	**$4.38**

*** Comox Valley estimation based on 3% mode share target by 2038, assumes 30 boardings per hour which in turn estimates approximately 80,000 service hours required*

Table 20: Forecast Custom Transit System Future Service Level Comparison

System	Population	Annual Service hours	Vehicles	Annual Ridership	Hours per capita	Rides per capita	Rides per hour
Comox Valley Transit Future 2038	87,428	25,000	15	125,000	0.25	1.25	5.0
Vernon Transit Future 2038	79,760	23,500	15	119,000	0.29	1.4	5.0
Kamloops –year 2012	86,800	26,843	19	110,428	0.32	1.3	3.6
Prince George- year 2012	72,000	17,095	8	98,097	0.32	1.12	4.3
Average	**81,497**	**23,109**	**14**	**113,131**	**0.29**	**1.26**	**4.5**

Transit Infrastructure Requirements

Customer Facilities

The attractiveness of transit is based not only on transit services, but on customer facilities that are provided at bus stops and transit exchanges. Customer facilities can include some form of weather protection (such as bus shelters), as well as benches, trash cans and lighting for security at night.

Each of the local municipal partners is responsible for identifying a priority roll out of bus stop infrastructure within their jurisdiction. It is suggested that a list of priority shelter locations be identified and a funding case be established by each local government to allow their development. Similarly, when infill development and or Greenfield development occurs it is recommended that each municipality request enhanced bus stop facilities as a component of the development approval.

Transit Exchanges

Transit exchanges are typically located within the activity centres of the community, such as downtown, centres, and shopping malls, in order 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. Transit exchanges should provide weather protection, seating, transit route and schedule information, lighting, bicycle parking and other amenities.

The Transit Future Plan requires five transit exchanges as identified in Table 21 which provides summary of existing and future infrastructure capacity requirements.

Table 21: Summary of Transit Infrastructure requirements

Location	Type	Current Capacity	Future Long-Term Capacity Requirements	Future Routes to be served	Priority
Downtown Courtenay	Terminus – Primary Exchange	2.5 bustops Limited layover, with over capacity occurring during peak periods	Estimated six platforms (On or off street) to accommodate up to 20 buses per hour. Bus platforms could be reduced if design includes a separated area for bus/operator recovery, Driver/ Passenger washroom facilities, and drop off zone (Kiss & Ride)	FTN,(Comox to Courtenay and Courtenay to Comox) 6, 3, 5,7, 8, 11A, 12	Short Term (1–3 years)
North Island College	Primary Exchange	One bus stop with shelter owned by College in their parking lot.	Estimated 4 platforms (two each direction) to accommodate up to 12 buses per hour.	FTN, 11A, 11B, 6, 12	Short Term (1–3years)
Comox Downtown	Secondary Exchange – Kiss & Ride	1 Bus stop either side Comox Ave (shelter on outbound only)	Estimated 4 platforms to accommodate up to 10 buses per hour.	FTN, 11B, 3	Medium Term 5+
Driftwood Mall/Anfield Centre	Secondary Exchange	One bus stop with shelter at Driftwood Mall	Estimated 4 platforms to accommodate up to 14 buses per hour. FTN Corridor study to determine efficiency and effectiveness of exchange to be located at Driftwood Mall or Anfield center	FTN, 2, 3, 10	Medium Term 5+
Oyster River	Minor Exchange	One shelter located in Discovery Foods Car Park	Estimated 2 platforms to accommodate Campbell River service and Comox Valley Service (2 buses per hour)	Route 12 Route 6 Oyster River Campbell River Transit Service	Medium Term
Union Bay/ Fanny Bay	Park & Ride and or Kiss & Ride	Roadside	Car parking up to 25-50 spaces	Route 10	Medium term
Merville / Black Creek	Park & Ride – and or Kiss & Ride	Roadside	Car parking up to 25 spaces	Route 12	Long term
Saratoga Beach	Park & Ride – Kiss & Ride	Roadside	Car parking between 25-40	Route 12	Long term

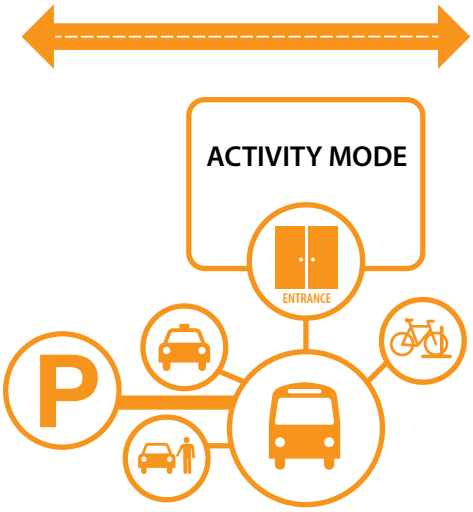
Primary Exchanges

It is proposed the Comox Valley Transit network will operate two primary exchanges as the system is reshaped to develop the Frequent Transit Network as the spine of the system over the next 25 years.

Downtown Courtenay Primary Exchange

The importance of downtown Courtenay operating as a primary exchange will continue with the majority of all future routes expected to circulate or commence and terminate within the downtown of Courtenay. To deliver operational efficiencies including improved inter-modal connections and improved ascetics the Courtenay transit exchange would be best located on the perimeter of the downtown. Potential exchange locations and upgrades will be identified in consultation with BC Transit, the CVRD, and the City of Courtenay.

The Courtenay OCP directs its transit supportive policies to maintain a pedestrian orientation in downtown and integrated transportation planning (Strategy 2.1.1) by developing a transit terminal downtown where multiple modes of transportation can converge, developing more bicycle paths in the downtown core and developing "friendly" streets and sidewalks. In support of this strategy, the April 2014, City of Courtenay 25 Year Vision for Multi-Modal Transportation Plan directs its transit strategies to peruse options for a new transit exchange downtown which meets bus routing requirements, yet also provides a welcoming waiting area for pedestrians, with landscaping/artwork, shelters, benches, information panels, wide sidewalks, bicycle parking and lighting. The Transportation Plan suggests the exchange would be conveniently located near downtown destinations and retail establishments that cater to bus patrons.



Ryan Road and Lerwick Ave Primary Exchange (North Island College Transit Exchange)

This secondary exchange is expected to operate within the internal road circulation of the North Island College, Comox Valley Aquatic centre and new hospital to allow convenient easy walking access to all facilities. This location demonstrates the second highest volume of passenger activity under today's route structure. A Transit exchange in this location is a key component to the function and success of the Frequent Transit Network, providing the most direct route for all transit users accessing this multipurpose locality. The new exchange will support the proposed intensification of the North Island College including the proposed student accommodation to be located on Campus and provide convenient access for employees and visitors to the new Comox Valley hospital.

It is expected that a minimum of five routes including the Frequent Transit Network will circulate through this primary exchange. Ideally this transit exchange should be centrally located to be within 150 metres walking distance (measured along designated pedestrian pathways) to the hospital entrance and within 200 meters of walking distance to the main Aquatic Centre entrance and within 300 meters of North Island College's main entrance.

This exchange will be subject to final design approval by BC Transit and the CVRD and should include:

- Four vehicle platforms to serve standard 12 meter long transit vehicles as well as bus stop poles
- Four platforms enable separation between buses serving Comox and those serving Courtney plus layover positions
- Buses must be able to arrive and depart from platforms independently and must be able to circulate past other buses in the terminal. The exchange is to be off the main through path of the road network
- A combination of shelters and benches that would allow for seating of twelve people in each direction, plus room for standees)
- Lighting
- Passenger information
- Bike racks
- Garbage receptacles
- Conduit for future use (electronic signage, closed circuit TV, etc.)

Actual functional requirements will be clarified at the time of developing the plans for the exchange. There is an opportunity for BC Transit and the CVRD to work collaboratively with the North Island College, and the City of Courtenay and other stakeholders to develop this future transit exchange.

The location of the exchange will deliver ongoing benefits to the day students and additional travel opportunities to the future resident students who will gain convenient transit access to the range of services and recreational facilities offered throughout Courtenay and Comox. Convenient and reliable transit services are a key determinate future perspective students consider when deciding on college courses and locations. Additionally the exchange will provide excellent transit access for the over 1,000 workers expected to be employed at the new hospital.

Secondary Exchanges

Key transfer points such as the identified secondary exchanges at Driftwood Mall/ Anfield Centre and downtown Comox require priority infrastructure and investment. It is expected a minimum of four routes will circulate through these secondary exchanges. Listed schedules and route maps should be available at each of these locations. There are existing basic stop and shelter facilities at both Driftwood Mall and downtown Comox but it is recommended that when infrastructure upgrades are developed for the sites, that upgraded exchange facilities be incorporated in to such plans. Transfer facilities for Driftwood Mall/ Anfield Centre would need to provide safe and user friendly pedestrian access around the centres and at the exchange.

Park & Rides

Low population densities in rural communities often leads to transit services in these areas to being less convenient with fewer services and long walking distances to bus stops. The Transit Future Plan identifies three future Park & Ride facilities in the region one at Saratoga Beach/Oyster River, the Merville/Black Creek area, and the third at Union Bay, to provide customers living in the semi-rural to rural areas direct access to higher quality transit services.

Park & Ride facilities can be purpose built or can be accommodated by existing infrastructure such as underutilized parking areas in other community or commercial facilities.

Kiss & Ride

Kiss & Ride facilities allow other types of vehicles to stop and drop passengers off or wait, instead of the longer term parking associated with Park & Ride facilities. These dedicated drop-off zones are separate from the bus loading/unloading locations so there is no conflict with the two operations.

The Transit Future Plan identifies four Kiss & Ride locations across the region to encourage more efficient transfer between modes and increase transit use within the region. Refer to Table 21 for details. Kiss & Ride infrastructure should be considered in terms of:

- access from the road network around a stop or exchange
- interface between the stop or exchange and the Kiss & Ride area
- the role of Kiss & Ride as a key access point for people with a mobility impairment
- the difference between set-down and pick-up (i.e. waiting times)
- asset management

Transit Operations and Maintenance Facility

The plan identifies a need for an expanded or new transit operations and maintenance facility. The existing facility will likely be nearing operational capacity by 2018 which will limit the ability to expand future service beyond this time horizon. The expanded or new facility should be able to accommodate a future fleet of up to 52 vehicles. A business case will be required to determine whether it is best to expand the existing Operations and Maintenance Facility or if relocation should occur. If a new site becomes the preferred outcome of the business case, new site locations best suited to reducing deadhead should be favoured. A Master Plan study will be required to identify the functional requirements of a new facility as well as evaluate potential locations to recommend as a preferred site location. Partnership opportunities should also be explored by the CVRD to share a new facility with the School District or other municipal and commercial vehicle functions.

Transit Priority Measures

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

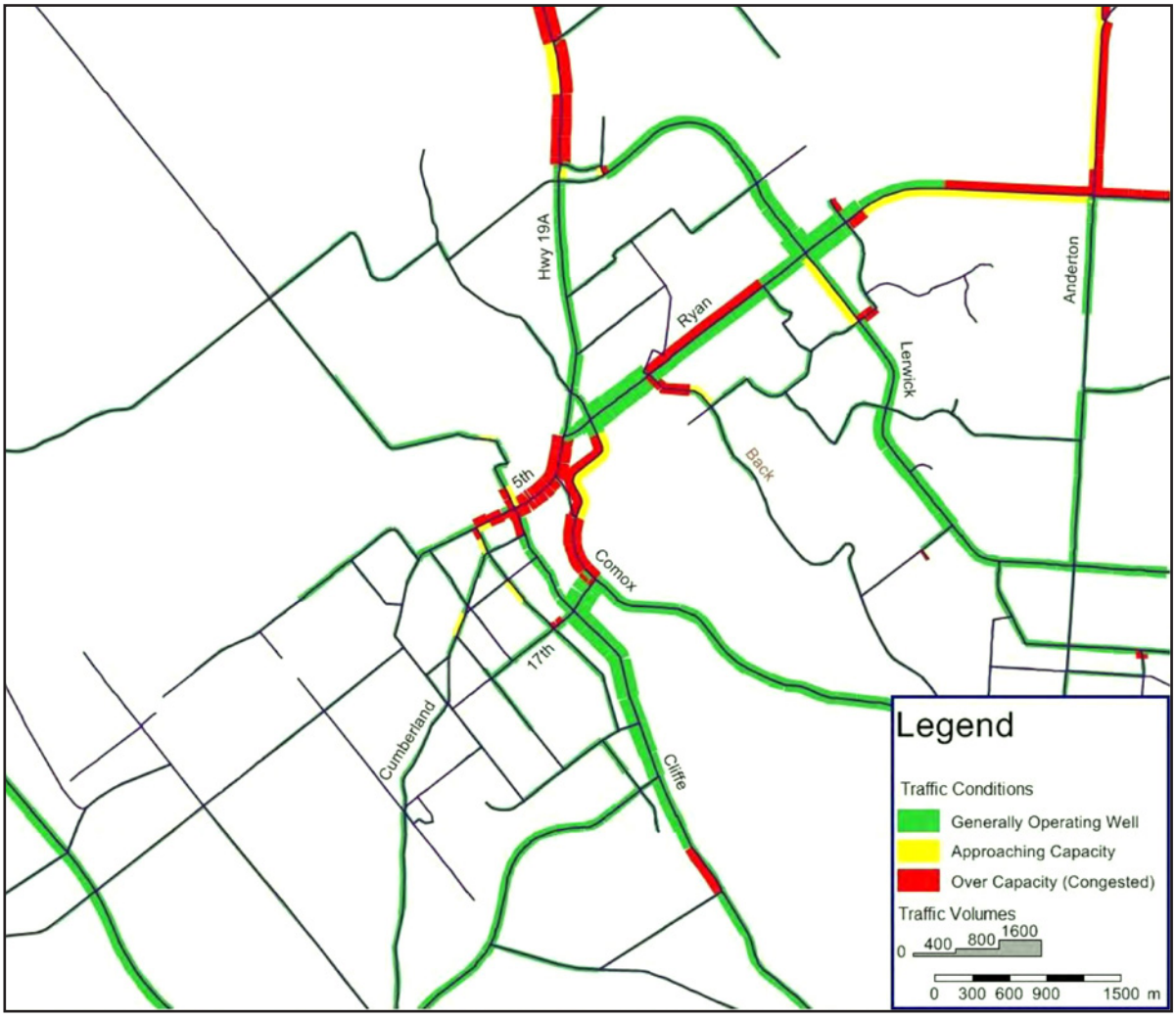
- Regulatory, such as "Yield to the Bus" regulations and signage
- Operational, such as retiming traffic signals to respect the large number of passengers on transit vehicles compared to private vehicles
- Physical, such as bus bulges and transit signal priority measures

A key short term priority of the Transit Future Plan is to work with the transportation and planning staff from the City of Courtenay, the Town of Comox and the Village of Cumberland to develop the Comox Valley Regional District Frequent Transit Corridor Study to encourage alignment with each jurisdiction Transportation Plan. The Frequent Transit Corridor study the preferred alignment, location and timing of transit priority measures and other key stop locations, as well as include existing transport infrastructure capacity assessment to be provided by each municipality.

BC Transit, CVRD, City of Courtenay and the Town of Comox will need to explore opportunities along the future FTN corridors for implementation of priority measures in order to reduce delays to bus services where delays and congestion exist today, or where they are anticipated to exist in the future. These transit priority measures will improve transit service, often at the expense of vehicle traffic. Although many of these measures can negatively impact private vehicles, they reflect the value of transit to the Comox Valley community and will represent a high quality service. This prioritization can attract choice riders and support long-term transit use.

The April 2014 City of Courtenay 25 Year Vision for Multi-Modal Transportation Plan has identified increased congestion by 2038 on several key corridors including Ryan Road and Comox Road, see Figure 17. To address the future congestion issues, a range of network improvements have been recommended. The specific road network projects contained within the City of Courtenay Transportation Plan will provide opportunities for inclusion of transit priority measures such as intersection priority. Conversely, increased transit usage will encourage fewer cars on the road and provide added reduced congestion increasing a longer term cost benefit of any proposed road network upgrade.

Figure 17: 2038 Traffic Forecasts for the Courtenay Road Network



Source: April 2014 City Of Courtenay 25 Year Vision for Multi Modal Transportation Plan

Implementation Strategy

The implementation strategy outlines how transit investments will be staged and prioritized over the life of the plan in order to meet transit mode share and ridership targets. The implementation strategy identifies short, medium and long-term network priorities, as well as on-going improvement initiatives.

The prioritization of transit investments was based on the needs and challenges identified throughout the plan and the feedback received from the, public, elected officials, Comox Valley Regional District (CVRD), City of Courtenay, Town of Comox, and Cumberland Village staff, and the stakeholder advisory group during the planning process.

Service standards and route performance guidelines (described in the Service Monitoring section of this Plan) have been developed to provide a consistent tool to measure the performance of new and existing services. These standards and guidelines will ensure services are effective and in line with community goals providing evidence based service planning recommendations to the Councils and the CVRD.

Network Priorities – Conventional Service

The Network Priorities section of the plan identifies the key priorities for establishing the Transit Future Plan Network, with the highest level of detail provided on the short-term initiatives. As the plan is updated over time, more detail 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 including:

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

Each transit improvement will require a more detailed service plan that will finalize the route structure, service levels, scheduling, and customer information and associated costs. All service expansions will be subject to approval of the CVRD Board.

Short-term Implementation Priorities (1–5yrs)

Short-term Service Improvements

The emphasis of the short term service priorities is to develop the Frequent Transit Network (FTN) including other service changes that complement the FTN and create increased ridership and revenue per service hour.

1. **Begin to develop the Frequent Transit Network (FTN)**

   Phase 1: Introduce commuter express limited peak services on Route 3 and 4 Comox.

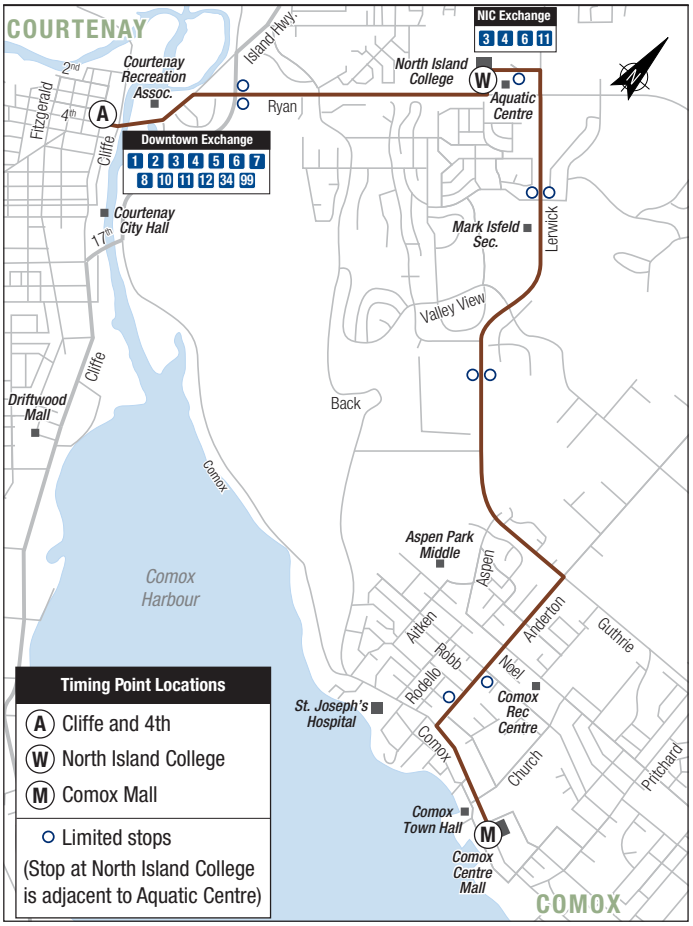
   This limited stop express service will operate between downtown Courtenay and downtown Comox via North Island College.

   - Weekday peak services between 7 a.m. – 9 a.m. and 4 p.m. – 6 p.m. with a 30 minute or better frequency.
   - Saturday peak services between 8 a.m. – 9 a.m. and 5 p.m. – 6 p.m. with a 30 minute or better frequency.

   Resources: 1 Vehicle and 500 additional annual service hours

   This phase will use the existing (850) non-peak express hours already in operation on these routes and increase by 500 annual service hours to implement this service improvement.

Comox Valley Short Term Service Implementation Option 1- Phase 1 FTN -Commuter Express



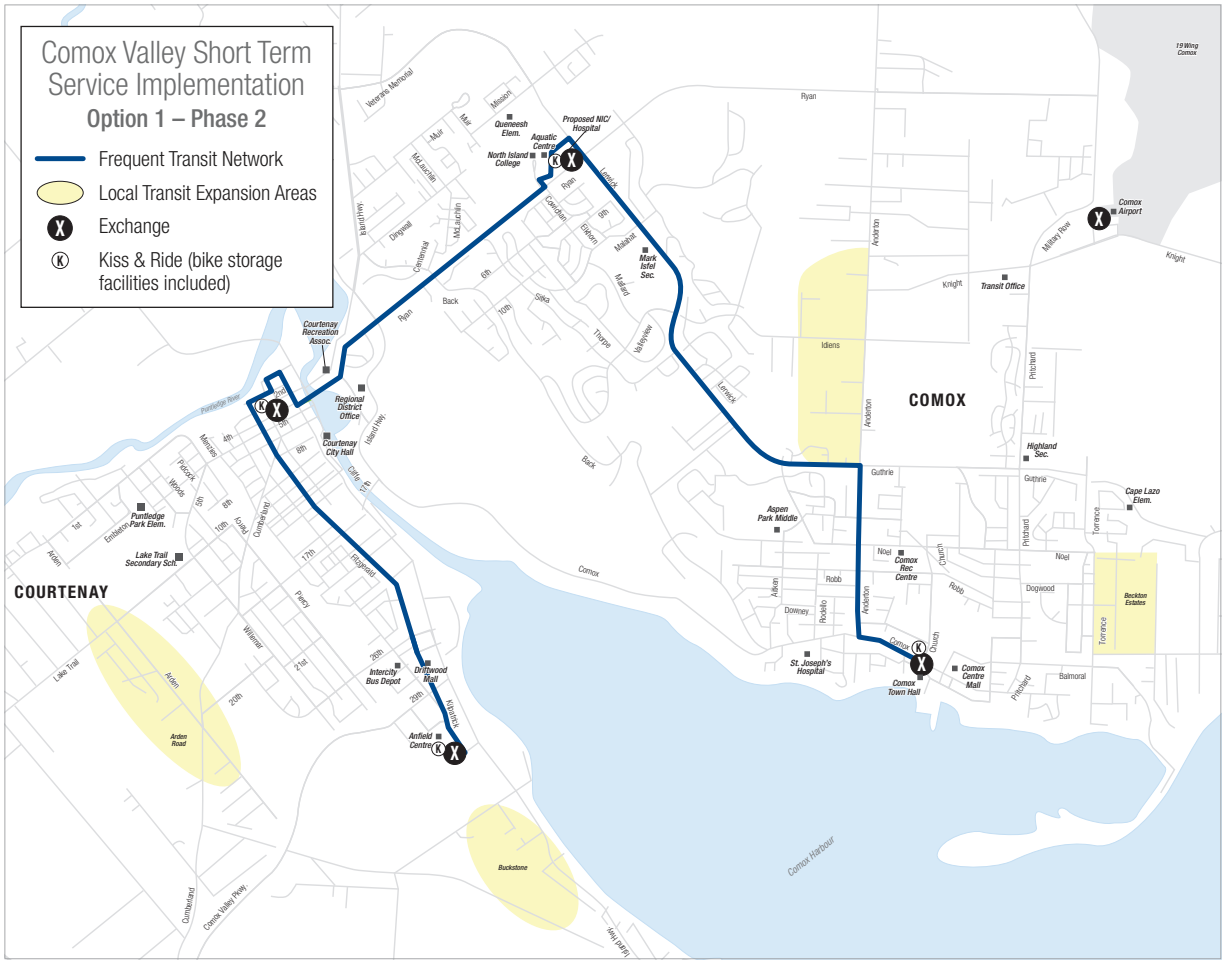
Phase 2: Introduce frequent service between Driftwood Mall, downtown Courtenay, North Island College and downtown Comox.

This is the first major step to implement the FTN. Transit services on the existing route 4 Comox and route 1 Fitzgerald will be restructured to form the Frequent Transit route. The likely FTN corridor from Driftwood Mall to downtown Courtenay will be along Fitzgerald Ave, a Community Collector road designated for corridor improvements within the 2014 City of Courtenay 25 Year Vision for Multi-Modal Transportation Plan. This route will also serve Ryan Road, Anderton Road and Comox Ave which are all designated as Arterial Mobility Connectors highly suited to conventional transit vehicle use.

- Weekday services between 6 a.m. – 10 p.m. with a 15 minute frequency in the peak and 30 to 60 minute frequency at other times.
- Saturday services between 8 a.m. – 10 p.m. with a 30 to 60 minute frequency.
- Sunday services between 9 a.m. - 6 p.m. with a 60 minute frequency.

Resources: 1 Vehicles and 4,500 additional annual service hours.

Phase 2 will use the existing 7,000 service hours in operation on route 4 Comox and route 1 Fitzgerald to implement this service improvement.



2. Realignment of existing Local Transit Route 3 Comox, to compliment the introduction of the Phase 2 of the FTN

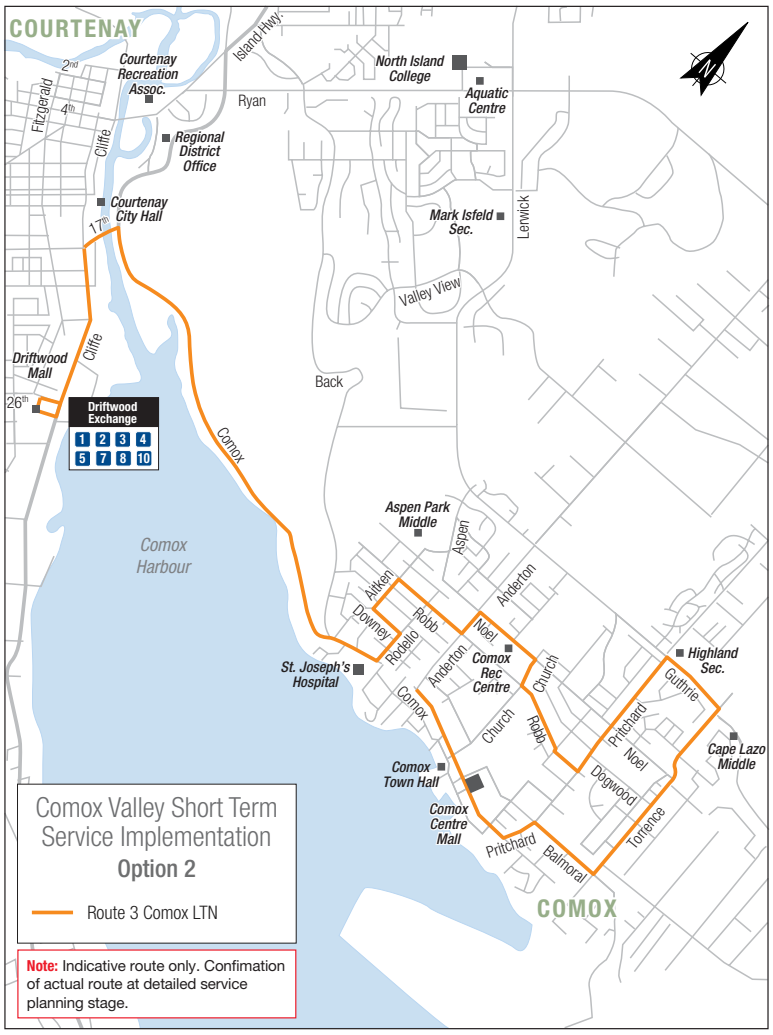
The introduction of the FTN in Phase 2 will include realignment and schedule adjustments to many of the routes within the network. This provides the opportunity to avoid overlapping of services and the reallocation of existing hours to well performing routes.

This realignment primarily serves the Comox community providing Local Transit service through the more densely populated areas and directing service to Driftwood Mall.

- Weekday and Saturday services 7 a.m.–10 p.m. with a 60 minute frequency.
- Sunday services 7 a.m.– 9 p.m. with a 60 to120 minute frequency.

Resources: No additional service hours are required, vehicle requirement unlikely to change.

This phase will use the existing 4,285 service hours in operation on route 3 Comox to implement this service improvement. This priority occurs simultaneously with Phase two of priority one.



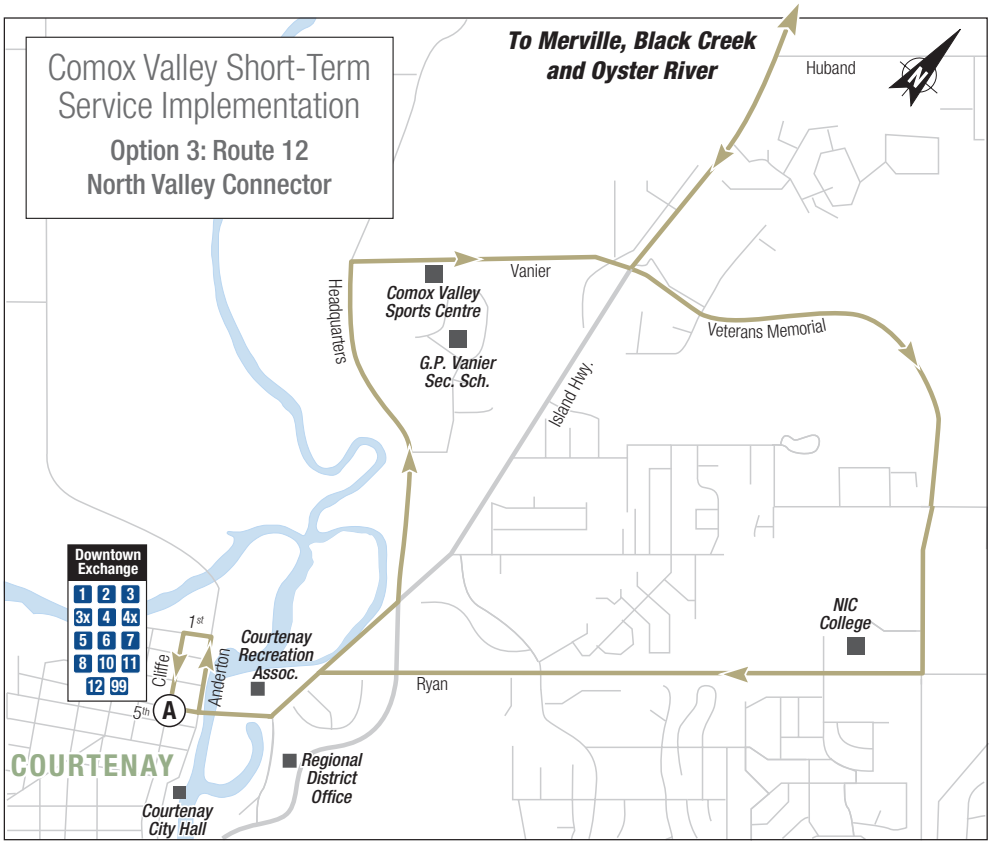
3. Improve frequency and structure to Local Transit Route 12 North Valley Connector

The proposed realignment will omit the transfer required in downtown Courtenay, giving passengers in the north of the Comox Valley a one seat journey to the North Island College and new hospital precinct.

Service enhancements to include increased frequency Monday to Saturdays, as follows:

- Increased weekday services to include the addition of one trip (340 service hours)
- Increased Saturday services to include the addition of two morning trips between 9 a.m. and 11 a.m. (130 service hours)
- Realignment of Oyster River to Courtenay trips via North Island College (210 service hours)

Resources: Vehicles requirement unlikely to change, an additional total of 680 annual service hours.



4. Improve frequency and structure to Local Transit Route 7 Arden

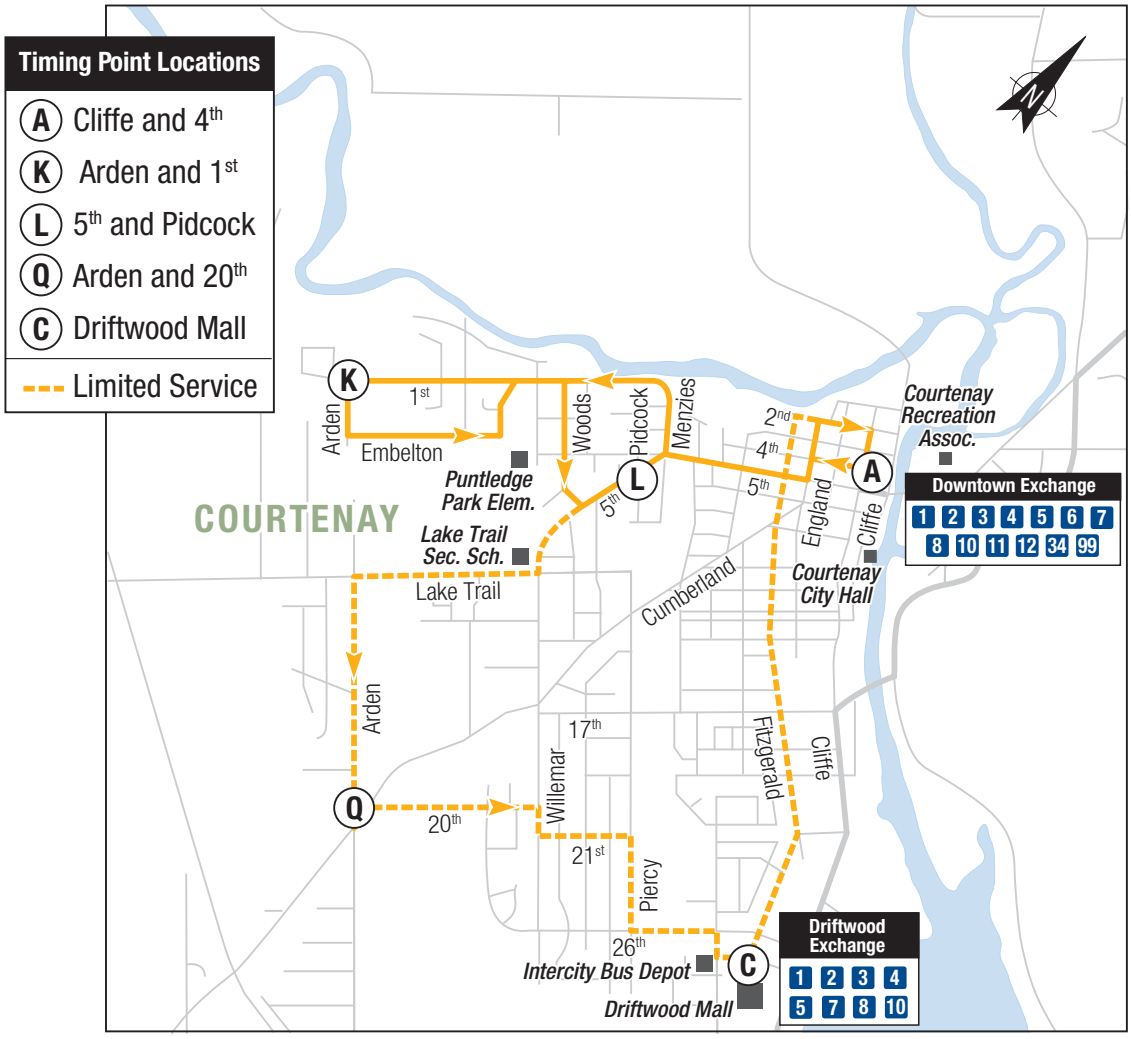
Phase 2 of the FTN would provide the opportunity to investigate the restructure of the route 7 Arden to increase coverage between the Arden Road and Lake Trail Road area, and provide additional evening and Saturday services.

- Weekday services 7 a.m. – 10 p.m. with a 60 minute frequency.
- Saturday services 7 a.m. – 10 p.m. with a 60 minute frequency.

Resources: 1 Vehicles required and an additional total of 650 annual service hours to include:

- Increased weekday services (450 service hours)
- Increased Saturday services (200 service hours)

7 Arden



5. Expand services on Local Transit Route 6 Uplands

Increase span and frequency of services. Route 6 is a key Local Transit route servicing the Uplands to downtown area of Courtenay.

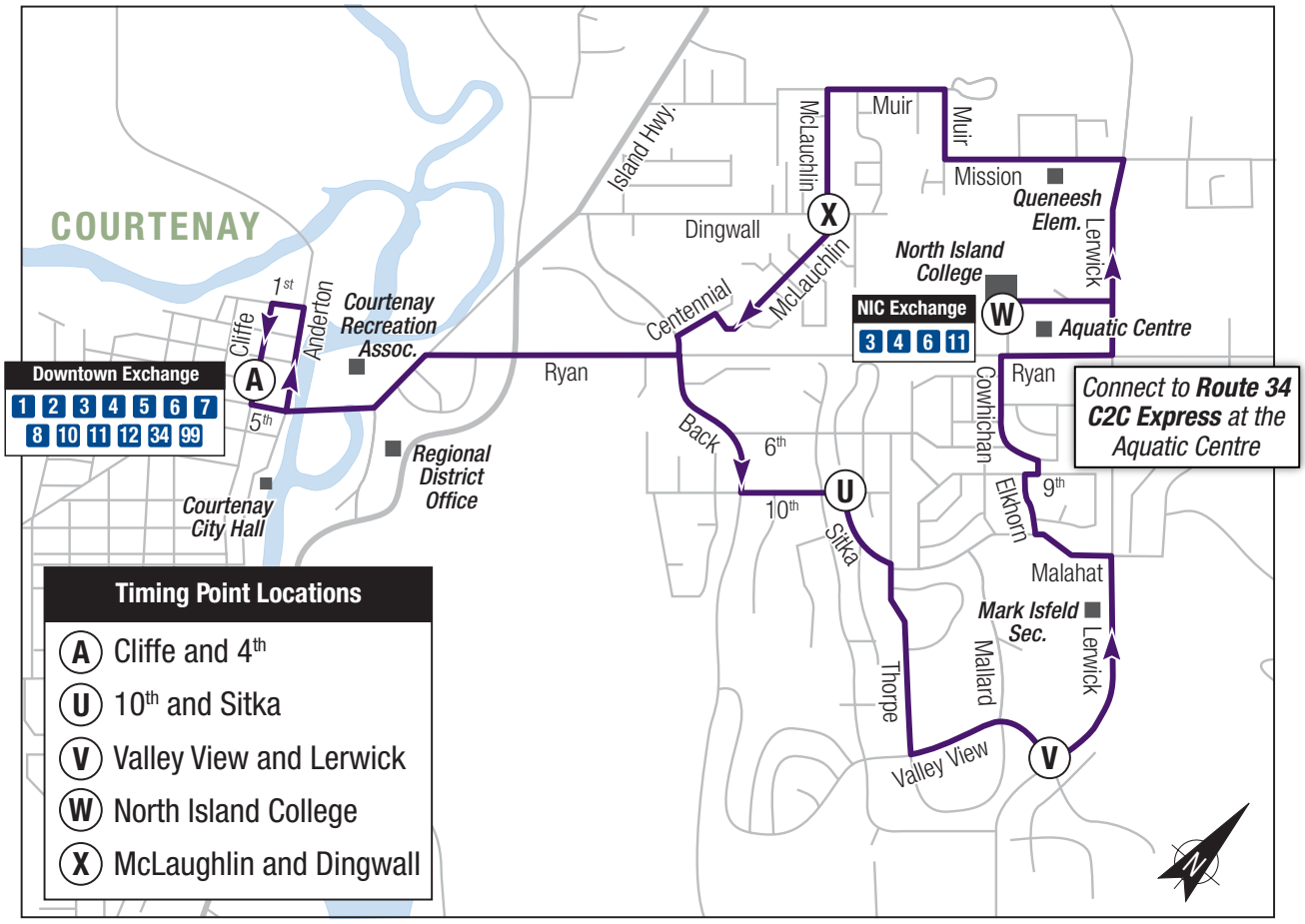
Upon completion of the new Comox Valley hospital it is intended that route 6 Uplands will be modified to provide direct drop off and pick up at the proposed stop at the new hospital entrance.

- Weekday services 7 a.m.–10 p.m. with a 60 minute frequency.
- Saturday services 7 a.m.–10 p .m. with a 60 minute frequency.

Resources: Vehicles requirement unlikely to change, an additional total of 325 annual service hours to include:

- Increased weekday services (270 service hours)
- Increased Saturday services (55 service hours)

6 Uplands



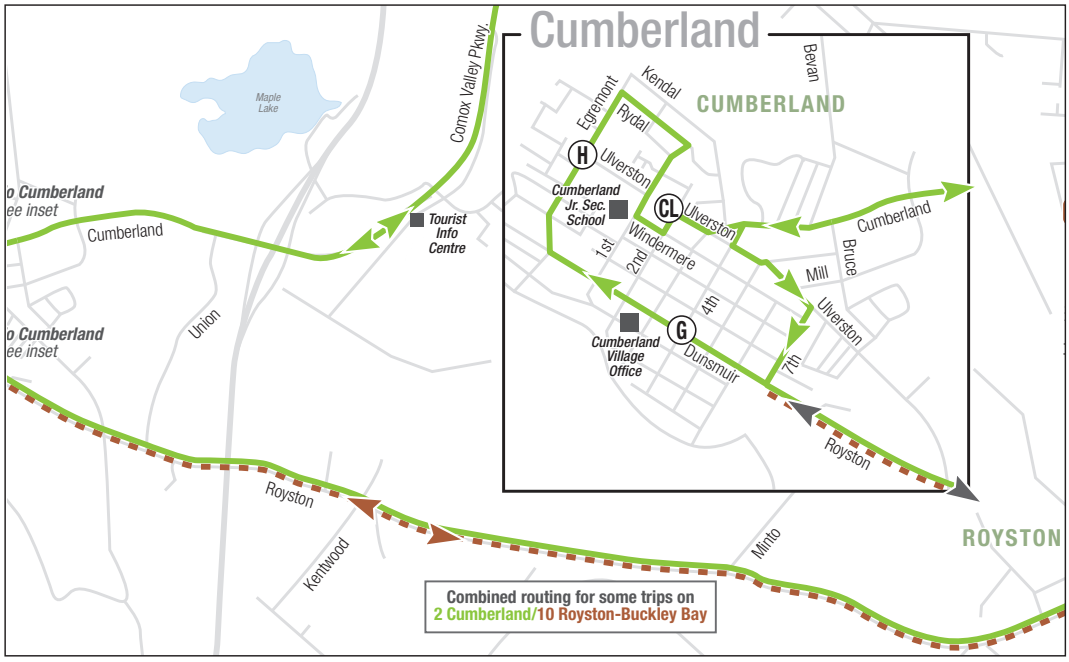
6. Improve Structure and Frequency of Local Transit Route 2 Cumberland

This route will be realigned to achieve the minimum service design standard of 400 metres access to a transit route for Cumberland residents.

To improve the directness of service, a southern Comox Valley area service plan will also be developed to determine optimal direct routing for route 2 Cumberland and route 10 Royston.

Once the FTN is established, the trip schedule for route 2 Cumberland is to be revised to enable timed transfers of route 2 at Driftwood Mall/ Anfield Centre. This may result in reallocation of service hours into improved frequency for route 2 Cumberland in accordance with the minimum Service Design Standards for the Comox Valley Local Transit Network including a 30 minute frequency in the peak and 60 minute frequency at all other times.

Resources: Vehicles requirement unlikely to change, no additional hours required.



Short-term Infrastructure Improvement

1. **Develop a Comox Valley Regional District Frequent Transit Corridor Study**
   - This will include the preferred alignment, location and timing of transit priority measures, and other key stop locations; as well as include existing transport infrastructure capacity assessment to be provided by each municipality.
   - Collaborative exercise between BC Transit, CVRD, MoTI City of Courtenay, Town of Comox and the Village of Cumberland Staff.

2. **Examine primary exchange improvements at downtown Courtenay and North Island College**
   - Downtown Courtenay requires an exchange that can accommodate six bus pullouts complete with shelters and other customer and bus driver amenities. Ideally the exchange would be located on the perimeter of the downtown and on route to allow cost efficient structure of the services and remove circuitous routing of services through the downtown Courtenay residential streets.
   - This new exchange is required to coincide with the introduction of the Frequent Transit Network (Phase 2) and the expansion of 4,500 hours within the transit system.
   - The North Island College Primary Exchange is a key destination point on the Frequent Transit route. This exchange needs to accommodate four bus platforms and would still allow for the inclusion of a bus stop at the front door of new hospital for service by limited number routes.

3. **Continue to improve transit customer facilities**

   Continued improvement and maintenance of transit facilitates and on-street customer amenities are important for the successful operation and future growth of the transit system. Some improvements that have been identified are:
   - Space transit stops along a corridor at appropriate intervals between 300m - 400m. In some locations, transit stops are spaced too closely together, leading to slower transit trips and higher transit stop maintenance costs. Corridor transit and transportation projects should include a review of stop locations prior to investing in infrastructure.
   - Invest in on-street customer amenities such as transit shelters, customer information, benches. Bike racks at key stops and pedestrian-oriented lighting at transit stops.
   - Improve universal accessibility of transit stops.

Medium-term Implementation Priorities (6–10 years)

Medium-term Service Improvements

1. **Evaluate effectiveness of the community bus service operating in the Cape Lazo/Point Holmes and Huband Road/Seal Bay areas.**
   - Consider expansion of Community Bus services to other rural areas where appropriate transit density and road design and network exists to allow effective and efficient operation.
2. **Service Improvements to Local Transit Route 12 North Valley Connector**
   - Realignment of route 12 at Oyster River to improve directness of travel.
   - Expand evening and weekend service
3. **Service Improvements to Local Transit Route 3 Comox**
   - Expand services on route 3 Comox to include 30 minute frequency in the peak and investigate increased span of hours
4. **Service Improvements Local Transit Route 10, Royston/Buckley Bay,** increasing span of services to 7 a.m.-10 p.m. Monday to Saturday and increased Sunday service.
5. **Investigate the expansion of the Summer Beach services**
6. **Introduce interregional weekday service** connecting Comox Valley Transit and Nanaimo Transit Services
   - The Comox Valley Regional District and BCTransit will discuss opportunities to establish a transit service connection between the Comox Valley and Nanaimo Transit systems.
7. **Service Improvements to Local Transit Route 2 Cumberland:** Improve frequency and span to minimum Service Design Standards set for the Local Transit Network.
   - Monday to Saturday service 7am to 10pm, with a 30 minute frequency in the peak
   - Sunday 7am to 9pm, with a 60 minute frequency all day
8. **Commence Community Transit Service Discussion Document for Denman and Hornby Islands**
9. **Introduce new local transit services as required into new development areas**

10. **Investigate splitting Local Transit Route 11 Little River, to become 11A and 11B**
    - **11A Courtenay to Airport** – Improve direct service to Comox Airport from downtown Courtenay, expanding transit opportunities to CFB Comox and surrounds.
    - **11B Comox to Airport** – Introduce a direct service to Comox Airport and Little River Ferry Terminal from downtown Comox; focus on service coverage for all communities in this area of the region.
11. **Investigate the realignment and operation of the Comox Valley transit routes to connect with the proposed reinstatement of the E &N rail services at the Courtenay train station.**

Medium-term Infrastructure Improvements

1. **Examine secondary exchange improvements at downtown Comox and Driftwood Mall/ Anfield Centre**
    - Downtown Comox requires an exchange that can accommodate minimum two bus pullouts plus layover for 2 buses; (four bus capacity in total), complete with shelters and other customer amenities. Ideally the exchange would be located close to the centre of town along Comox Ave or in a location developed through the Comox downtown revitalization project. Placement of the exchange must ensure the most efficient operation of the Frequent Transit Network.
    - Anfield/ Driftwood Centre requires a secondary exchange that can accommodate 4 bus pullouts and would act as the key transfer point for targeted and local services connecting riders to the Frequent Transit Network.
2. **Improve the minor exchange located at Oyster River**

    In partnership with the City of Campbell River and the Regional District of Strathcona, look at opportunities to improve passenger amenities, vehicle access and potentially location of this exchange.
3. **Examine the construction of Park & Ride stations at:**
    - Union Bay.
    - Saratoga Beach/Merville/Black Creek.

    Investigate the co-location of the Park & Ride stations with existing commercial facilities.
4. **Examine the expansion or relocation of the existing Transit Operations and Maintenance Facility**
    - The existing facility will likely be nearing operational capacity by 2018.

Long-term Implementation Priorities (10-25+ years)

Long-term Service Improvements

1. Investigate service improvements to Local Transit route 10 Royston/Buckley Bay, in particular expansion of Sunday services.
2. Continue service improvements on the established Frequent Transit Network.
3. Investigate Local Transit route 2 Cumberland to operate as an extension of the Frequent Transit Network which would be in operation between Driftwood Mall, downtown Courtenay and downtown Comox.
4. Investigate the introduction of a service to the Mount Washington base car park area.
5. If supported by the feasibility study, explore the implementation of a community bus service on Denman Island connecting Hornby and Denman residents to the Ferry enabling transfers to the transit service at Buckley Bay.
6. Plan for increased Local Transit service in Saratoga Beach and Union Bay.
7. Expand the inter-regional service from Comox Valley to Nanaimo, in particular consider increased regular weekday service.
8. Introduce new local transit services as required into new development areas.

Network Priorities – Custom Transit Service

Improvements to accessibility and custom transit services will make the transit system more accessible for people of all ages and abilities.

With support from the Comox Valley Regional District BC Transit is implementing a revised handyDART registration process in the region. This is being implemented as a pilot project and based on the outcomes this new approach will be fine-tuned and implemented across the province.

Once the pilot is completed the recommendations along with the following service improvements will enhance accessibility and custom transit:

- Aligning 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

Custom Transit Implementation Priorities

Service Improvements

1. **Complete handyDART pilot project**

   Timeframe: 2014/15

2. **Examine recertification of existing handyDART registrants**

   Timeframe: 2015/16

3. **Expand handyDART service to include**

   - Service on Holidays
     Resources: 100 annual service hours, no additional vehicle required.
   - Additional weekday service at peak times
     Resources: 300 annual service hours, no additional vehicle required.
   - Introduce weekend services
     Resources: 500 annual service hours, no additional vehicle required.

   Timeframe: Short-term

4. **Expand a travel training program**

   A 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. The travel training program would be based on handyDART referrals and outreach to seniors and people with a disability. For example, in Kelowna 95 per cent of training participants have chosen to ride conventional transit following their training.

   Timeframe: Medium-term

5. **Continue to expand service over time to meet demand**

   Improve handyDART availability to match conventional service area and hours of operation.

   Timeframe: Medium- to Long-term

Ongoing Improvement Initiatives

The following initiatives are aspects of the Transit Future Plan that require continuous effort throughout the life of the plan.

Make transit more accessible

The Comox Valley Transit System strives to be accessible to all. With the mobility requirements of an aging population there will be an increasing need for more accessible transit solutions. Accessibility should be improved over time by:

- Making investments in handyDART vehicles and service hours as required in the short and medium-term to meet the anticipated increase in demand
- Upgrading key bus stops to be universally accessible
- Improving fleet access for mobility aids and strollers
- Upgrading existing and new transit infrastructure to meet BC Transit's Infrastructure Design Guidelines
- Improving written and online material for those with visual impairments
- Implementing audible stop announcements on transit vehicles and at major stops
- Coordinate transit access improvements in line with pedestrian and bicycle master plans
- Improving accessibility for cyclists to use the transit system and exploring the future potential for more than two bikes to be used on transit vehicles

Match vehicle type to demand

Establishing the FTN will result in the need for new or changed LTN routes. Some of these LTN routes may present opportunities to utilize smaller vehicle types that can increase efficiencies and reduce capital costs.

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

Improve customer information

The improvement of customer information helps to assist existing customers to navigate the transit system and makes it easier for new customers to access the transit system for the first time. The community and stakeholder engagement process revealed strong demand and support for the following customer information improvements:

- Route and timetable information at bus stops
- Complete transit system maps and clocks at transit exchanges
- Real-time notifications of delayed or "no show" transit services

- On-board stop announcements or electronic signs for key destinations
- Improved printed and online information

Improve transit facilities

Continued improvement and maintenance of transit facilities and on-street customer amenities are important for the continued operation and future growth of the transit system. Some improvements that were identified during community and stakeholder engagement were:

- The provision of weather protection at transit stops and future exchanges
- The provision of seating at transit stops and future exchanges
- The provision of lighting at key transit stops and future exchanges
- The provision of bicycle lockups at key transit/ bicycle localities

Improve fare product availability

- Support and encourage U-Pass initiative
- Implement the Comox Valley Transit System 2014 Fare Structure Review recommendations.

Establishing a U-Pass program at the North Island College would help BC Transit and the CVRD 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.

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 the transit services for the full school term and is included as part of the tuition fees for each student for the semester.

Preliminary consultation with the North Island College students indicates that the students would consider a U-Pass program if it was linked with improved interregional service between Comox Valley and Campbell River Campuses. North Island College programs are structured with academic classes provided at the Comox Valley Campus and trade courses offered at the Campbell River Campus, with the structure of course programs requiring many students to travel between regions to attend classes. Implementing a U-Pass program will require BC Transit, CVRD, North Island College Administration and the Student Union to work together to develop a proposal and a student referendum will be required to approve the proposal. Strategically the U-Pass program could be strategically implemented with the implementation of the Comox Valley Frequent Transit Network and proposed service improvements to the North Valley Connector.

The 2014 Comox Valley Transit System Fare Structure Review seeks to make monthly passes more attractive than they currently are and promote the sale of prepaid fare products thereby encouraging more frequent ridership from existing and future customers. The fare strategy also seeks to closer align Comox Valley fares with those of peer transit systems and encourage fares and fare products that more closely align to BC Transit fare guidelines.

Selecting a Path to Implementation

Selecting a plan for growth over the next five years allows for more accurate transit service, vehicle and infrastructure planning, as well as budget development. Annual budgets, proposed service expansion and associated services changes will be presented to the CVRD Board for approval on an annual basis. The growth strategy selected will determine when short-term priorities could be achieved. A four to five per cent average investment in growth of transit service hours per year is an appropriate level of investment needed to meet the Transit Future Plan target of a three per cent transit mode share by the year 2038 and support the Regional Growth Strategy transit Mode Share aspirations, see Figure18.

The final step in determining the appropriate investment strategy for expansion of service hours for the Comox Valley is to assess each investment strategy against the drafted Transit Future Plan goals and targets. These goals and targets have been linked to key service priorities that have developed through the planning process.

Table 22 provides the comparison of the proposed investment strategies and evaluates the effectiveness of each strategy against the key evaluation criteria.

Figure 18: Annual Average Service Hour Investment Scenarios and Mode Share

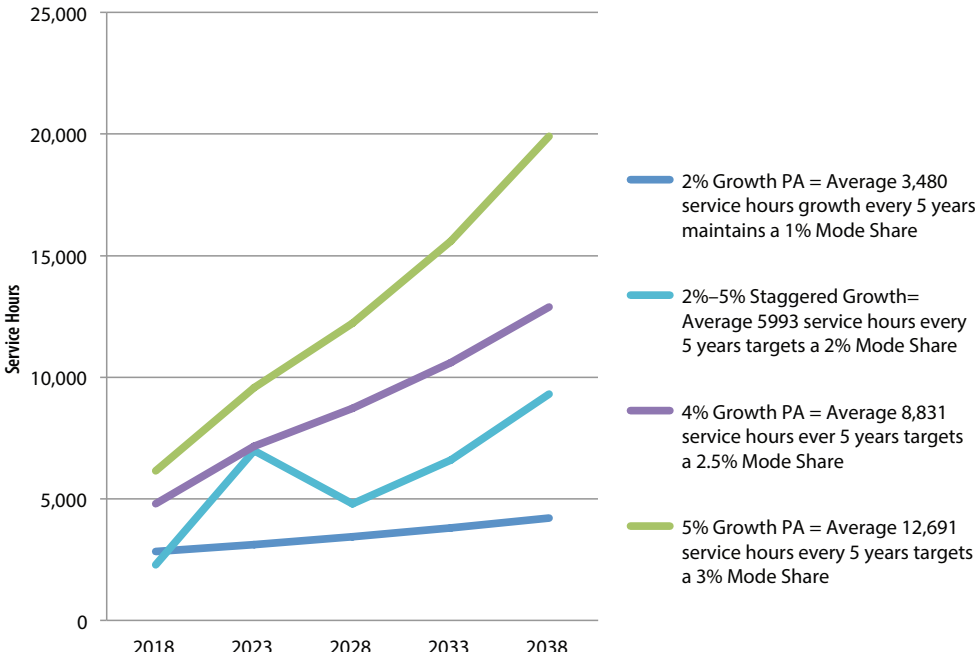


Table 22: Comparison of Short- term Expansion Scenarios

	Option 1 2% Investment Growth Maintain mode share 1% growth	**Option 2** Between 2% and 5% Staggered Investment Growth (average 3.5%) Targets a 2% Mode Share	**Option 3** 4% Investment growth to meet the RGS mode share target of 2.5%	**Option 4** 5% Investment growth targets a mode share target of 3%
Conventional Transit System Growth Strategies				
Short Term (Five Year) Average Growth in Service Hours	3,400	5,993	8,831	12,691
Short term (Five Year) Growth Transit Vehicles	1	2	4	5
Key Evaluation Criteria				
Be efficient and cost effective– improves existing route structure and delivers services where most required in the most cost effective manner.	◑	◑	●	●
Attract new riders and increase ridership -Allows for some increased frequency transit service on key routes	◔	◑	●	●
Attract new riders and increase ridership - Provides more coverage to neighborhoods poorly served by transit	○	○	◑	●
Direct and align the Regions town centres and Rural neighbourhoods- Allows for development of the FTN- Provides more direct frequent service	○	◑	●	●
On track to meet the Transit Future Plan Mode Share Target of 3% by 2038	○	◔	◔	●
Attract new riders and increase ridership and revenue – ability to meet demand at peak times and improve weekend and evening service in the medium term	◔	◔	◑	●

● Achieves benefit ○ Does not achieve benefit

Cost of Short-term Implementation Priorities

Preliminary costs have been developed for the short- term service improvement priorities requiring expansion hours. *See Table 23 and 24*. Cost and revenue projections are based on the 2013/14 Annual Operating Agreement (AOA) budget figures, and actual costs and impacts may vary depending on the finalization of service and operating details. Ridership projections are also estimates, based on analysis of current ridership trends and expected trends associated with the proposed service change.

At the request of the Comox Valley Regional District Board of Directors, service implementation priorities and preliminary cost estimates for the total **annual net local government share** for both the Conventional and Custom Transit short term (5 year) service priorities is limited to expenditure of $270,000 and to those priorities best positioned to increase ridership and revenue.

Table 23: Short Term Conventional Implementation Priorities & Preliminary Cost Estimates*

	Service Option	Buses**	Estimated Additional Annual km	Annual Service Hours	Estimated Rides	Estimated Total Revenue	Estimated Annual Total Costs	Estimated Net Local Share of Annual Costs***	BC Transit Estimated Share of Annual Costs****
1	**Develop Frequent Transit Route**	2	145,800	5,000	125,000	$113,300	$487,900	$172,800	$201,800
3	**Improved Structure and Frequency to Route 12 North Valley Connector**	0	19,900	680	10,200	$9,200	$57,200	$21,300	$26,700
4	**Improved Structure and Frequency to Route 7 Arden**	1	19,000	650	7,800	$7,100	$87,700	$52,200	$28,400
5	**Expansion Service Route 6 Uplands**	0	9,500	325	3,900	$3,500	$27,300	$11,100	$12,700
	Total	3	194,200	6,655	146,900	$133,100	$660,100	$257,400	$269,600

**Estimate based on 2013/14 budgets. Final costs may change based on final budgets and confirmation of final operational details.*
***The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date.*
**** Net Local Share of Costs represents local share of costs less estimated revenue.*
*****BC Transit share of costs do not include BC Transit share of Vehicle Lease fees.*

Table 24: Short-term Custom Service Implementation Priorities & Preliminary Cost Estimates*

Service Option	Buses**	Annual Service Hours	Estimated Rides	Estimated Total Revenue	Estimated Total Annual Costs	Estimated Net Local Share of Annual Costs***	BC Transit Estimated Share of Annual Costs
Introduce Holiday Services	0	100	200	$400	$2,200	$300	$1,500
Expanded Weekday Peak Service	0	300	900	$1,700	$16,600	$3,800	$11,100
Introduce Weekend Services	0	500	1,500	$2,800	$27,700	$6,500	$18,400
Total	0	900	2,600	$4,900	$46,500	$10,600	$31,000

** Estimate based on 2013/14 budgets. Final costs may change based on final budgets and confirmation of final operational details.*
*** The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date.*
**** Net Local Share of Costs represents local share of costs less estimated revenue*

The combined conventional and custom transit estimated total for the Net Local Share of Annual Costs is $268, 000. Proposed new vehicles have been considered as either medium duty or light duty additions to the fleet.

This combined conventional and custom transit estimated total service hour expansion provides an additional 7,555 annual service hours to the Comox Valley Transit System in the short-term.

Service Monitoring

Service Design Standards and Performance Guidelines

As part of the ongoing management of the transit network, service standards and route performance guidelines have been developed as tools that can be used to help make service planning decisions and measure how well the transit system is progressing towards achieving its vision, goals and targets.

- **Service standards** define minimum service levels, the service area and when new service should be introduced to an area.
- **Performance guidelines** measure service effectiveness and monitor how well the transit system is progressing to achieving the vision of the Transit Future Plan.

These measures are meant to ensure an acceptable level of service quality to the customer, and along with the Transit Future Plan, guide planning decisions and recommendations to the Comox Valley Regional District. The performance guidelines will be monitored and will inform the Annual Performance Summary (APS) reports presented to the Comox Valley Regional District. Over time, the APSs will provide a quick reference library from which to develop trend analysis, performance comparison year to year as well as to provide a benchmark for financial efficiency and ridership.

Service standards and route performance guidelines should be re-examined and renewed periodically (every 5–10 years depending on community size), since standards and performance guidelines are evolutionary and should grow with the system and development of the community and its changing needs.

Service Design Standards

What they are and what they define: Service standards define minimum levels of transit service desired to meet community needs. They are specific to a particular transit system and the communities it serves. Service standards usually define features such as:

- Service span (the hours and days of service when it operates)
- Frequency of routes or groups of routes
- Walking distance to bus stops
- Level of accessibility
- How new service will be triggered for additional areas of service (subdivision density, population, etc.)

Why they matter: The key benefit of service standards are that they guide local governments and BC Transit staff in determining and managing community expectations regarding the level of transit service to be provided. They also inform decisions regarding system design such as whether to provide new service or increase or decrease existing service.

Comox Valley Transit System Standards

Network Design Principles

- Transit service should be focused on key centres and residential areas within the urban centres.
- Moving forward transit routes should be kept as direct and frequent as possible to be competitive with the automobile.
- Ensure that transit routes connect residents to their local neighborhood centre and that transit trips between neighbourhood centres can be made with no more than one transfer.
- Transit service should connect to other transportation systems to allow passengers to conveniently connect to other modes, including cycling and pedestrian networks, intercity busing, ferry and rail passenger services, as well as custom transit services. In cases where these connections involve trade-offs and prioritizing connections, connections will be prioritized based on the anticipated number of transit passengers to be gained/maintained.
- Transit service should be operated on the arterial and collector road network and have limited operations on the local road network. Future arterial and collectors roads should be designed to accommodate transit stops and transit priority measures.
- Transit service coverage -Transit routes and bus stops should be within:
  - » 400m walking distance of 90 per cent of the residences
  - » 250m of all future medium and high-density residential developments
  - » 250–300m for stops on a route with greater than 10% grade
  - » 150m walking distance of all designated senior's residences and major institutional facilities

Ease of Use Principles

- To make the transit system easy to understand and use for all passengers, routes should be direct and straightforward, and service frequencies and schedules should be consistent on each route and during each time period, where possible.
- Customer information should be designed to be straightforward with simple route and schedule information. BC Transit will work with the Comox Valley Regional District to develop a comprehensive branding package in the future. Specific issues to be addressed include:
  - » Information and branding for the Frequent Transit Network, including naming convention, logo/identifier, visual identity and style guide for additional fleet (vehicle colour schemes or logos), print and electronic channels
  - » Identity and numbering for the Local Transit Network and Regional and Interregional services
  - » Strategies for route identification e.g. name/number that align with the layers of service
- Persons with mobility and cognitive disabilities should be provided with a range of transit options, including handyDART service, taxi programs and fully accessible conventional transit vehicles and bus-stop infrastructure.

Types of Transit Service

Table 25 describes a hierarchy of transit services that will support implementation of the long- term transit strategy and satisfy various market segments, including the regular transit rider and potential users.

Table 25: Comox Valley Types of Transit Service

Type	Service Description	Existing (Bus Route #)	Short-term (Bus Route #)	Medium to Long-term (Bus Route #)
Frequent Transit	Frequent routes that operate at a 15-minute frequency in the peak between 6 a.m.-10 p.m. Routes generally operate on arterial roads, serve corridors with mixed land use, and provide connections between key centres.	None	FTN (amalgamate existing routes 4 &1 into FTN)	FTN Cumberland Extension
Local Transit-Ridership Based	These routes generally serve urban areas with a focus on connections to local centres and Frequent Transit routes. Some have 30 min frequency in the peak and generally 60 min frequency all other times.	1, 3, 4, 6	2, 3, 6, 8	5, 6, 7, 8, 10, and 12
Local Transit-Coverage Based	These routes generally serve less densely populated suburban and rural areas, with a focus on connections to local centres and the Frequent Transit route. These routes operate at 60 to 120-minute frequency.	2, 7, 8, 10, 11	5, 7, 10, 11, 12	22, 21
Targeted Transit	Targeted routes are created to provide service to specific areas such as regional and interregional locations, and may include limited, on-demand service or seasonal service. Frequency varies depending on service type.	12, 5, 99 Summer Beach Bus,	99, Summer Beach Bus Community Buses 21, 22 New South Connector Bowser	99, Summer Beach Bus Community Buses New South Connector Bowser New Denman Island Community service
Custom Transit	Demand responsive service for people with disabilities who cannot use the regular accessible conventional transit system some or all of the time.	handyDART Community bus service 21, 22	handyDART	handyDART

Span of Service

Span of service defines the operating hours for each service type, as described in Table 26. In general most routes operate from 7:00 am to 10:00 pm on weekdays with more limited service on weekends. Span of service extension shall be considered when the first and last hour of service has productivity greater than the average productivity on the route.

- Service should be available 7 days per week and 365 days per year.
- Service should start early enough to allow for a 7 a.m. arrival to key centres on weekdays, and an 8 a.m. arrival on weekends using all major routes.
- Service should start early enough to allow for an 8 a.m. arrival at other major transit nodes on weekdays, and a 9 a.m. arrival on weekends using all regular service routes.
- Outbound service from downtown Courtenay should be provided until at least 10 p.m. Monday to Saturday, on all major routes.
- Outbound service from other major nodes should be provided until at least 9 p.m. Monday to Saturday, on all major routes.
- Span of service extension shall be considered when the first and last hour of service has productivity greater than the average productivity on the route.

Table 26: Comox Valley Span of Service

Type	Period	Existing	Short-term	Medium to Long-term
Frequent Transit	Weekday	N/A	7:00 am to 10:00 pm	6:00 am to 11.00 pm
	Saturday	N/A	8:00 am to 10:00 pm	6:00 am to 11.00 pm
	Sunday & Holidays	N/A	9:00 am to 6:00 pm	6.:00 am to 11.00 pm
Local Transit	Weekday	Varies between 6:00 am to 10:00 pm	7:00 am to 10:00 pm	6:00 am to 11:00 pm
	Saturday	Varies between 8:00 am to 10:00 pm	7:00 am to 10:00 pm	6:00 am to 11:00 pm
	Sunday & Holidays	Varies between 10:00 am to 7:00 pm	7:00 am to 9:00 pm	6:00 am to 10:00 pm
Targeted Transit	Weekday	Varies depending on service	Varies depending on service	Varies depending on service
	Saturday	Varies depending on service	Varies depending on service	Varies depending on service
	Sunday & Holidays	Varies depending on service	Varies depending on service	Varies depending on service
Custom Transit	Weekday	8:00 am to 4:00 pm	7:00 am to 7:00 pm	6:00 am to 11:00 pm
	Saturday	None	8:00 am to 4:00 pm	6:00 am to 11:00 pm
	Sunday & Holidays	None	8:00 am to 4:00 pm	8:00 am to 10:00 pm

Service Frequency

Level of service defines the **minimum frequency** at which a route operates, subject to meeting the performance standards. Investments to increase service levels will be considered to strategically develop the network or when route performance indicates the route is performing 25 per cent above the target for the routes class. See Table 27.

Table 27: Transit System Standard – Service Frequency

Type	Period	Existing Regular Service (Peak Service)	Short-term Regular Service (Peak Service)	Medium to Long-term Regular Service (Peak Service)
Frequent Service	Weekday	N/A	30 min (15 min)	15 min all day
	Saturday	N/A	60 min (30 min)	15/30 min all day
	Sunday	N/A	60 min (60 min)	30 min
Local Transit – Ridership	Weekday	Varies depending on service. Generally 30 min – 60min	60 min (30 min)	30-60 min
	Saturday	Varies depending on service. Generally 30 min – 60min	60 min (30 min)	30- 60 min
	Sunday	Varies depending on service. Generally 60 min – 120min	60 min	60 min
Local Transit – Converge	Weekday	Varies depending on service. Generally 60 min – 120min	60 min (60 min)	60 min (30 min)
	Saturday	Varies depending on service. Generally 60 min – 120min	120 min (60 min)	60 min (60 min)
	Sunday	Varies depending on service. Generally 60 min – 120min	120 min (60 min)	60 min (60 min)
Targeted Transit	Weekday	Varies depending on service		
	Saturday	Varies depending on service		
	Sunday	Varies depending on service		
Custom Transit	Weekday	Varies depending on service		
	Saturday	Varies depending on service		
	Sunday	Varies depending on service		

Vehicle Type

Vehicle Type Classification

Table 28 describes the vehicle type's attributes such as capacity and length, as well as the operating guidelines such as life span and maximum annual hours of operation and kilometres.

Table 28: Vehicle Type Attributes

High Capacity	Heavy Duty	Medium Duty	Light Duty
			
Low Floor/Accessible Minimum of 2 wheelchair positions 35 or more seats, 95 passengers with standees Double Deck or Articulated 13 / 20 year lifespan 40 feet or greater in length 2,500 maximum annual operating hours 75,000 maximum annual kms Midlife upgrade	Low Floor/Accessible Minimum of 2 wheelchair positions 13 – 15 year lifespan 30 or more seats, 70 passengers with standees 35 feet or greater in length 2,500 maximum annual operating hours 75,000 maximum annual kms	Low Floor/Accessible Minimum of 1 wheelchair position 8 – 10 year lifespan Fewer than 25 seats, 40 passengers with standees Less than 35 feet in length 2,500 maximum annual operating hours 75,000 maximum annual kms No midlife extension	Low Floor/Accessible Capable of having more than 2 wheelchair positions 5 year lifespan Up to 20 seats, No standees Less than 35 feet in length 2,000 maximum annual operating hours 60,000 maximum annual kms (300,000 km life) No midlife or life extension

Vehicle Type by Service Layer

Vehicle type is driven by passenger loads during the peak hour of the relevant operating period. On routes where bus capacity is exceeded, consideration should be given to operating buses with additional capacity or service with increased frequency. On routes where a small bus would accommodate passenger loads at peak times, consideration should be given to operating a smaller bus and maintaining existing frequency. A typical approach is to allow standing passengers during peak periods but to provide sufficient capacity for seated passengers during the off-peak hours. Table 29 describes the vehicle types associated with the Transit Future layers of service.

Table 28: Vehicle Type by Service Layer

Service	Existing Vehicle	Short-term	Medium to Long-term
Core Transit	N/A	Heavy Duty Vehicles and Medium Duty Vehicles	High capacity and Heavy Duty Vehicles
Local Transit	Heavy Duty Vehicles Medium Duty	Medium Duty Vehicles and Light Duty Vehicles	Medium Duty Vehicles and Light Duty Vehicles
Targeted Transit	Heavy Duty Vehicles and Light Duty Vehicles	Heavy Duty Vehicles and Light Duty Vehicles	High Capacity , Medium Duty Vehicles, and Light Duty
Custom Transit	Light Duty Vehicles	Light Duty Vehicles	Light Duty Vehicles

Transit Facilities

Design principles for transit facilities should conform to the BC Transit infrastructure and design Guidelines, as well as the federal guidelines for transportation and transit infrastructure.

Transit Stops

Transit stops and facilities for waiting passengers should include a hard surface landing/waiting area and be universally accessible in urban areas. In rural areas universal bus accessibility should be based on request. The CVRD should work with local municipalities to identify priorities and improve on-street passenger facilities, including the provision of bus benches, shelters, lighting, waste receptacles, and route/schedule information.

- In rural areas bus stops should be located in areas that are safe to board and alight passengers-ideally near intersections to minimize walking distances to transit and should be convenient to local land uses.
- In urban areas, bus stops should be located near intersections to minimize walking distances to transit and should be convenient to major land uses and bus transfer movements.
- Direct pedestrian and cycling connections should be provided to bus stops via sidewalks (urban), pathways and crosswalks, with curb ramps and barrier-free access.
- Bus stops should be located on the far side of crosswalks, or at least 20 meters in advance of a crosswalk.
- Adequate sight distances should be achieved for motorists approaching the bus stop as well as transit passengers crossing the road from the bus stop. Passenger amenities at transit stops can enhance the quality of service for customers and can also have a significant impact on attracting new users. Table 30 describes what transit stop amenities should be associated with each type of service.

Table 30: Transit Service Type and Associated Stop Amenities

Service	Short-term	Medium-term	Long-term
Frequent Transit	• Universally accessible • Bench	• Transit Shelter • Universally accessible • Bench	• Premium Transit Shelters at key locations • Transit shelters • Real time schedule information at key locations • Bike storage • Quality customer information (such as transit schedule and map information) • Customer wayfinding information at key locations (such as directional signage) • Universally accessible • Park & Ride facilities
Local Transit	• Universally accessible • Bench	• Universally accessible • Bench	• Transit Shelter • Universally accessible • Bench • May include Park & Ride in rural areas
Targeted Transit	• Universally accessible • Bench	• Universally accessible • Bench	• Transit Shelter • Universally accessible • Bench
Custom Transit	• Not required	• Not required	• Not required

Stop Intervals

Transit stops should be spaced along a corridor at an appropriate interval, in urban areas this is typically between 300m - 400m. Transit stops that are spaced too close together lead to slower transit trips and higher transit stop maintenance costs and stops that are too far apart limit passenger access to the system. Outside the urbanized area, bus stops should be limited to major destinations, points of interest, and residential concentrations. Spacing of stops should be limited on select type of service. Table 31 provides the appropriate standard for each service type.

Table 31: Service Type and Appropriate Stop Intervals

Service	Stop Interval
Core Transit	Frequent stops along a corridor, 300–500m apart.
Local Transit	Frequent stops along a corridor, 300–500m apart. Gradient > 10%, 250–300m apart.
Targeted Transit	Varies depending on service
Custom Transit	Not applicable

Transit Exchanges and Park & Rides

Transit exchanges are typically located within the activity centres of the community, such as downtown, centres, and shopping malls, in order 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. Transit exchanges should provide weather protection, seating, transit route and schedule information, lighting, bicycle parking and other amenities as shown in the passenger amenities section below.

Park & Rides should be located in suburban and semi-rural areas to provide residents who live in areas with no transit service or poor transit service an access point to higher quality transit services. Below are the basic functional requirements for transit exchanges and Park & Ride facilities:

Site requirements:

- Sites with no significant safety concerns, which provide for direct and safe pedestrian access, and which minimize the interaction between buses and general traffic on adjacent roads
- Sites that can be accessed safely and efficiently, avoiding traffic congestion and queuing
- Sites that provide high visibility to pedestrians, motorists and others, minimizing personal safety concerns for transit passengers using the terminals in evenings and at other off-peak times
- The sites must be located to minimize additional routing and costs

Physical requirements

- All platforms should accommodate standard 12m buses, including heavy duty buses in the future.
- Buses must be able to arrive and depart from platforms independently.

- Passenger facilities should include:
  - » Passenger amenities, including weather protection, seating, illumination, and bicycle storage
  - » Accessibility to all areas of the terminal for persons with disabilities
  - » Wayfinding signage and information
- Transit terminals should also incorporate operator washrooms
- In addition, Park & Ride sites should include parking for automobiles, bicycles and bus stops for transit access

Transit Priority Measures

Transit Priority measures should be provided on the FTN network to improve travel time and reliability as required. For Comox Valley these measures include, signal timing optimization, transit signal priority, regulatory signage such as yield to buses, and geometric measures such as queue jumper lanes as outlined in Table 32 and 33. The transit Future Plan does not envisage any bus only lanes in the 25 year horizon for the Comox Valley.

Table 31: Transit Priority Measures

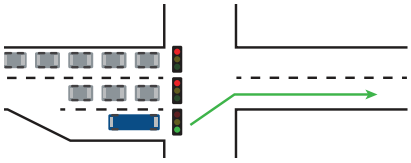
Signal Priority Measures		• Transit is given signal priority along the corridor at the majority of intersections
Lane Priority Measures		• Bus only lanes for part or all of the route corridor, or bus queue-jumper lanes at key areas of congestion
		• Queue-jumper lanes at key areas of congestion

Table 33: Transit Service Type and Transit Priority Measures

Service	Priority	Existing	Short-term	Medium-term	Long-term
Core Transit	Signal	None	Signal timing is optimized to benefit transit	Signal timing is optimized to benefit transit	Transit is given signal priority at key delay points
	Lane	None	Not required	Not required	Not required
Local Transit	Signal	None	Only if part of the FTN	Only if part of the FTN	Only if part of the FTN
	Lane	None	Not required	Not required	Not required
Targeted Transit	Signal	None	Not required	Not required	Only if part of the FTN
	Lane	None	Not required	Not required	Not required
Custom Transit	None	None	Not required	Not required	Not required

Introducing New Service

The following guidelines have been identified to determine when it may be feasible to introduce transit service into new residential, industrial, commercial and recreational developments. The following conditions should be met:

- Minimum density of 10 residents per hectare (1,000 residents per square kilometre) or 10 jobs per hectare (1,000 jobs per square kilometre) measured over a minimum developed area of 10 hectares (i.e. suburban development of single family homes)
- Road and pedestrian access that provides for safe access and efficient operation of transit service

Custom Transit Service Area

The custom service area encompasses residences and destinations within a 1.5 kilometer distance from the existing fixed route system. This service area definition draws from the Americans with Disabilities Act (ADA) legislation, which is commonly used as a technical source in Canada.

Performance Guidelines

What they are and what they define: Performance guidelines define numerical thresholds and targets for a particular system and its routes and services.

Why they matter: Working in tandem with service standards, performance guidelines are a tool that can be used to evaluate existing services, identify trends in performance and, based on this evidence, determine how service and supporting features (fares, marketing, facilities, etc.) should be changed to improve the effectiveness and efficiency of the system.

For a service to be efficient and productive, a balance should be achieved between oversupply and overcrowding. A number of measures can establish this equilibrium such as:

- Targeted marking/corridor branding
- Fleet type allocation
- Implement transit priority
- Change service span
- Alter frequency
- Change bus stop spacing
- Reduce/increase coverage
- Bus route changes

Over-supply | Efficient and Productive | Overcrowded/pass-ups

When system performance falls below or above the set guideline, recommendations to the Comox Valley Regional District will focus on those tools above that maximize efficiency.

Measures

Performance measures have been chosen that evaluate the effectiveness of service planning investments on a system and route level for conventional service.

System Level

The measures used for the system guidelines are:

- **Average rides per service hour** – Measures the total volume of ridership as compared to the supply of transit service
- **Cost per passenger trip** – Measures the average cost to provide service per passenger trip
- **Cost recovery** – Measures the financial performance of the transit system usually expressed in terms of total operating revenue/total operating expenses
- **Passenger trips per capita** – Measures the ratio between transit trips and the population of the service area

Route Level

The measures used for the route level guidelines are:

- **Average rides per service hour** – Measures the total volume of ridership as compared to the supply of transit service
- **Average rides per trip** – Measures the total number of people that board a vehicle on a specific trip specific trip and route

Route level performance guidelines have been classified into three categories (frequent transit, local transit and targeted transit) to acknowledge different performance expectations based on a route's objective.

Performance Targets

Table 34 and 35 outline the performance targets set for the conventional system at a system and route level. As well as monitoring existing performance against these guidelines, historical trends will also be monitored to determine if the system or routes are becoming more or less efficient over time. Significant variance (+/ – 25%) from the target will place a route on an action list for further investigation and will require more detailed analysis. Routes that fall below the 25% variance will be candidates for corrective action and routes that fall above the 25% variance will be candidates for service improvement. BC Transit will report on an annual basis how the system and routes are performing and this will help guide planning decisions.

System Level

The purpose of monitoring system wide performance is to identify trends in system performance and compare the performance of the transit system with other peer transit systems. These measures are designed to monitor the Comox Valley transit system and guide service planning. This can be particularly useful when identifying system wide impacts of major investments in the transit network such as development of the Frequent Transit Network.

Table 34: Comox Valley Urban System Level Performance Guidelines

Measure	Target	Baseline* 2013/14	Benchmark**
Rides per service hour	**30**	21	23
Cost per passenger trip	**$4.60**	$4.88	$4.38
Cost recovery	**30%**	22.5%	34.4%
Passenger trips per capita	**27****	9***	14

** Source 2013/14 IPS Actuals*
***Benchmark is the average measure developed as a comparison of peer transit systems both within BC and Canada refer to Table 18 of this report*
**** Comox Valley population 2011 actuals*
***** 2038 projections used for this calculation*

Route Level

Analysis on a route-by-route basis gives a detailed indication of how individual components of the transit system are performing. A route-by-route analysis allows observations of the impact of service changes and investments made in the past and identifies future opportunities for strategic investment or reinvestment.

Table 35: Route Level Performance Guidelines

Route Level	Rides per Trip	Rides per Service Hour
Frequent Transit	25	30
Local Transit (Ridership)	15	25
Local Transit (Coverage)	6	18
Targeted Transit (School)	40	60
Targeted Transit (Other)	6	18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Moving Forward

Funding the Plan

Meeting the mode share and ridership targets of this plan will require capital and operating investments in the transit system over the next 25 years. Annual operating costs are based on conventional service hours that are projected to increase from the existing 28,019 hours in 2013/14 to approximately 80,000 hours by 2038. The plan also calls for capital investments that include:

- Expanding the transit fleet from the existing 20 vehicles to 48 vehicles
- New transit exchanges at downtown Courtenay and Comox
- New transit exchange at the North Island College
- Improvements and expansion to the operations and maintenance facility
- Improvements to customer amenities at transit stops and transit priority measures as required

Given the level of transit investment anticipated over the coming decades, the way in which transit is 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.

The Comox Valley transit system is funded through a combination of provincial funding, local property taxes, passenger fares and advertising revenue.

Figure 19 and 20 outline the 2013/14 funding split for Conventional and Custom transit services in the Comox Valley Regional District. The CVRD local government percentage estimates are calculated using the CVRD 2013 actual requisition budget amounts as outlined in the CVRD By- Law #1225. Provincial funding percentages do not include the provincial costs for transit vehicles.

Figure 19: Conventional Transit Funding Split 2012/13

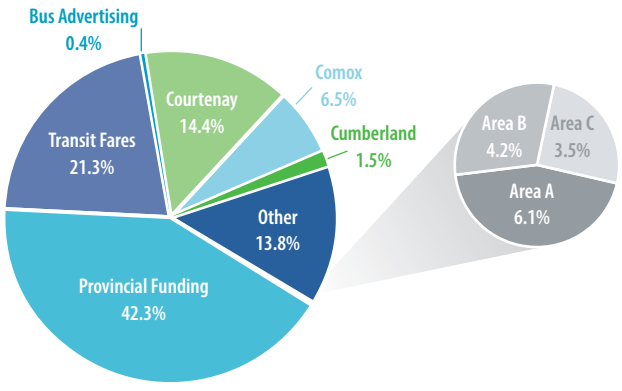
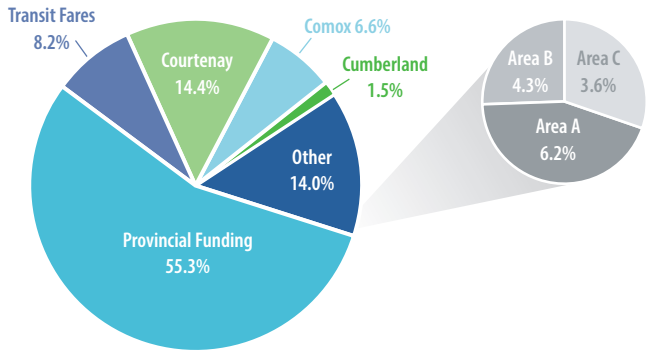


Figure 20: Custom Transit Funding Split 2012/13



Source: AOA, Schedule C, 2013/14

BC Transit's budgets are confirmed on a year-by-year basis making it difficult to plan for future growth. Local government identified that funding the local share of transit investments with property taxes alone is a challenge, particularly regarding major capital investments.

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 to:

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 the Comox Valley Regional District 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 is interested in developing concepts for alternative funding methods with local partners and the provincial government. Below are a number of concepts for 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 Comox 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 paid for as part of their property taxes. Cost could be approximately half the cost of an annual transit pass.

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.

Fare Strategy

Introduce an improved fare structure to increase revenue, improve cost recovery and promote the sale of prepaid fare products thereby encouraging more frequent ridership from existing customer.

Marketing

Improve upon existing marketing measures to promote transit and develop increased ridership and revenue.

Community Partnerships

Investigate partnerships with key community organizations and institutions such as North Island College and CFB Comox to develop cost sharing mechanisms for service expansion.

Budget Development Process

The Comox Valley Transit Future Plan Implementation Strategy section establishes milestones over the next 25 years which strategically guide the system from where it is today to the Transit Future network vision.

The Transit Future Plan implementation strategies are also dependent on allocation of available provincial transit expansion funding between all regional transit systems as determined through BC Transit's Transit Improvement Program (TIP). The TIP's process informs the three year service expansion initiative letters sent out annually (April) to local governments in order to confirm the council/board's intent to commit to the expansion and to align the local budget accordingly. Upon Local Government confirmation of the expansion budget, is included in BC Transit's annual Service Plan to the Province to secure the operational and capital budget necessary to implement service changes.

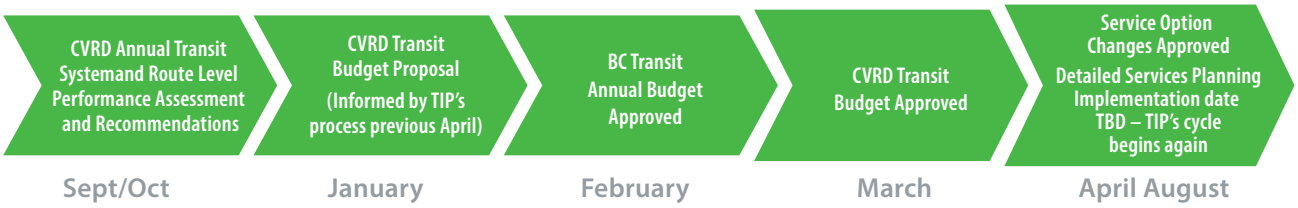
Figure 2 provides the indicative timing of budget and planning processes for future CVRD service improvements to occur. This includes alignment of detailed route level performance assessment, service change recommendations, Provincial and CVRD budget processes, and detailed service planning to implementation phase.

A detailed route level performance assessment against the Comox Valley performance guidelines and targets will seek to provide service efficiencies where apparent as part of any proposed service expansion, by ensuring appropriate allocation of the existing operational budget and the proposed expansion budget.

Since provincial funding for transit is confirmed on an annual basis, implementation of any service or infrastructure option requiring expansion is dependent on confirmation of BC Transit's fiscal year budget, normally in mid-February/ March each year.

Once local and provincial funding has been approved and the local government approves a service option or combination of options for implementation, an Implementation Agreement Memorandum of Understanding (MOU) will be developed for signature by all required parties including BC Transit. This MOU outlines the service changes to be developed for implementation and the roles and timeline for implementation.

Figure 19: Budget and Service Planning Implementation Process



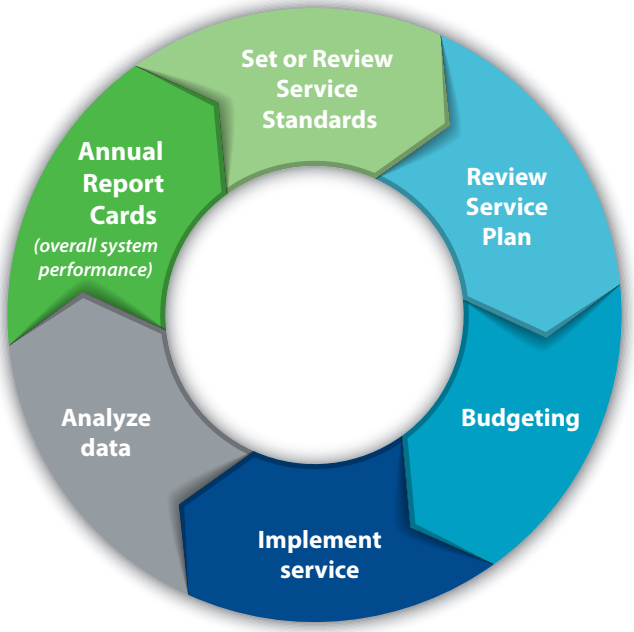
Keys to Success

To guide the plan from vision to reality will require an on-going dialogue between the Province, BC Transit, the Comox Valley Regional District and its municipal partners on transportation policy, funding and the connection between land use and transit planning.

The Transit Future Plan builds upon previous plans (the Regional Growth Strategy, Official Community Plans, and Transportation Plans) and will be used to communicate the vision and direction for transit in the Comox Valley.

Other steps required to ensure the success of the plan include integrating the transit strategy into other municipal projects, supporting travel demand management measures, transit oriented development and transit supportive land use practices.

Figure 22: Service Planning, Implementation and Evaluation Cycle



BC Transit will continue to work with the CVRD and other local partners to begin to take the steps the transform the Transit Future Plan from a vision to a reality. These efforts will only be successful if done in partnership with continuous dialogue between all partners and maintain 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 Comox Valley 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 does BC Transit need from our local government partners for success?

- Update local plans and integrate future transit plans with land use plans and transportation plans.
- Integrate and consider the Transit Future Plan network when developing sustainable transportation infrastructure plans and projects.
  - » 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.

Appendices

Glossary of Terms

Accessible Transit	Transit service utilizing vehicles that can be accessed by persons using a wheelchair or other mobility device.
Ambulatory	Individuals capable of walking.
Arterial	A high-capacity urban road. The primary function of an arterial road is to deliver traffic from collector roads to freeways.
Articulated Bus	A bus with two sections linked by a pivoting joint. Articulated buses are typically longer overall than a conventional bus, resulting in a higher passenger capacity while still allowing adequate maneuverability.
Bus Bulge	A section of sidewalk that extends from the curb of a parking lane to the edge of a through traffic lane to maintain the bus location in the travel lane to avoid buses merging with through traffic, as well as increasing space for bus stop amenities (i.e. shelter, bench, etc).
Captive Rider	A transit rider who does not have immediate access to private transportation or due to some other circumstances must use public transit.
Choice Rider	A transit passenger who has other modes of travel available for a particular trip (especially access to a private vehicle) and has chosen to use public transit.
Conventional Transit	A transit service using regularly scheduled, "fixed route" vehicles (operating according to published route maps and timetables).
Corridor	A linear tract of land that contains lines of transportation like highways, railroads, trails, or canals.
Cost Recovery	A measure of the financial performance of the transit system usually expressed in terms of total operating revenue/total operating expense.
Cycle Time	The length of time for a transit vehicle to complete one round trip, including recovery time.
Custom Transit	Door-to-door transit service for those persons whose physical disability prevents them from using conventional transit service.
Deadhead	Dead mileage when a bus route starts or finishes in a location away from the bus operations and maintenance facility and the start or end of the shift requires driving the bus to and from the facility 'out of service'
handyDART	The BC Transit custom transit program.
Interlining	Where one bus is used to go from one route to another. For instance, to most effectively use schedule time, a bus may operate as a route 6 and then become a route 2 trip, and then do further trips on other routes.
Greenhouse Gas Emissions	Greenhouse gas emissions (GHGs) refer to human-made emissions of four gases attributed to global warming and climate change - carbon dioxide, methane, nitrous oxide, and ozone.

High Occupancy Vehicle (HOV)	Vehicles carrying at least two people (i.e. a driver plus at least one passenger) in any of the following passenger vehicles: cars, minivans, motorcycles, pickup trucks, taxis, and limousines.
Level Door Boarding	Level door boarding is achieved through either low floor buses or higher boarding platforms, which increase passenger boarding speed and enhance accessibility.
Mode Share	Mode share describes the percentage of travelers using a particular transportation mode, typically walking, cycling, transit or automobiles.
Node	Characterised by a wide range of services and facilities, these places have good passenger transport connections to multiple destinations
Off-board Fare Payment	Payment is made prior to boarding to reduce bus wait time during boarding. Passengers enter through a gate, turnstile, or checkpoint upon entering the station where their ticket is verified or fare is deducted, or "proof-of-payment," where passengers pay at a kiosk and collect a paper ticket which is then checked on board the vehicle by an inspector. This is also referred to as "barrier-controlled" fare payment.
Paratransit	A general name for a class of transportation service offering a more flexible and personalized service than conventional fixed-route transit but not including private, exclusive use systems such as private car, exclusive ride taxi or chartered bus. Includes systems such as a dial-a-bus, shared-ride taxi and subscription bus services.
Park & Ride	Vehicle parking with connections to public transportation that allow passengers to leave their vehicles and transfer to transit for the remainder of the journey. A Park & Ride facility may also provide bicycle parking.
Passenger Productivity	A measure of ridership per revenue hour of service.
Population Served	The total population within a defined proximity of a bus stop, typically 400 metres or 5-minutes walking distance.
Revenue Hours	The total number of scheduled hours that a transit vehicle is available for passenger service.
Ridership	A measure of the number of passengers using public transit.
Right-of-Way	A right to make a way over a piece of land, usually to and from another piece of land. A right-of-way is a type of easement granted or reserved over the land for transportation purposes.
Single Occupant Vehicle (SOV)	A privately operated vehicle whose only occupant is the driver.
Taxi Saver	A program providing subsidized taxi rides to eligible registered handyDART users. Registered users may purchase taxi coupons at 50% of the face value. There is a limit to the amount of taxi coupons that can be purchased each month. Registrants call participating taxi companies to arrange rides.
Taxi Supplement	A service where a privately owned taxi is dispatched through the transit operator for custom transit service when the regular handyDART service is not available.

Transit Exchange	A place where passengers switch between transit routes or transportation modes.
Transit Hub	A place where passengers and cargo are exchanged between vehicles or between transport modes.
Transit Supportive Land Use	Land use types defined by density, diversity and design regulations best suited to encourage transit ridership. Typically refers to compact, mixed land use with high residential density and an employment base.
Transit Terminal	The end (or terminus) of a transit route. Often coincides with an exchange point allowing passengers to connect with other routes.
Transit Oriented Development (TOD)	Development that is generally mixed-use residential and commercial, is designed to maximize access to public transport, and often incorporates features to encourage transit ridership. A TOD neighbourhood typically has a center with a transit station or stop surrounded by relatively high-density development and progressively lower-density development spreading outward from the center. TODs generally are located within a radius 400m from a transit stop.
Transit Priority	Physical and operational improvements that give transit vehicles priority over general vehicle traffic.
Transit Service Area	Established under the terms of the TSA and designated by the BC Transit Board as an area where transit service operates and which the Municipality can levy a property tax to cover their portion of operating cost.
Travel Demand Management (TDM)	The application of strategies and policies to reduce or redistribute travel demand (specifically that of single-occupancy vehicles).
Universal Accessibility	The goal of creating a built environment that can be navigated by all people, including those with physical, sensory, or cognitive disabilities.
U-Pass	A mandatory and universal transit passes for post-secondary students that all students pay for through student fees. A student population typically approves the U-Pass by referendum.

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

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