Transit Future Plan

NORTH OKANAGAN | March 2014

City of Vernon
District of Coldstream
Regional District of North Okanagan

BCTransit

TRANSIT future

TRANSIT FUTURE PLAN **NORTH OKANAGAN**

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TRANSIT *future*

Executive Summary

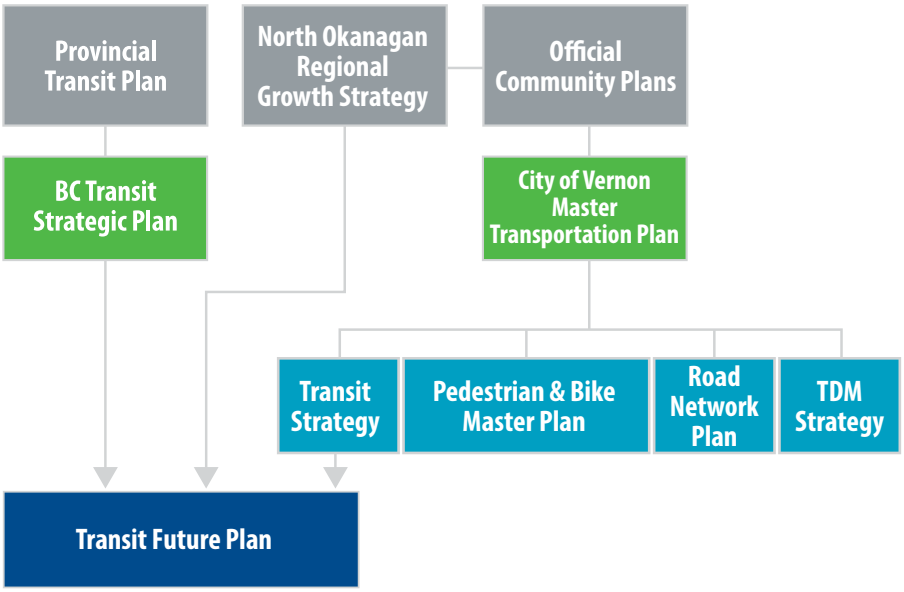
Transit has tremendous potential to contribute to more economically vibrant, livable and sustainable communities. The need to realize this potential in the North Okanagan is increasingly important due to factors such as climate change, population growth, an aging demographic, and availability of affordable transportation choices for individuals who do not have access to a private automobile. Projected future growth in the North Okanagan 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 North Okanagan, the *BC Provincial Transit Plan* and BC Transit's 2030 Strategic Plan inform the Transit Future Plan.

The Transit Future Plan builds on the North Okanagan land use and transportation policies and includes an implementation strategy for transit investments, as shown in 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 North Okanagan 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

"The North Okanagan System connects people and communities through cost effective, convenient, safe and accessible services"

Goals

The Goals aim to get more people on the bus and make the experience convenient and enjoyable so that they continue to choose transit as their preferred travel mode.

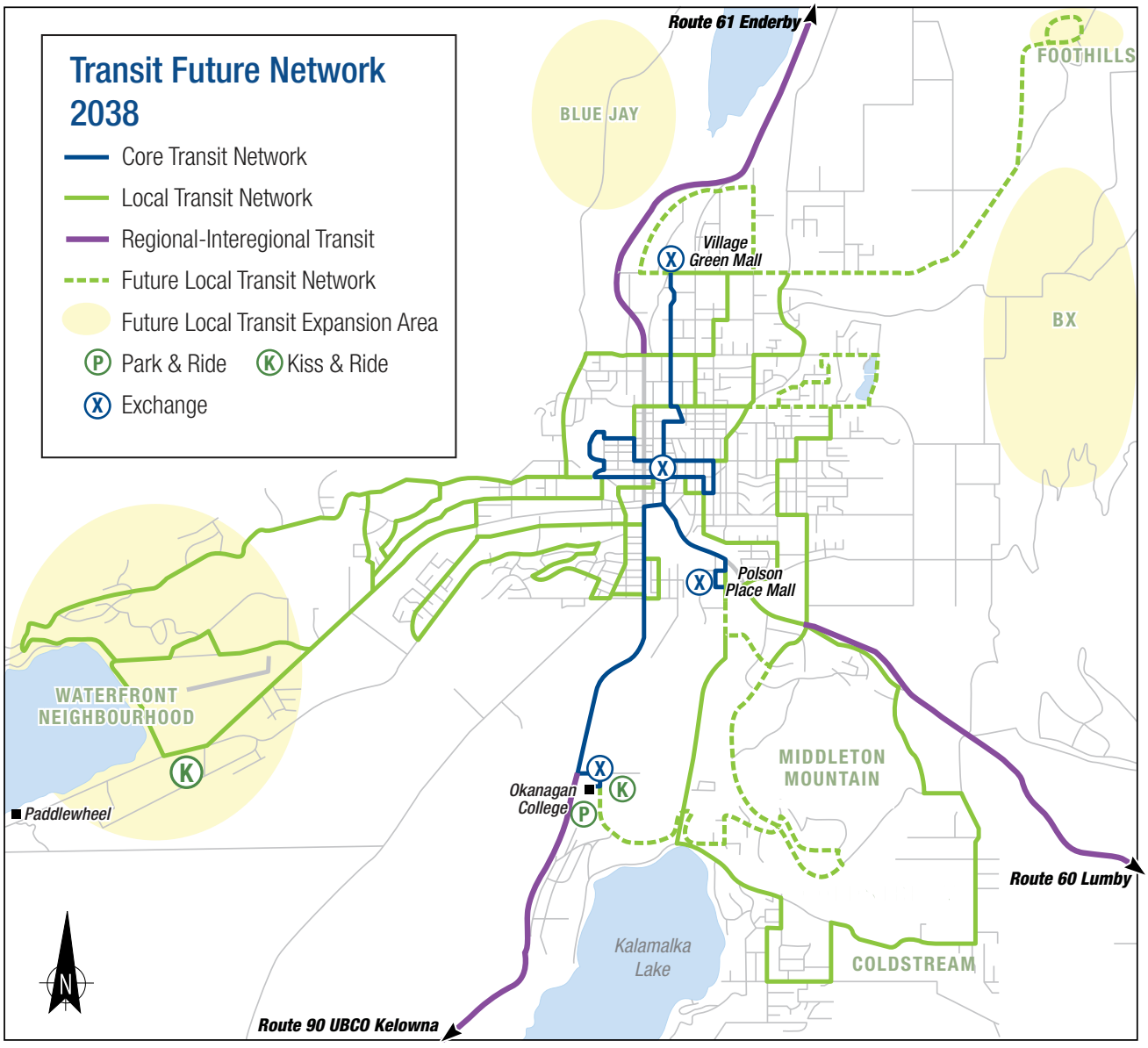
1. The transit system is an attractive alternative to the private vehicle
2. The transit system complements the goal of compact complete communities
3. The transit system aids in reducing environmental impacts
4. The transit system is efficient
5. The transit system is integrated with other land use and transportation plans

Ridership Targets

The Transit Future Plan sets a transit mode share target of two and half per cent (2.5%) for all trips by 2038, which will require the Vernon/Coldstream Conventional Network transit ridership to grow from 445,330 to 1.4 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 North Okanagan Transit Future Plan network includes four distinct layers of transit service including the urban conventional service in Vernon and Coldstream, the regional connections between the towns of Armstrong, Spallumcheen, Enderby and Lumby, the interregional connection between Vernon and Kelowna and the Custom Transit system. The network is designed to be more competitive with automobile travel by improving the directness, reliability and frequency of the transit system.



Service Layers

Core Transit Network (CTN)

The Core Transit Network (CTN) is Vernon's Frequent Transit Network and provides medium- to high-density mixed land use corridors with a convenient, reliable and frequent 15-20 minutes transit service on weekdays between 7 a.m. and 10 p.m. The goal of the CTN is to allow customers to spontaneously travel without having to consult a transit schedule. The CTN 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, right-of-way improvements and transit priority measures.

Local Transit Network (LTN)

The Local Transit Network (LTN) is designed to connect neighborhoods to local destinations and to the CTN. LTN services allow customers to plan a trip to work, school, and the local shopping centres by transit. Frequency and vehicle types are selected based on demand. The introduction of the Core Transit Network will see route changes within the existing system to remove overlap.

Targeted Services

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

- Regional and Interregional: provide connections outside of the local transit service area (e.g. Kelowna, Vernon, Lumby, Spallumcheen, Armstrong and Enderby)
- Custom/handyDART: door-to-door services for customers unable to use the conventional service

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

1	**Introduce Inner City Loop Service for Core Transit Network (CTN)** • This core transit route will provide a convenient frequent loop service to the key travel destinations in the center of downtown Vernon • The service will operate Monday to Friday on a 15 minute frequency
2	**Develop the Core Transit Network (CTN)** **Phase 1: Introduce frequent service between the downtown exchange and Village Green Centre** • Weekday services between 7am and 10pm with a 20 minute frequency in the peak and 30 minute frequency all other times • Saturday services between 8am and 10pm, with a 30/60 minute frequency • Sunday services between 9am and 6pm, with a 30/60 minute frequency **Phase 2: Introduce frequent service between the downtown exchange and Polson Mall** • The span and frequency of service would be similar to that introduced in phase 1 above
3	**Realignment of existing Route 2 Pleasant Valley and Route 3 Alexis Park to compliment CTN** • Short term service changes can begin to develop the CTN spine. Realignment of these routes will avoid overlapping of services once full CTN spine is operational
4	**Coldstream: Introduce the Local Transit Network (LTN) Service to Middleton Mountain** • This will be the introduction of a new Local Transit Route • This new weekday service will operate between 6am and 8pm with 60 minute frequency • Introduction of this new LTN route is contingent on the development of the new Polson Place Mall secondary exchange
5	**Improve frequency and structure to Route 4 East Hill** • Weekday services Monday to Friday, 30 minute frequency, operating between 6am and 8pm
6	**Enhancement of all Urban weekday services** • Increase span of hours between 6am and 10pm • Increase the span and frequency of weekend and holiday services
7	**Coordinate schedule alignment of Enderby service Route 60 with Salmon Arm service Route 11**

Short-term Infrastructure Improvement

1 Examine Kiss & Ride Stations at Downtown Vernon exchange and Okanagan College

Downtown Vernon

- Short term option: Convert 3 metered stalls on east side of 31st Street to 15 minute maximum stay to provide Kiss & Ride drop off zone
- Long term option: 31st Street to provide Kiss & Ride and handyDART transfer location.

Okanagan College

- Four short stay dedicated car spaces close to bus stops

2 Examine secondary exchange improvement possibilities at Village Green Centre, Polson Place Mall and Okanagan College

- Village Green Centre requires an exchange that can accommodate four bus pull outs complete with shelters and customer amenities. Ideally, the exchange would be situated within the mall parking lot requiring formalized pedestrian and parking lot movements, however an alternate on-road exchange at a key access point can also be considered
- Polson Mall future capacity requirements include: three bus stops in pullouts with shelters. These are proposed to be located in the newly constructed road (26th Street being constructed as part of future development)
- Okanagan College requires an exchange that can accommodate four bus stops. Ideally this would be situated in the College parking lot, requiring the removal of parking stalls. However, the location of the exchange could also be situated in conjunction with the Park & Ride to be located in Vernon just near the College

3 Continue to improve transit customer 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 have been identified are to:

- Consider amending regional bylaws to include transit stop improvements as part of required works and services. For example Vernon City Council has Transportation Development Cost Charges (DCC's) which include capacity improvements to all nodes including transit facilities
- 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 and pedestrian-oriented lighting at transit stops
- Improve universal accessibility of transit stops

4 Improve customer information

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

- Additional transit information at the stop level
- Provide trip planning tools (i.e. Google Transit)

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

Medium-term Service Improvements

1	**Finalize the development of the core transit spine** **Phase 3: realignment of Route 6 along Highway 97** • Weekday services between 7am and 10pm with a 20 minute frequency in the peak and 30 minute frequency all other times • Saturday services between 8am and 10pm with a 30 to 60 minute frequency • Sunday Services between 9am and 6pm, with a 30 to60 minute frequency • Realignment of this route requires coordination with Ministry of Transportation and Infrastructure and Vernon Jubilee Hospital to install appropriate bus stops and safe pedestrian connections to the hospital across the highway
2	**Improve Regional connections to Kelowna** **Expand service to offer:** • Hourly trips between 7am and 7pm, Monday to Friday
3	**Improve Regional connections to better meet Interregional transfers** • Route 60 Enderby: expansion of service Monday to Friday, between 7am and 7pm, and • Route 61 Lumby: expansion of weekday trips between 7am–7pm
4	**Introduce New Local Transit Network (LTN) Route** • Waterfront Neighbourhood Centre • Hourly service Monday to Friday
5	**Introduce New Local Transit Network (LTN) Route** • Foothills to Village Green Centre • Hourly service, Monday to Friday
6	**Introduce New Local Transit Network (LTN) Route** • Blue Jay • BX & Paddlewheel • 3-5 trips per day, Monday to Friday

Medium-term Infrastructure Improvements

1	**Examine construction of Kiss & Ride stations at Foothills and Waterfront Neighborhood Centre**
2	**Identify and develop formalized Park & Ride site near Okanagan College**

Long-term Service Improvements

1	**Examine weekend service possibilities to UBCO Kelowna**
2	**Expand evening and weekend service on Routes 60 and 61**

Long-term Infrastructure Improvements

1	**Further examine transfer points/secondary exchange possibilities at Okanagan Landing and Waterfront Neighbourhood Centre**
2	**Identify and develop formalized Park & Ride sites in Armstrong and possible site in Swan Lake**

Custom Transit Service and Transit Accessibility

	Short-, Medium- and Long-term Service Improvements	Timeframe
1	**Complete the Custom (handyDART) Registration pilot project**	2014/15
2	**Examine the recertification of existing handyDART registrants**	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 • Weekday service at peak times • Expanded hours of service on weekdays and weekends	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% 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

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. 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 City of Vernon, District of Coldstream and Regional District of North Okanagan 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 service hours across all four networks including the Vernon/Coldstream urban conventional network, Custom Transit, and the Regional and Interregional networks that are projected to increase from the existing 47,654 hours overall to approximately 105,439 hours overall. The plan also calls for capital investments that include:

- Expanding the urban, regional, interregional and custom transit fleet from the existing 24 vehicles to 48 vehicles
- New transit exchanges at Village Green Centre, Polson Mall and North Okanagan College
- New Park & Ride facilities at North Okanagan College and Armstrong
- 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.

Keys to Success

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

The Transit Future Plan builds upon previous plans and will be used to communicate the vision and direction for transit in the North Okanagan.

The City of Vernon has already taken the step of integrating a transit system policy and other transit supportive policies within the Official Community Plan. Other steps required to ensure the success of the plan include integrating the transit strategy into other municipal projects, supporting travel demand management measures 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 North Okanagan 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 North Okanagan 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 transportation (the movement of people and goods)
- Influence and support urban form that lends itself to service by public transit and active modes of transportation (e.g. walking and cycling)
- Create communities and 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
- 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 North Okanagan 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.

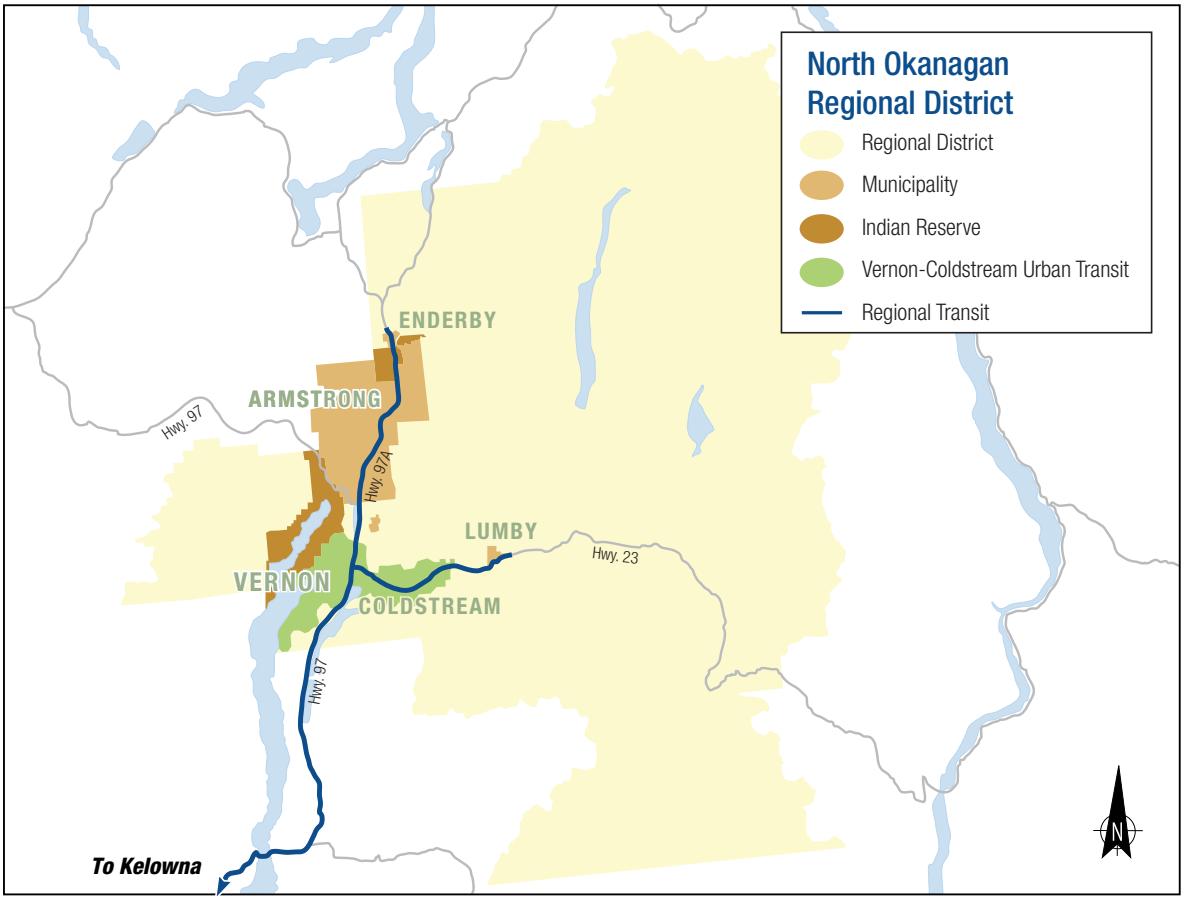
Study Area

This plan has been created for the North Okanagan in partnership with the City of Vernon, the District of Coldstream and the Regional District of North Okanagan.

North Okanagan is comprised of six incorporated municipalities including: the City of Vernon, City of Armstrong, City of Enderby, District of Coldstream, Township of Spallumcheen and the Village of Lumby. It also includes five electoral areas, B, C, D, E and F and four First Nations communities. The region has a population of approximately 83,861 people with the City of Vernon acting as the major service centre with a 2011 estimated population of 38,150.

The North Okanagan is a large area of varying population densities and distances from the main City of Vernon. The intent of the Transit Future Plan is to develop the transit network as one system providing transit opportunity across all communities. The transit service in 2013 operates as two distinct networks, one being the urban conventional network, which is centered in the municipalities of Vernon and Coldstream administered by the City of Vernon; and, the other being the Regional and Interregional network that connects the towns of Lumby, Armstrong, Enderby and Spallumcheen with downtown Vernon and the key connection between downtown Vernon and Kelowna, administered by the Regional District of North Okanagan. Refer to Map 1.

Map 1: Regional District of North Okanagan Transit Network



Links to Other Planning Initiatives

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

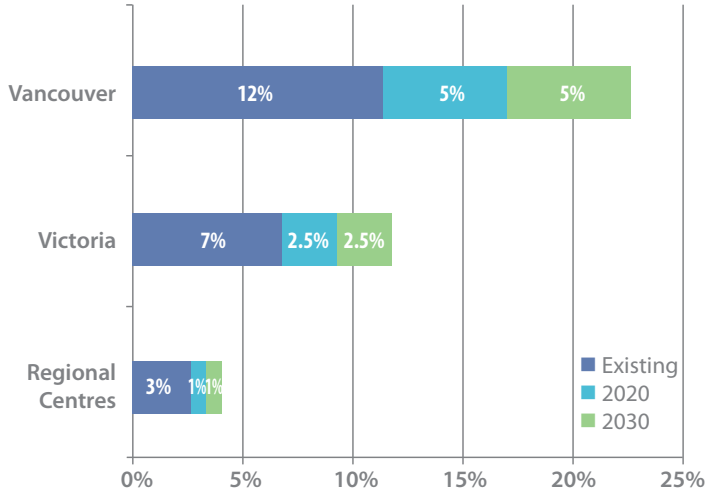
Provincial Transit Plan (2008)

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

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 2. For the conventional urban network this translates into increasing transit ridership from 415,000 to 1.4 million passengers a year

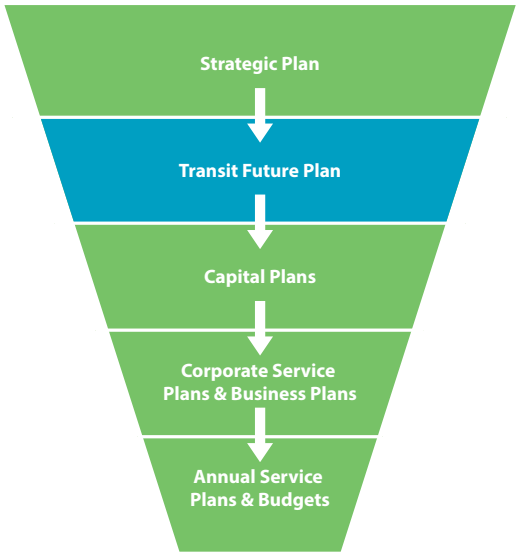
Figure 2: Provincial Transit Plan Mode Share Targets



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 3.

Figure 3: 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 North Okanagan Regional Growth Strategy reinforces the key goal across the region of compact, complete communities.

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 Plan 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 Vernon and Coldstream and along key transport corridors connecting centres within the region and surrounding regional districts.

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 for access to work and daily activities

The City of Vernon 2013 Transportation Master Plan builds upon and updates the previous City of Vernon Transportation Plan (2008-2031), including a combined Active Transport and Public Transit Mode share target of 20% by the year 2038.

The Transportation Master Plan Transit Strategy directs its focus to the implementation and improvements as detailed within the Transit Future Plan over the next 25 years. This includes the support of increasing ridership through an improved Core Transit network in the immediate five year horizon and a network that responds appropriately to growing neighborhoods and transit needs in the Vernon and Coldstream urban areas and surrounding regional localities.

Participation

Development of the Transit Future Plan involved collaboration between BC Transit, the City of Vernon, the District of Coldstream and the Regional District of North Okanagan 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 that the delivery of a plan that will meet the diverse needs of the people within the North Okanagan.

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 was held in October 2012 to discuss the planning process and community context
- A meeting focusing on network development exercises was held in December 2012 and,
- A meeting was held to establish implementation priorities in June 2013.

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 both Vernon and Coldstream Councils and the Regional District of North Okanagan to inform elected officials of the Transit Future Plan process. A subsequent presentation delivered at the end of the planning process that sought the Vernon, Coldstream and Regional District endorsement of the Transit Future Plan vision, goals, network and implementation plan.

Phase One: Listening Phase

BC Transit Future Project Website and City of Vernon Transit Website – A dedicated web page wad 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 provides tools for public feedback and comment.

Transit Future Bus – In October 2012, seven Transit Future Bus events were held in the North Okanagan 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, October 25** – Okanagan College, Coldstream
- **Friday, October 26** – Schubert Centre, Vernon
  Vipers Game against Salmon Arm, Vernon
- **Saturday, October 27** – Pumpkin Festival, Armstrong
- **Sunday, October 28** – Sheardowns, Lumby
- **Monday, October 29** – Vernon Farmer's Market, Vernon
  Clarence Fulton Secondary School,Vernon
- **Tuesday, October 30** – Village Green Centre, Vernon
- **Wednesday, October 31** – Coldstream Farmer's Market, Coldstream

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. In total, more than 1,300 visitors were welcomed on-board the bus.

Summary of Public Feedback

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

- Many respondents believe transit would play an increasingly more important role in the community over the next 25 years
- A strong desire for more frequent transit service and improved connections between local and regional routes
- A strong demand for reliable and frequent service between Vernon and UBCO Kelowna.
- An extension of the hours of operations in the evenings and on weekends and statutory holidays
- The expansion of inter-regional transit services between Salmon Arm and Kelowna via Vernon
- The provision of more direct routes
- Improved handyDART services or other options to provide better service options to people with disabilities
- Consideration should be given to using smaller transit vehicles on lower ridership routes to better match demand
- The use of new technology to improve customer information, such as an online trip planner and real-time next bus information
- Improvements to transit stop amenities, such as bus shelters, benches and on-street schedule information and maps
- Respondents noted that they appreciate the courteous operators and perceive the transit fares to be generally reasonable
- A desire to see the development of "Park & Ride" facilities along the major regional transit corridors
- Respondents suggested the following areas that are not served by the existing transit system should be considered for future expansion of the transit service area including:
    - Silver Star/ Foothills
    - BX
    - Middleton Mountain
    - Turtle Mountain
    - Swan Lake
    - Cherryville
    - Paddlewheel
    - Blue Jay

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 held in March 2013 and included six Transit Future Bus events listed below, as well as online and onsite surveys.

- **Thursday, March 14** – Askews, Armstrong
- **Friday, March 15** – Schubert Centre, Vernon
- **Friday, March 15** – Downtown Transit Exchange, Vernon
- **Saturday, March 16** – Village Green Centre, Vernon
- **Sunday, March 17** – Super A Foods, Lumby
- **Monday, March 18** – Coldstream Women's Institute, Coldstream

Summary of Public Feedback

Public feedback provided many valuable ideas on the proposed network and priorities and included the following major themes:

- Residents were generally supportive of the proposed network and service priorities including:
  - The City Loop
  - The Core Transit Network as a top priority for implementation
  - Tertiary exchanges at Village Green Centre, Okanagan College and Polson Place Mall, with a willingness from respondents to use connections if they offered more direct and frequent service overall
  - The introduction of a second Local Transit Network in Coldstream connecting Okanagan College via Middleton Mountain
  - Improving frequency on the existing routes particularly in the evenings and early morning peaks
  - Extension of services Saturdays and Sundays
  - Improvements to transit stop amenities
- Support for regional services and access, including:
  - "Park & Rides", especially at Okanagan College and in the City of Armstrong
  - Improvements to frequency and span of service
  - Expansion of the UBCO service to accommodate commuters and students
- Future expansion of the transit service area including:
  - Silver Star/ Foothills
  - BX
  - Middleton Mountain
  - Turtle Mountain
  - Swan Lake
  - Turtle Mountain
  - Paddlewheel
  - Blue Jay

Setting the Scene

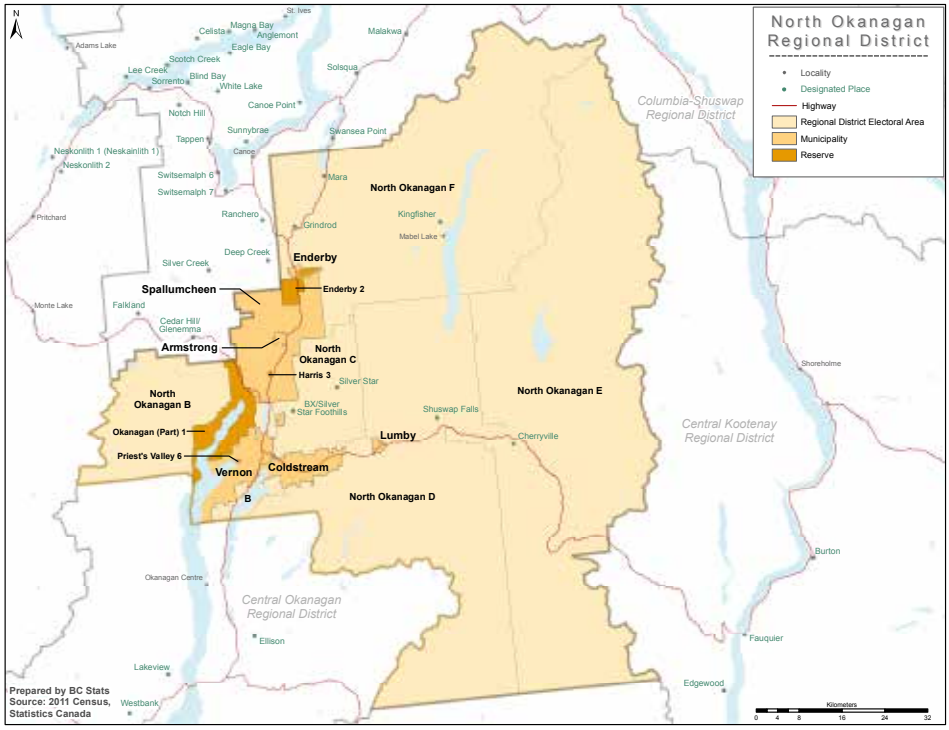
Population growth, demographic characteristics, land use and settlement patterns are important factors in planning a successful transit network. The subsequent sections identify existing and future demographic, land use and transportation trends, focusing on both North Okanagan-wide information and information specific to the various municipalities.

Population and Demographics

The Regional District of North Okanagan has a population of 83,861 as of 2011[1]. Population is distributed between the five Electoral Areas, six incorporated municipalities, and four First Nation Communities. The City of Vernon has the highest population of 38,150 and the District of Coldstream has the second highest of 10,314. Combined, they support approximately 60 per cent of the North Okanagan's population. See Table 1. The remaining 40 per cent of the North Okanagan's population lies within the five Electoral Areas, City of Armstrong, City of Enderby, District of Spallumcheen, Village of Lumby and the First Nation Communities. See Map 2 Regional District Of North Okanagan.

The highest population densities are exhibited in Priest's Valley Indian Reserve, City of Armstrong, City of Enderby and City of Vernon. Much lower densities are experienced in Electoral Areas B, D, E and F. Population density is an important determinant of potential transit ridership. There are other unincorporated communities with notable resident populations, including Cherryville and Grindrod.

Map 2: Regional District North Okanagan



[1] *2011 census*

Table 1: North Okanagan Population, by Jurisdiction (2011 census)

Area	Population (2011)	Percentage of Population (%)	Population Density per km ^{2}
Vernon	38,150	47	398.4
Armstrong	4,815	5.9	928
Enderby	2,932	3.6	687.7
Coldstream	10,314	12.7	155.6
Spallumcheen	5,055	6.2	19.8
Lumby	1,731	2.1	301.6
Okanagan Part 1 Indian Reserve	2,604	3.2	28.9
Priest's Valley 6 Indian Reserve	598	0.7	1,670.9
Enderby 2 Indian Reserve	390	0.5	16.9
Harris 3 Indian reserve	5	-	9.8
Electoral Area B	3,046	3.7	6.2
Electoral Area C	3,872	4.8	12.9
Electoral Area D	2,848	3.5	1.6
Electoral Area E	939	1.2	0.4
Electoral Area F	3,938	4.8	2.2
Total	81,237	100	10.8
Unincorporated Communities (Population Included in Electoral Areas)			
Cherryville	614		
Grindrod	1,453		
Mara	309		
Kingfisher	181		
Silverstar*	67		

Source: Statistic Canada

** Silverstar experiences substantial seasonal variation of its population during the winter months*

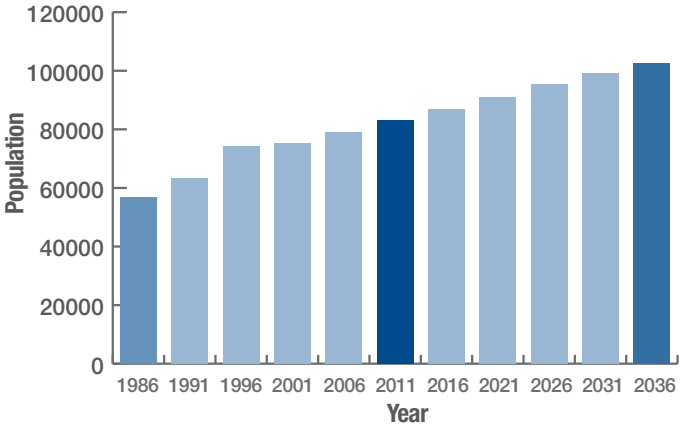
Historical and Projected Population

North Okanagan

The North Okanagan's population increased from 56,885 in 1986 to 83,861[2] in 2011, a 25-year increase of 46 percent. This is less than the provincial population increase of 52 per cent.

The North Okanagan is projected to reach a population of 102,503 in 2036, an increase of 26 percent from 2011. See Figure 4. This projected population is lower than the provincial projected population increase of 32 percent in the next 25 years. Generally, the region's population will continue to increase in future although the rate of increase will be less than that experienced over the past 25 years.

Figure 4: Historical and Projected North Okanagan Population



Vernon

Vernon has experienced 62 per cent population growth over the last 20 years, increasing from 23,514 in 1991 to 38,150 in 2011. The City of Vernon Official Community Plan indicates that with 1.36 per cent annual growth the population will reach 51,600 in 2031, a 35 per cent increase from 2011. Although Vernon does not have the highest projected population increase, it is the largest contributor of population in the North Okanagan.

Coldstream

Coldstream has experienced 29 per cent population growth over the past 20 years, increasing from 7,999 in 1991 to 10,314 in 2011. It is projected to reach 12,978 by 2031, an increase of 26 per cent from 2011.

Spallumcheen

Spallumcheen has experienced 7 per cent population increase over the past 20 years and is projected to reach 5,649 by 2031, an increase of 12 per cent from 2011.

Armstrong

Armstrong has experienced 50 per cent population growth over the past 20 years, increasing from 3,200 in 1991 to 4,815 in 2011. It is projected to reach 6,198 by 2031, an increase of 28 per cent.

Enderby

Enderby has experienced 38 per cent population increase over the past 20 years and is projected to reach 4,079 by 2031, a population increase of 39 per cent.

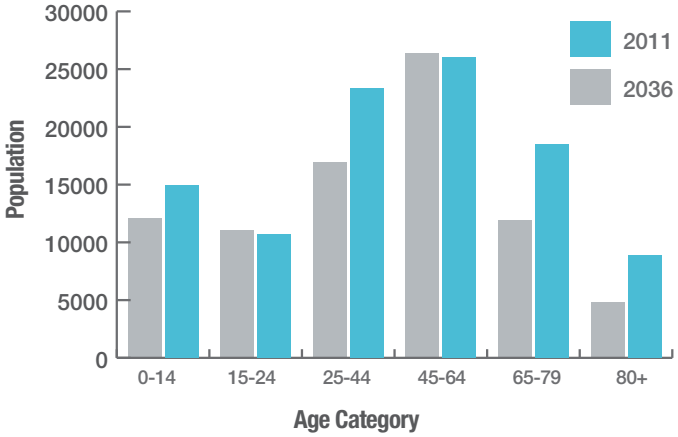
[2] *BC Stats*

Population by Age

North Okanagan

The North Okanagan has a large population of seniors in comparison to the population as a whole. Twenty-one percent of the population is aged 65 and over in 2011, which is higher than the 16 percent of people aged 65 and over in the province as a whole. The median age in 2011 was 47.2, which is higher than the provincial median age of 41.9. As seen on Figure 5 there is a significant amount of population in the 45-64 range in 2011. BC Stats has projected that there will be similar amounts of people in the 45-64 range in 2036.

Figure 5: Current and Projected North Okanagan Population, by Age Group



Over the next 25 years North Okanagan population will age considerably with a large increase in the 65 and over age groups. This age cohort is projected to grow at an average of 2.1 per cent per year with over 35 per cent of the estimated population for the year 2038 to be aged 65 and over. Examining the current and future age distribution North Okanagan can predict future transit ridership trends.

Seniors (65+)

- **Younger Seniors (Aged 65–79)**
  While the senior population in the North Okanagan is projected to grow over the next twenty five years, 25 per cent of this growth will be among younger more active seniors aged 65 to 79, who have demonstrated in many transit studies that they are much less likely to use transit than older seniors.
- **Older Seniors (Aged 80 and over)**
  This age group has demonstrated a higher rate of transit use. While older seniors don't make as many trips overall compared with other transit users, they tend to be very dependent on transit. A high proportion of this group may also have mobility difficulties, so this group has a high demand for door-to-door service. Older seniors in 2011 make up only six per cent of the North Okanogan population, this older senior age category is expected to almost double by the year 2038.

Vernon

Vernon has a median age of 46.5 as of 2011, which is higher than the provincial average, but lower than the Regional District average. Twenty-three per cent of the population is 65 years or older, which is 43.8 per cent higher than the rest of the province.

Coldstream

Coldstream has a median age of 45.8 as of 2011, which is higher than the provincial average but lower than the Regional District. Coldstream has 16 per cent of its population 65 and over, however the highest density of population in Coldstream is from 45-64, which holds 36 per cent of the population. Therefore, Coldstream is the youngest municipality in the region.

Spallumcheen

Spallumcheen has a median age of 47.3 in 2011, which is older than the province and the Regional District. 17 per cent of the population is 65 years and over, however the largest segment of population is from 45-64 (36 per cent).

Armstrong

Armstrong has a median age of 46.2 which is older than the province and younger than the Regional District. Twenty-two per cent of the population is 65 years and over which is 37.5 per cent higher than the provincial segment.

Enderby

Enderby has a median age of 50 which is older than the provincial and Regional District median age. Twenty-seven per cent of the population is 65 years or older which is 69.8 per cent higher than the province. Enderby is the oldest municipality in the Regional District.

Employment and Education

The number of jobs is expected to increase with the population, and the experienced labour force in the North Okanagan is expected to increase by seven per cent in 2031 from the current 2011 level. The largest employers in the North Okanagan are:

- Interior Health Authority employs 1,000-1,250 people at hospital/medical facilities in Armstrong, Enderby, Lumby and Vernon
- School District 22 employs 1,000 people and provides education services to approximately 7,800 students. It serves the communities of Vernon, Coldstream, Lavington, Lumby and Cherryville
- School District 83 serves the communities of Grindrod, Enderby, Ashton Creek, Kingfisher, Armstrong, and Spallumcheen
- Tolko is a lumber, papers, panel products and specialty wood products manufacturer employing 900-950 people in Armstrong, Lavington, Lumby and Vernon
- The City of Vernon employs 350-400 people
- Silver Star Mountain employs up to 600 people with seasonal variation
- Okanagan College, Vernon campus employs 100-125 people and has approximately 2,500 students.

Population & Demographic Challenges

Low rural densities

Population concentrations are high in Vernon, but much lower elsewhere in the North Okanagan. Providing conventional, fixed route transit service is financially challenging in areas of low density. Lower frequency conventional service and on-demand custom service may be more applicable in these areas.

Increasing mode share with an aging demographic

The region's demographics are shifting towards an older population and some traditionally strong transit user age groups (i.e.15-24) are proportionately decreasing. If transit ridership is to increase, improvements in all aspects of service delivery (including service levels, customer information and stop amenities) are required to retain existing customers and to attract new customers. This is critical for increasing ridership and meeting the targets set out.

Increases in medical, shopping and leisure trips

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

Additional pressure on accessible and custom transit services due to increasing number of seniors

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

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. A transit stop in an area with a density of 1,000 persons 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 m walking distance, while a transit stop in an area with a density of 3,500 persons per square kilometer (a mix of low-rise and medium-rise apartments) would have many potential customers within walking distance. **Figure 6** shows the 2011 density per square kilometer for the Vernon and Coldstream neighbourhood areas with the current transit service route coverage;

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;

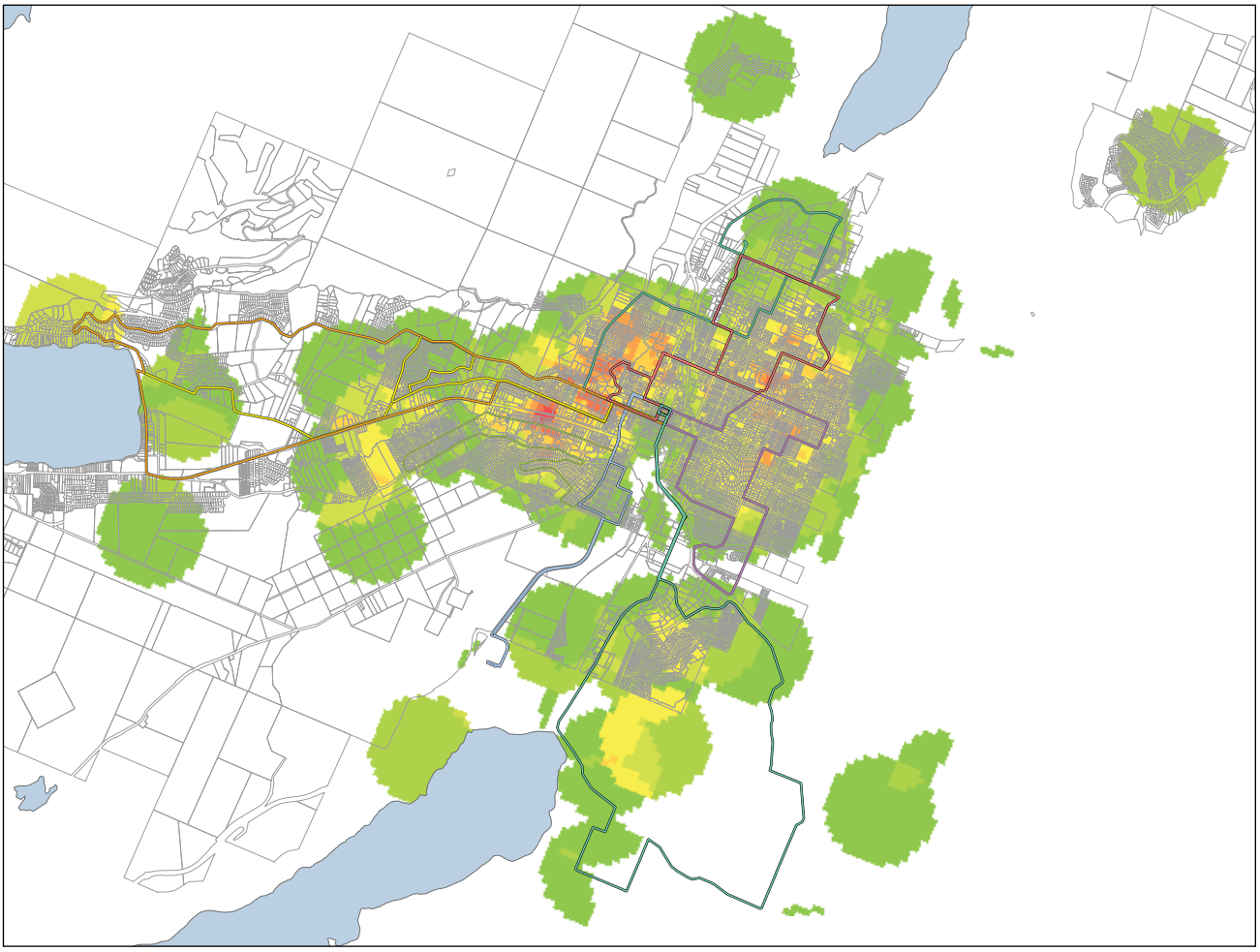
Mixed use development

Different uses 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; and,

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 6: Vernon and Coldstream 2011 Density and existing Transit Service Coverage



Legend

2011 Population per Sq Km

- 0 - 500
- 500 - 1,000
- 1,000 - 1,500
- 1,500 - 2,000
- 2,000 - 2,500
- 2,500 - 3,000
- 3,000 - 3,500
- 3,500 - 4,000
- 4,000 - 4,500

Transit Routes

- 1 - Coldstream
- 2 - Pleasant Valley
- 3 - Alexis Park
- 4 - East Hill
- 5 - South Vernon
- 6 - College
- 7 - Okanagan Landing
- 8 - Bella Vista

North Okanagan Land Use and Transit Strategies

Each municipality and electoral area in the North Okanagan have an Official Community Plan (OCP). The Regional Growth Strategy (RGS) has reinforced these OCPs 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 summarized for the Transit Future Plan.

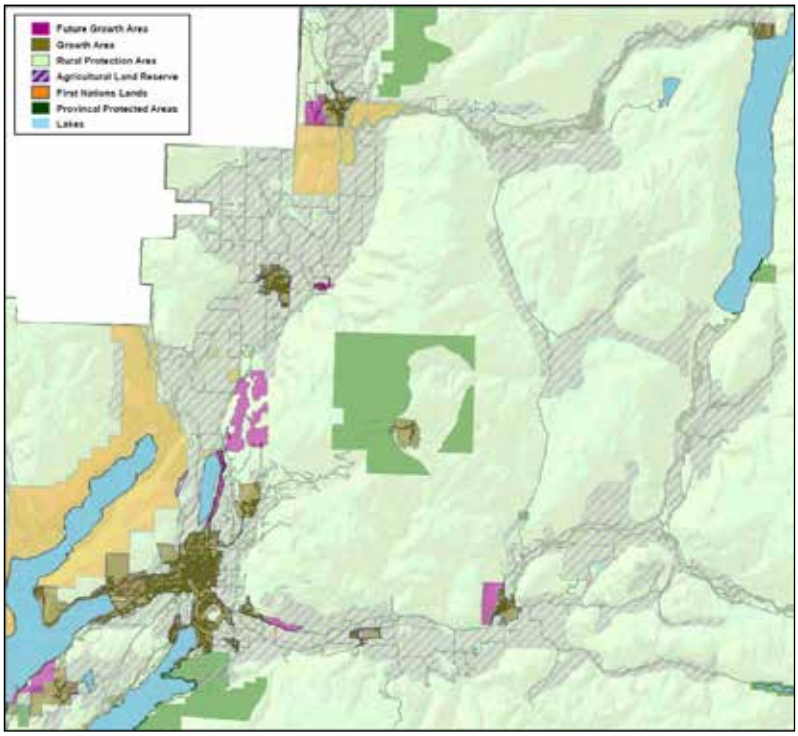
Regional Growth Strategy, Bylaw No. 2500, 2011

The RGS, focuses on concentrating population increases within growth areas and limiting development in rural protection areas. Future Growth Areas are identified for future residential, commercial or industrial development. The objective within these areas is to encourage compact, complete, mixed use and serviced communities with well-defined Rural Protection Boundaries. See **Figure 7.**

The RGS outlines goals pertaining to transit, land use and transportation, including:

- Encourage diverse housing types, street network connectivity to accommodate walking, bicycling and transit use, and provide public spaces. (UC-1.4)
- Encourage a phased infrastructure and service area expansion strategy, to sustain growth rates and protect the Growth Areas' potential for development over a 20 year period. (UC-1.7)
- Encourage transit oriented Growth Areas, to have access to multimodal transportation connections. (TI-2.2)
- Ensure land use decisions consider transit, walking and cycling. (TI-2.6)
- Integrate transportation and land use planning within OCP's to ensure that communities: improve access to housing, jobs and services by improving walking, cycling and public transportation infrastructure and support the efficient and viable operation of public transport services. (TI 2.7)
- The Province and BC Transit are encouraged to collaborate with local and regional governments on a North Okanagan transit plan. (TI-2.12)

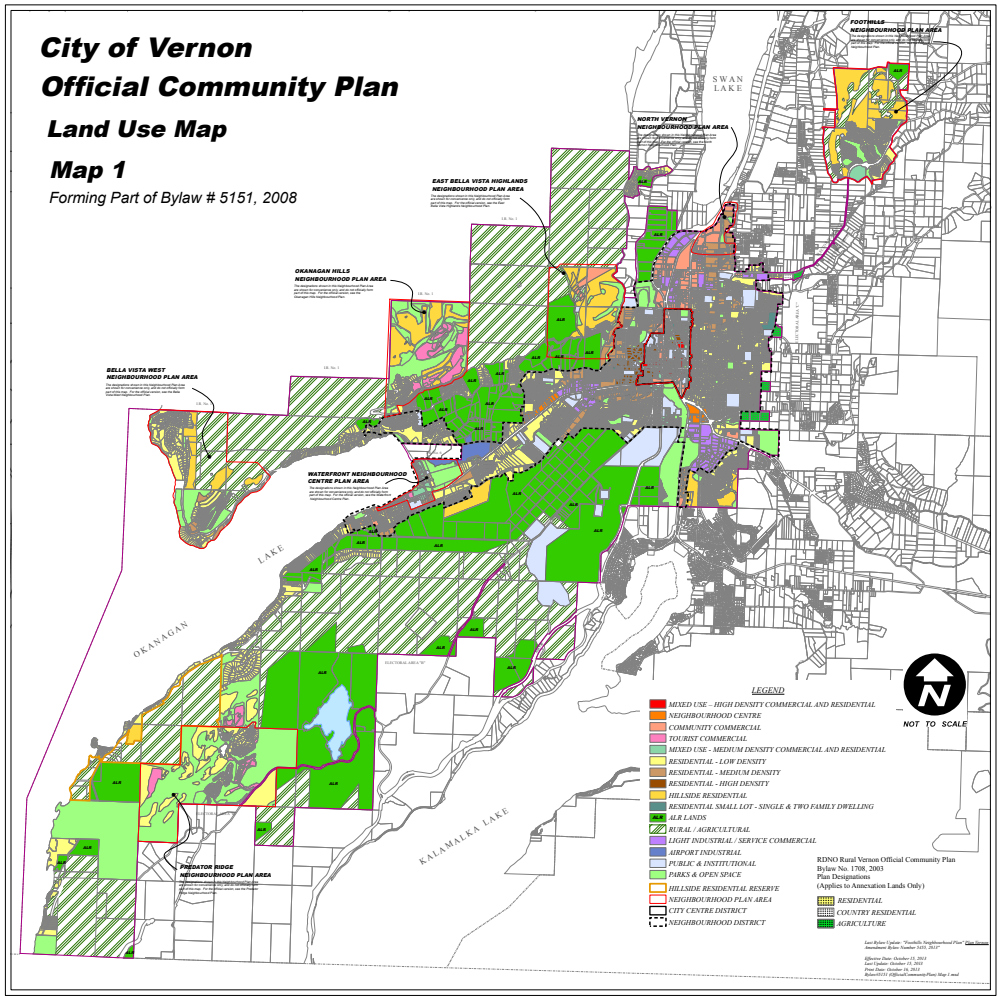
Figure 7: Growth Areas in the North Okanagan



Vernon

PLAN VERNON (OFFICIAL COMMUNITY PLAN), BYLAW NO M 5151, 2008

Figure 8: Vernon Land Use Plan



Vernon's Official Community Plan, Bylaw No. 5151, 2008 outlines that the City is shifting the emphasis in transportation planning towards projects that provide residents with alternatives to single occupant vehicles. Vernon in 2013 exhibits less than one per cent of transit trips to and from work. However, Vernon does have a higher walking and cycling rate of 15 per cent compared to the BC average of 12 per cent. Specific policies are outlined in the OCP relative to land use and transportation including:

- Focus new growth and development in the City Centre District and designated neighborhood centres in the Neighborhood District. (Policy 4.1) See Figure 8.
- Build compact, complete neighborhood areas and maximize use of municipal infrastructure. (Policy 6.2)
- Facilitate movement in the City Centre in the following order of priority: walking, cycling, public transit, automobiles. (Policy 7.2)

- Implement street systems and pedestrian ways that provide convenient access to transit, parking and support safe and comfortable pedestrian movement. (Policy 7.6)
- Adapt transportation services to address demographic trends in Vernon, particularly for an aging population and for youth. Focus on accessibility for the transit system so that residents with special needs and/or disabilities are able to use the system to participate in the community. (Policy 9.4)
- Encourage transportation projects that contribute to the long-term livability, vitality and viability of City Centre and neighborhood centers, as well as the existing neighborhood areas. (Policy 9.7)
- Improve transit service frequency and coverage as per the measures outlined in the City of Vernon Transportation Master Plan: 2008-2031. (Policy 9.9)

VERNON TRANSPORTATION PLAN (2008 -2031)

The initial Transportation Plan was implemented in 2008 when Vernon residents expressed their desires for alternatives to the private automobile.

The Vernon Transportation Master Plan 2014-2038, which is to replace the original Transportation Plan, is under draft. This new draft plan includes a combined Active Transport and Public Transit Mode Share target of 20 per cent by the year 2038 and this aligns with the mode share target of the Transit Future Plan. The Master Transportation Plan also directs its focus to the implementation and improvements as detailed within the Transit Future Plan including the support of increasing ridership through an improved Core Transit network and providing priority bus route changes in the immediate five year horizon. The main components of the plan are shown in Figure 9.

Figure 9: Components of the Vernon Transportation Master Plan

Draft Vernon City Master Transportation Plan 2014-2038				
Road Network Plan	**Transit Strategy**	**Pedestrian and Bike Master Plan**		**Transportation Demand Management Strategy**
		Pedestrians	**Bikes**	
1. Integrated Transportation Framework (ITF) (Asset Management) 2. Updated Road Network Improvement Strategy 3. Implement prioritised network improvements 4. Highway 97 & 6 Corridor Plan 5. Heavy truck and hazardous material routes 6. Neighbourhood Traffic Management Policy	1. Transit Future Plan 2. Custom Transit Pilot Project 3. Implement priority bus route changes 4. Bus Stop Improvement Program 5. Incentives and measures to maximize ridership	1. Increase fully connected sidewalks 2. Implement pedestrian priority areas 3. Standardize pedestrian facilities & crossing treatments 4. Utilise paths to maximise connectivity 5. Roadside and off-road Trail Network	1. Increase fully connected bike routes 2. Implement bike route priorities 3. Standardize bike facilities & crossing treatments 4. Utilise paths and trails and bike gutters on stairs to maximise connectivity 5. Roadside and off-road Trail Network	1. Updated Integrated Land Use Planning & Transportation Planning 2. City Centre Neighbourhood Plan Parking Implementation Strategy 3. Leadership including Staff Travel Plan 4. Education & Awareness Programs 5. Private Sector & Other Agency Initiatives

Coldstream

DISTRICT OF COLDSTREAM OFFICIAL COMMUNITY PLAN, BYLAW NO 1445, 2005

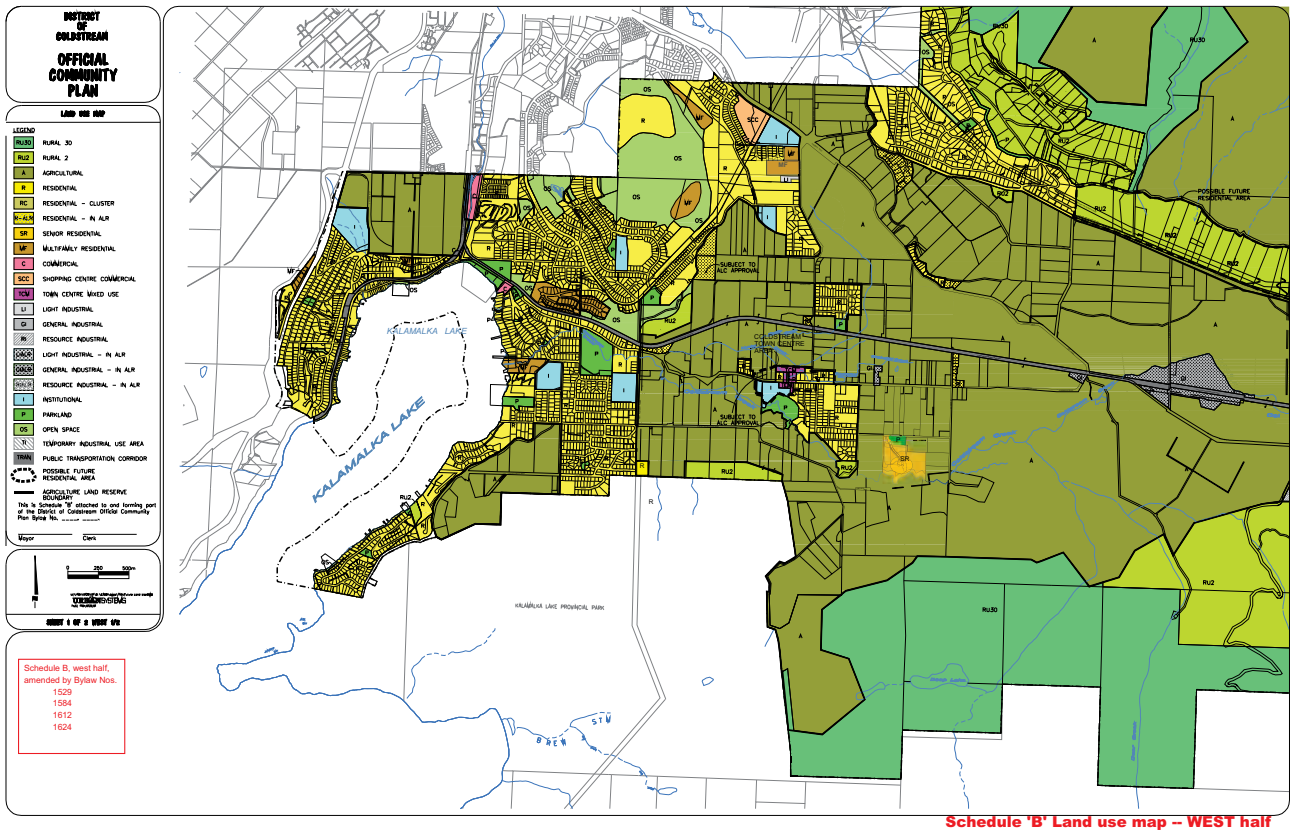
The Official Community Plan Bylaw No. 1445, 2005 provides objectives and policies for Coldstream, relating to land-use management strategies for the areas population growth. See Figure 10.

Policies that are outlined relative to land use and transportation include:

- Encourage development and infill of vacant residential areas located close to existing services. (Policy 4.3.4)
- Establish an overall bicycle/walkway/parkway network plan, incorporating the Coldstream Town Centre area. (Policy 5A.3)

A major road network plan allows for safe and efficient vehicle movement and a level of separation between conflicting traffic.

Figure 10: Coldstream Land Use Plan



Schedule 'B' Land use map -- WEST half

Spallumcheen

DISTRICT OF SPALLUMCHEEN, OFFICIAL COMMUNITY PLAN, BYLAW NO. 1794, 2011

The Official Community Plan, Bylaw No. 1794, 2011 recognizes that there is an abundance of agriculture land, limited opportunities for growth in the valley bottom and that new growth must be directed to hillside areas. The District has created a comprehensive planning area which is intended to help organize and direct the built form in a manner that meets guiding principles, which include:

- Provide opportunities for residents to age in place
- Provide a mixture of homes, business and recreational opportunities in close proximity
- Create well-designed, compact neighborhoods which reduce transportation needs by providing opportunities for residents to live close to work and daily activities
- Promote the development of an attractive neighborhood that provides a variety of transportation choices and has safe infrastructure for walking and cycling, in addition to driving
- Encourage development of buildings that meet LEED standards.

Armstrong

CITY OF ARMSTRONG, OFFICIAL COMMUNITY PLAN, BYLAW NO. 1231, 1996

The Armstrong Official Community Plan, Bylaw No. 1231, 1996, outlines policies relative to transportation which include:

- Trails, pedestrian walkways and bicycle ways should be provided in all new subdivisions where necessary to provide access to schools, parks or commercial facilities and to ensure continuity in overall pedestrian traffic movement. (Policy 10.3.l)
- Encourage alternate transportation and decreased reliance on motor vehicles by providing wide sidewalks, walkways and bicycle routes. (Policy 18.1.d)
- Promote public transit by continued construction of pull-out features and bus stop improvements. (Policy 18.3.j)
- Continue to maintain and upgrade the transportation network based on a long term infrastructure upgrading and replacement plan through providing funds out of general revenue to adequately maintain and upgrade the infrastructure to a level that will ensure that the transportation network will be protected on a life cycle basis. (Policy 18.3.l)

Enderby

CITY OF ENDERBY OFFICIAL COMMUNITY PLAN, BYLAW NO. 1171, 2011

The Enderby Official Community Plan, Bylaw No. 1171, 2011 outlines the following "smart planning" development criteria to evaluate future applications. (Policy 9.3.c) New developments should:

- Promote compact and walkable neighborhoods
- Concentrate new growth into existing areas and not "leap frog" to the fringe
- Have a linkage to public transit and/or other transportation options
- Include consideration of mixed use zones
- Support creative and innovative infilling, development, redevelopment and renovation of existing buildings in order to maintain a strong focus of commercial activity in the downtown core.

The current plan includes policies for promoting alternative transportation, which include:

- Participate with BC Transit and the Regional District to provide transit service to Salmon Arm on a one-year trial basis, which has since become a regular route on a once per week basis in the North Okanagan Regional Transit Network
- Preserve a Transportation Corridor as show on Schedule "B" of the Enderby OPC, in an effort to maintain future transportation options that would allow the City to respond to population growth, future transportation needs and changing economic conditions
- Uses permitted within a Transportation Corridor include trail travel, cycle routes, trails and other uses that complement the primary transportation function.

Lumby

VILLAGE OF LUMBY OFFICIAL COMMUNITY PLAN, BYLAW NO. 638, 2005

The Lumby Official Community Plan, Bylaw No. 638, 2005 incorporates land use policies that promote more compact and complete neighborhood areas that are conducive to walking, bicycling and an efficient transit system should one be needed in the future. Polices outlined in the Plan include:

- Review options to provide bike racks, benches and signage at bus stops to encourage transit and potentially use these locations as car pool meeting places
- Continue to look at opportunities to add to existing alternative transportation routes, including greenways, bikeways, pedestrian paths and trails

Electoral Areas

Transit, transportation and land use policies are summarized from community plans in the Electoral Areas. See Table 2.

Table 2: Summary of Electoral Area Community Plans

Area	Document	Summary of Key Policies
Electoral Areas B and C	Rural Vernon Official Community Plan, Bylaw No. 1708, 2003	• Support regional growth management by restricting residential developments to reduce urban sprawl. • Consideration will be given to the needs of public transit, school buses, pedestrian walkways and bicycle routes.
Electoral Area B	Official Community Plan, Bylaw No. 724, 1986	• Provide for residential, commercial and industrial developments associated with and dependent upon natural resources. • Recreational commercial development shall be permitted at suitable locations within the Community Plan area with due consideration of the impact of such development on the life style and livelihood of local residents and on the environment.
Electoral Areas D + E	Electoral Area "D" (Rural Lumby) and Electoral Area "E" (Cherryville, Official Community Plan, Bylaw 2485	• Major retail and service commercial uses should be encouraged within the Village of Lumby and other nearby urban centres. • The Regional Board may consider residential development in the "downtown" Cherryville area upon receipt of a comprehensive plan showing servicing details. • Planning for future roads and subdivisions shall take into consideration the needs of public transit, school buses, pedestrians, farm equipment and bicycle routes and other environmentally sensitive transportation methods.
Electoral Area F	Official Community Plan, Bylaw No. 1934, 2004	• Land for permanent residential growth is required to meet the future anticipated needs of greater Enderby and shall generally be provided through redevelopment, in-filling and expansion on lands. It is considered that certain lands to the west of the City of Enderby may be suitable for future expansion of the City but the areas have not been specifically identified at this time. • Seasonal residential development shall provide public pedestrian and vehicular access to lands beyond and navigable waters where practical and reasonable. • Planning for future roads and subdivisions shall take into consideration the needs of public transit.
	Kingfisher Local Area Plan	• Work with the Ministry of Transportation to prepare a road standards plan for the core area to ensure that roads are upgraded to a standard appropriate for the current use. • Acknowledge growth and work towards achieving a balance between recreational/seasonal development and the principles of smart growth/complete communities.

Land Use & Planning Challenges

Strengthening the link between land use and transportation planning

The integration of the Regional Growth Strategy document and other planning documents are critical steps to ensure a strong link between transportation and land use planning. It is important that development proposals and transportation projects are implemented consistent with 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. Expansion of service into rural areas considers more custom, on-demand options.

Service to Future Growth Areas

In order for transit to be viable in new suburban neighborhoods it is important that new developments have strong pedestrian connectivity, transit friendly road network design, bus stop considerations and higher land use densities.

Transportation

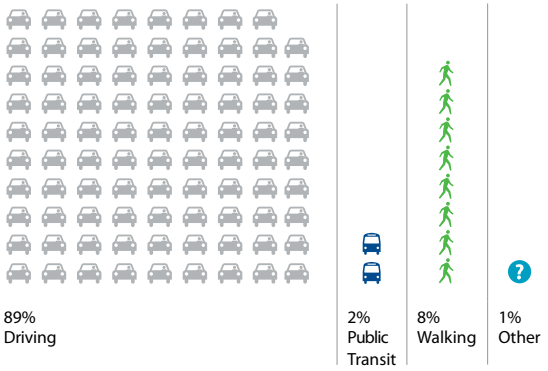
An overview of the North Okanagan' transportation system is provided to formulate an understanding of travel options available to residents and to help understand travel behavior, and the interconnectivity between the various modes.

Travel Mode Share

Travel is dependent on single-occupancy vehicles. See Figure 11. The Journey to Work 2011, BC census statistics, indicate that in the North Okanagan driving represents 89 per cent of commuter trips, public transit represents two per cent, and walking/cycling represents 8 percent.

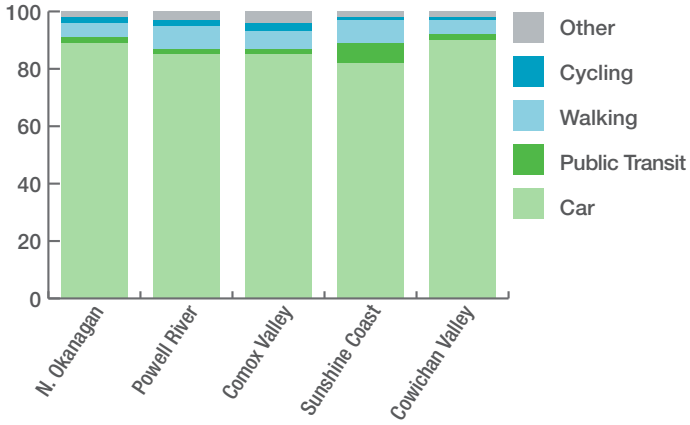
Mode shares in comparable regional districts have similar patterns. See Figure 12. The North Okanagan has the highest percentage of vehicle use compared with peer regional districts and has a relatively low transit share.

Figure 11: North Okanagan Journey to Work Mode Share



Source: 2011 North Okanagan RGS

Figure 12: Travel to Employment Mode Share in Peer Communities



Trip Origins – Destinations

Origins

Travel originates at an individual's home or at access points to the North Okanagan. As noted previously, resident population is concentrated in Vernon (47 per cent) and to a lesser extent, Coldstream (12.7 per cent), Spallumcheen (6.2 per cent), and Armstrong (5.9 per cent).

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 Vernon. The most common regional destinations are as follows:

- Downtown Vernon provides shopping, restaurants, cultural, education and government services. Downtown is focused between 25th Avenue (north), 35th Avenue (south), 35th street (east) and 29th street (west).

- Vernon Jubilee Hospital is located in Vernon and is responsible for providing core medical and surgical specialty services to patients throughout the service area.
- Vernon Health Unit is located in Vernon at 1440 14th Avenue. It does not have acute care beds, but provides basic laboratory and radiology, urgent care, outpatient ambulatory care, community services, long term residential care and on-site doctors' offices.
- Okanagan College is located in Coldstream at 7000 College Way. Okanagan College has three other campuses in Kelowna, Penticton and Salmon Arm-Revelstoke. The campuses in Coldstream and Kelowna are considered the key travel destination for students, with Okanagan College employing 100-125 people.
- School District 22 (Vernon) employs 1,000 people and provides education services to approximately 7,853 students. It serves the communities of Vernon, Coldstream, Lavington, Lumby and Cherryville.
- School district 83 (North Okanagan Shuswap) serves the North Okanagan communities of Grindrod, Enderby, Ashton Creek, Kingfisher, Armstrong, and Spallumcheen.
- Silver Star Mountain employs up to 600 people and is located 22 km northeast from Vernon.
- Recreation Complex is located in Vernon and offers an indoor pool, weight room, fitness facility, indoor and outdoor ice rinks, gymnasiums and a curling rink.
- Kal Tire Place is located in Vernon at 3445 43rd Avenue and includes a full size ice rink for skating and hockey and hosts the Vernon Vipers hockey team.
- Vernon Regional Airport is in the Okanagan Landing Area on Tronson Road. It has 14 businesses that employ 1,200 people, but has no commercial passenger service.
- Schubert Centre is located in Vernon at 3505 30th Avenue and is a community centre for seniors.
- Vernon Square mall is located in Vernon at 4400 32nd Street.
- Polson Mall is located in Vernon at 2306 Highway 6.
- Village Green Centre is located in Vernon at 27th Street and 48th Avenue.
- The Regional District offices are located in Coldstream at 9848 Aberdeen Road.
- The retail outlets for the Canadian Super store and Home Depot are located on Anderson Way, Vernon.
- Wal-Mart is located on 58th Ave, Vernon.
- Salmon Arm Health Unit located at 851 16th St NE Salmon Arm, is the primary health services unit for residents of Enderby.

Road Network

The main provincial highways that run through the North Okanagan are Highway 97, Highway 97A, and Highway 6. Highway 97 is the longest provincial highway in any province running from the Canada/US border to the British Columbia/Yukon border. Highway 97A runs between Vernon and Sicamous. Highway 6 runs from Vernon to Lumby and further east.

Provincial highways are under jurisdiction of the Ministry of Transportation and Infrastructure.

Approximate driving time and transit trip time between the regional destinations are shown in Table 3. Driving time from Lumby in the south east to Enderby in the north is 52 minutes (62 km). Vernon to Enderby is 27 minutes (36 km), and Vernon to Lumby is 25 minutes (27 km).

To the south, Vernon is a 45 minute drive to Kelowna and a one hour and 30 minute drive to Penticton. To the north, Vernon is a 50 minute drive to Salmon Arm, and to the northwest a one hour and 30 minute drive to Kamloops. Vernon is a three hour drive to Nakusp in the east via the Needles-Fauquier ferry. These driving times are all estimations based on Google trip planner are dependent on traffic and weather conditions.

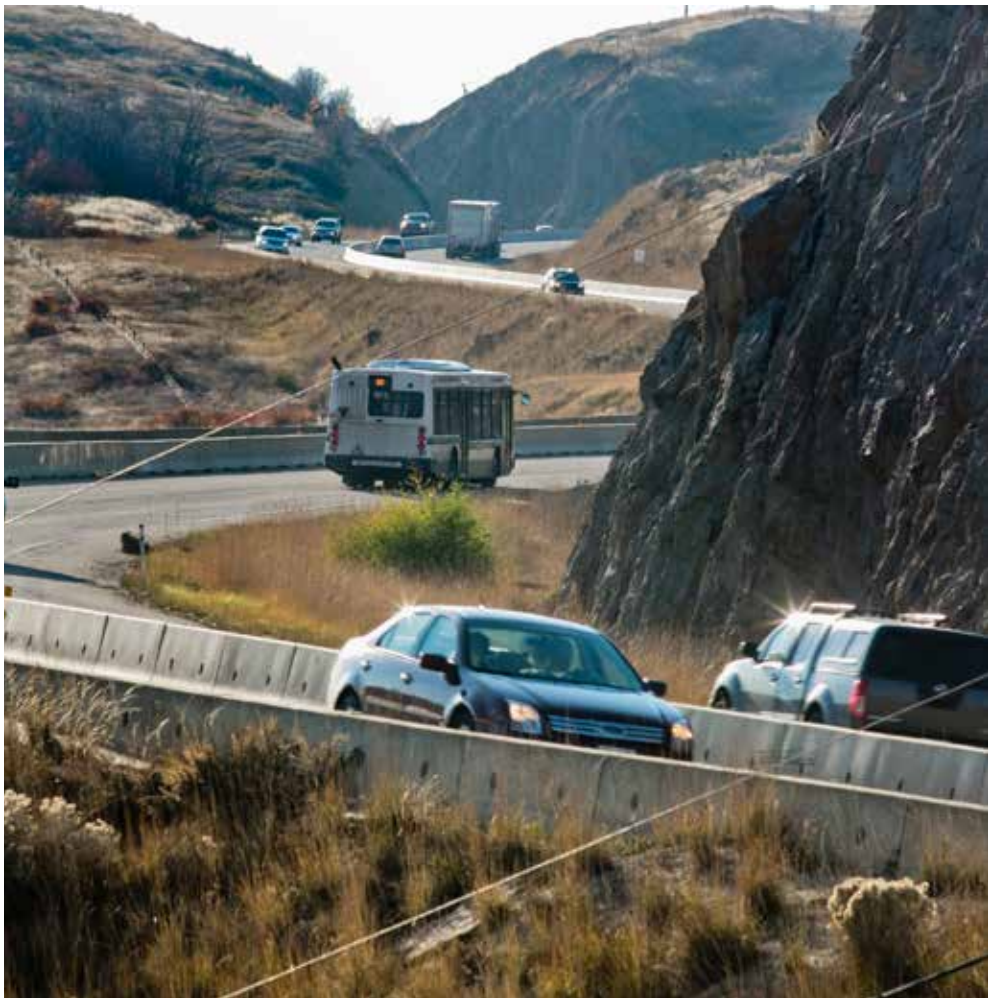


Table 3: Approximate Driving Time (Car & Transit) and Distance between Regional Destinations[3]

	Vernon	Coldstream	Spallumcheen	Armstrong	Enderby	Lumby
Vernon		10 min **(19 min Transit)** 7 km	18 min **(23 min Transit)** 22 km	19 min **(40 min Transit)** 23 km	27 min **(63 min Transit)** 36 km	25 min **(30 min Transit)** 27 km
Coldstream	10 min 7 km		27 min **(42 minTransit)*** 28 km	28 min **(54 min Transit)*** 29 km	36 min **(82 min transit)*** 42 km	19 min **(49 min Transit)*** 21 km
Spallumcheen	18 min 22 km	27 min 28 km		3 min **(17 min Transit)** 2 km	17 min **(40 Min Transit)** 16 km	42 min **(53 min Transit)*** 48 km
Armstrong	19 min 23 km	28 min 29 km	3 min 2 km		15 min **(23 min Transit)** 15 km	43 min **(70 min Transit)*** 49 km
Enderby	27 min 36 km	36 min 42 km	17 min 16 km	15 min 15 km		52 min **(93 min Transit)*** 62 km
Lumby	25 min 27 km	19 min 21 km	42 min 48 km	43 min 49 km	52 min 62 km	

**Transit travel time does not include transfer or wait between services*

Other Travel Options within North Okanagan

Air

The Vernon Regional Airport is a commercial airport approximately 8 km southwest of downtown Vernon. The airport houses industrial-based business focusing on aircraft manufacturing and maintenance and provides a base for corporate, commercial and general aviation. Passenger air travel is not offered.

Passenger air travel is offered at Kelowna International Airport (45 minute drive south) and Kamloops Airport which is a one hour and 30 minute drive from Vernon.

Bus

Daily Greyhound long distance bus service is offered throughout the North Okanagan. There are three northbound trips per day that can be used to travel between Vernon and Enderby with a stop in Armstrong. Southbound, there are two departures per day travelling from Enderby to Vernon with a stop in Armstrong. A one-way fare for this long distance service is $11.22.

[3] *Drive BC*

School Busing

School District 22

There is limited use by school students of the conventional transit system in the North Okanagan with no school-oriented trips operated as part of the transit system.

School transportation is provided through the School District Board. The District provides transportation for those students that live beyond the prescribed walking limit. The board expects students to walk at least 2.4 kilometres to a school in their area or to a bus stop.

School Bus routes are established on the basis of the number of students involved and related to the 2.4 kilometre walk limit. Consideration for routes is also given to the road conditions and the safe operation of a school bus. School bus services in the North Okanagan are provided to thirteen of the fourteen elementary schools. Silver Star elementary is considered a walk only catchment school and has no school bus service. All five of the secondary schools within District 22 are provided with school transportation services.

Transportation Challenges

Large percentage of vehicle mode share

The North Okanagan has the highest vehicle mode share, and a low transit mode share compared to peer communities. Increasing efficiency and convenience of the system will increase ridership and decrease vehicle mode share in the North Okanagan.

Alternative transportation connections in the Regional District

Include alternative transportation options such as walking and cycling in future land use and transportation planning. Improve access of pedestrian and bicycle networks to transit will increase transit ridership in the future.

Travel times and frequency of transit services to Vernon

The smaller communities in the North Okanagan have a high dependency on the City of Vernon for daily errands, work or education. The long transit travel time to Vernon from the many regional origins is inconvenient to allow residents frequent transit access the main conventional transportation network. Motor Vehicle travel from the outer areas is the main choice for travel.

Interregional Travel

There is an increasing demand for interregional service connections for people making longer distance trips for work or educational purposes. There is a high reliance on Kelowna and Kamloops but there are limited travel options, making it inconvenient and inaccessible for many people. Improvement in transit service will allow transit to fill this gap.

Location of Health Services

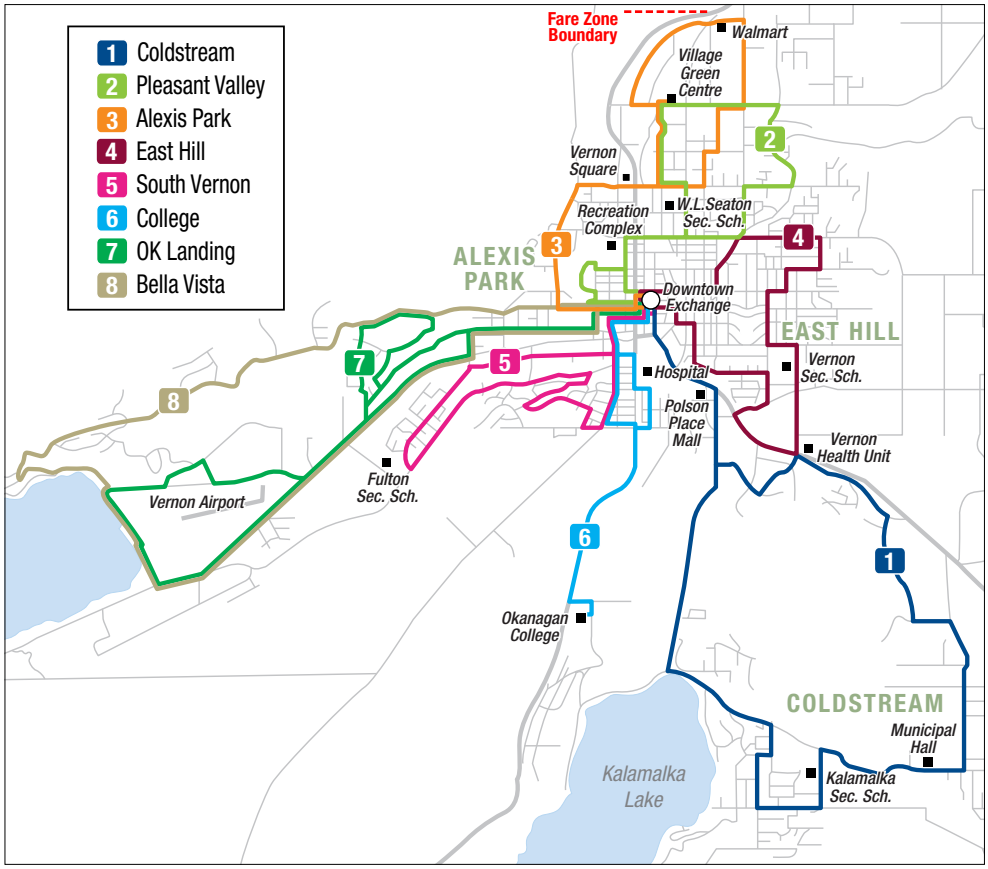
Many residents of the region require health services located either in Vernon or often Salmon Arm, making transit options difficult.

Transit Today

Existing transit system performance and the degree to which it meets 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 transit system.

The transit system operates as four distinct fixed route networks. The Greater Vernon Area and the District of Coldstream is the urban network and has eight different bus routes. The Vernon-Armstrong-Enderby and the Vernon-Lumby routes, operate as the regional network with the Vernon-Kelowna (UBCO) route operating as the interregional network. Table 4, Figures 13 and 14, describe the various regional routes.

Figure 13: Vernon/Coldstream Urban Transit Area Map



Conventional Transit System

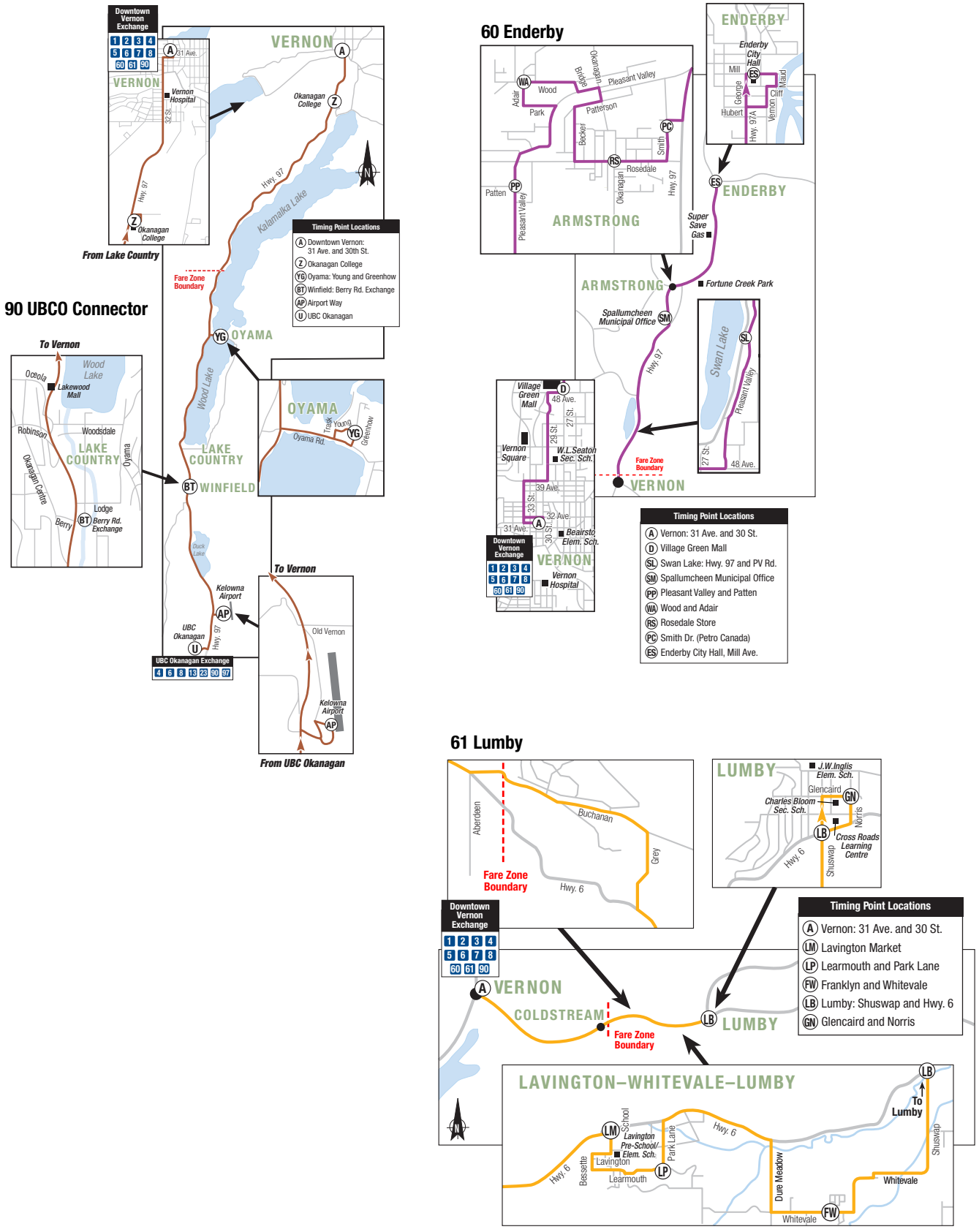
Service Description

Table 4: Summary of North Okanagan Conventional Transit Routes

Vernon/Coldstream Urban Conventional Network	
Route	**Description**
1– Coldstream	Service between the Downtown Vernon Exchange and Coldstream with stops at Polson Mall, Coldstream Elementary School, Kalamalka Secondary School, Kalamalka Beach and Kidston Elementary School.
2 – Pleasant Valley	Service from the Downtown Vernon Exchange with stops at Recreation Complex, near W.L. Seaton Secondary School, Village Green Centre and near Harwood Elementary School.
3 – Alexis Park	Service from the Downtown Vernon Exchange with stops at Schubert Centre, Kal Tire place, Vernon Mall, Village Green Centre and Wal-Mart.
4 – East Hill	Service from the Downtown Vernon Exchange with stops at Silver Star Elementary School, Vernon Secondary School, Vernon Health Unit and the Regional Library.
5 – South Vernon	Service from the Downtown Vernon Exchange with stops at Mission Hill Elementary School, and near Clarency Fulton Secondary School.
6 – College	Service between the Downtown Vernon Exchange and Okanagan College with stops at Vernon Hospital.
7 – Okanagan Landing	Service from the Downtown Vernon Exchange with stops at Ellison Elementary School, Okanagan Landing Elementary School, Kin Beach and the Vernon Regional Airport.
8 – Bella Vista	Service from the Downtown Vernon Exchange with stops at Ellison Elementary School, Okanagan Landing Elementary School, and Kin Beach.

North Okanagan Regional – Interregional Network	
Route	**Description**
60 – Enderby-Armstrong-Vernon	Service between the Downtown Vernon Exchange and Enderby with stops in Spallumcheen and Armstrong.
61 – Vernon-Lumby	Service between the Downtown Vernon Exchange and Lumby with stops in Lavington and Coldstream.
90 – North Okanagan Connector	Services between Downtown Vernon Exchange and UBC Okanagan Exchange with stops at Okanagan College, Oyama, Winfield and Kelowna Airport.

Figure 14: North Okanagan Regional and Interregional Area Maps



System Governance

Administration Operation and Funding

Decisions on fares, routes and services levels are made by Vernon and Coldstream Councils and the Regional District of North Okanagan Board based on public feedback and information provided by BC Transit.

The City of Vernon, in partnership with the District of Coldstream, administers and funds the Urban Conventional Network. The Custom Network is administered by the City of Vernon, in partnership with the District of Coldstream and Electoral Areas B and C.

The Regional District of North Okanagan, comprised of board representation from all local authorities, administers the Regional and Interregional networks.

Operating costs are met by a combination of fare box revenues and joint local government and provincial funding. Funding for the Transit System is cost shared between the City Of Vernon, the District of Coldstream, and the Regional District of North Okanagan, and BC Transit. The apportionment of the local cost share arrangement for each transit network is summarised in Table 5 below.

Table 5: Local Government Cost Apportionment for Transit Services Year 2013

Jurisdiction	Local Cost % for Vernon/ Coldstream Urban conventional network	Local cost % Custom Network	*Local Cost % for Regional network #60 Vernon to Lumby #61 Vernon to Enderby	*Local Cost % for Inter Regional network #90 Vernon To Kelowna
City Of Armstrong			28.1	0.6
City Of Vernon	91.0	71.0	25.5	68.3
City of Enderby			11.0	0.3
District of Coldstream	9.0	25.0	10.0	20.1
Township of Spallumcheen			7.8	1.2
Village of Lumby			6.6	0.3
Electoral Area B		2.0	4.5	6.4
Electoral Area C		2.0		2.4
Electoral Area D			4.2	0.4
Electoral Area F			2.3	
Electoral Area E				
Total	**100**	**100**	**100**	**100**

The jurisdictions share of the net annual cost for the Regional and Interregional services are allocated through estimated ridership percentages. The allocated percentages are made at a minimum every three years based on annual two week 'on bus' surveys carried out by the Regional District of North Okanagan.

The Interior Health Authority also provides some funding to the Regional District of North Okanagan for the delivery of regional health services (Custom type services) in Armstrong and Enderby. These areas are outside the Vernon Custom Transit service area. The entire North Okanagan transit fleet and operations, including urban conventional, regional, interregional and custom fleet are all managed through the operating company FirstCanada ULC.

Transit Fleet

The North Okanagan fleet is comprised of a range of Heavy, Medium and Light duty vehicles charged with delivering transit service across the diverse urban and regional road network. The fleet is funded through lease arrangements between the City of Vernon, District of Coldstream, Regional District of North Okanagan and BC Transit.

Vehicle decisions for specific routes are based on the expected peak capacity and associated vehicle loads this would equate to for a route. Other considerations are given to the expected driving conditions including the all season road conditions and maximum vehicle operating speeds.

The vehicles are operated to deliver maximum service kilometers annually and over a defined period of operation. Once a vehicle has delivered the maximum service kilometers it is replaced with a new vehicle. Refer to Table 6 for a more detailed description of the North Okanagan Fleet.

Table 6 North Okanagan Fleet Description

Fleet	Number & Type	Vehicle Description	Max Passenger Capacity	Average Age of Fleet (years)	Vehicle renewal-year
Vernon/ Coldstream Urban Conventional	10 Medium Duty	30' Denis Darts	49	14	2016–2017
Vernon Custom	9 Light Duty	(6)Chevrolet Arbocs (3) Ford Polars	16 20	3.5	2014–2016
North Okanagan Interregional	3 Heavy Duty	Novas	69	5	2028
North Okanagan Regional	1 Light Duty 1 Medium Duty	(1)Arboc (1)International	16 29	5.7	2019 2014

Hours of Operation

Hours of service are shown in Table 7. Route 2, 3 and 5 are the most frequent routes with 26 trips on weekdays. Service is less frequent on weekends and holidays.

Table 7: Conventional Transit Hours of Service

		Monday–Friday		Saturday		Sunday and Holidays	
		Total Trips	Start/End	Total Trips	Start/End	Total Trips	Start/End
1 Coldstream		12	6:22 am/ 7:15 pm	10	8:03 am/ 7:15 pm	5	11:31 am/ 4:44 pm
2 Pleasant Valley		26	6:24 am/ 9:44 pm	22	8:37 am/ 9:44 pm	5	10:56 am/ 4:08 pm
3 Alexis Park		26	6:20 am/ 9:45 pm	22	8:35 am/ 9:45 pm	10	10:55 am/ 4:45 pm
4 East Hill		14	6:33 am/ 8:51 pm	11	8:42 am/ 8:51 pm	5	11:02 am/ 4:04 pm
5 South Vernon		26	6:24 am/ 9:39 pm	22	8:39 am/ 9:39 pm	5	11:00 am/ 4:06 pm
6 College		24	6:29 am/ 8:19 pm	20	8:42 am/ 8:19 pm	5	11:35 am/ 4:40 pm
7 Okanagan Landing		13	6:52 am/ 9:46 pm	12	8:02 am/ 9:46 pm	3	11:31 am/ 4:44 pm
8 Bella Vista		13	6:19 am/ 9:07 pm	11	8:37 am/ 9:07 pm	2	12:41 pm/ 3:33 pm
60 Enderby-Armstrong-Vernon	**Northbound**	5	7:45 am/ 6:46 pm	4	9:40 am/ 3:32 pm		
	Southbound	5	6:15 am/ 5:36 pm	4	10:09 am/ 4:22 pm		
61 Vernon-Lumby	**To Lumby**	5	6:05 am/ 6:18 pm				
	To Vernon	5	6:36 am/ 6:56 pm				
90 North Okanagan Connector	**To UBCO**	10	7:00 am/ 7:50 pm	Frequency of the #90 services are reduced during college semester break and during December holidays			
	To Vernon	10	8:00 am/ 8:55 pm				

Fares

There is presently a multi-zone fare structure in the North Okanagan. Travel within an area is considered one zone and travel between areas is two zones. The fare zone boundaries are located on Routes 60, 61, and 90 and are shown on those route maps refer figure 12.

A one-way fare is $2.00 for adults and $1.75 for student/seniors (one zone). Monthly passes are $50 for adults and $35 for students/seniors (one zone). See Table 8. Fare rates vary between BC Transit's systems, with rates in the Vernon/ Coldstream conventional network generally consistent with most other systems.

Table 8: Transit Fares

	Adult		Student/Senior	
	One Zone	Multi Zone	One Zone	Multi Zone
1 ticket	$2.00	$2.50	$1.75	$2.25
10 tickets	$16.00	$22.50	$14.00	$20.25
Day Pass	$5.00	$6.00	$4.50	$5.50
Monthly Pass	$50.00	$55.00	$35.00	$40.00

In August 2012, BC Transit analyzed the structure of the current fare zones in the North Okanagan with the focus on balancing the conflicting goals of increasing ridership and fare revenue for the City of Vernon, District of Coldstream, and Regional District of North Okanagan.

The 2012 Fare Report was presented to local decision makers for their consideration. Any proposed fare changes for the Vernon/Coldstream urban conventional system will likely occur in unison with service increases or improvements. The fare structure for the UBCO Connector (route #90) is considered low when compared with similar connector type services in the rest of the BC Transit system.

System Performance Urban Network

Urban network ridership for the 2012/13 financial year was 445,330, an increase of nine per cent from the previous year. 25,917 service hours are provided, representing 17.2 passenger trips per service hour. Table 9 provides a summary of the conventional urban system performance.

Table 9: Summary of Vernon /Coldstream Urban Conventional System Performance

Service Hours	25,917
Annual Total Passenger	445,330
Rides per Service Hour	17.2
Total Cost per Hour	$113.81

System Performance Regional & Interregional Network

The Regional service comprising of route 90 exhibits the greater share of ridership for this network, with 57,990 passengers recorded for the year 2012/13. Total service hours of 7,800 service hours are provided representing 14.3 passenger trips per service hour. Table 10 provides a summary of the regional and interregional performance.

Table 10: Summary of Regional and Interregional System Performance

Service Hours	7,800
Annual Total Passenger	94,212
Rides per Service Hour	14.3*
Total Cost per Hour	$137.70*

**Average of Regional Routes #60, #61 and interregional route #90 NOK connector*

Source: 2012/13 BC Transit IPS Actuals

System performance is considered on a route-by-route basis. See Table 11. Route 3 Alexis Park, which is located along the higher density areas of Vernon and connecting downtown with the Village Green Mall and Wal-Mart; experiences the highest total ridership at double any other route in the system, compared with Route 8 Bella Vista located in the low density semi-rural areas which demonstrates the lowest ridership performance.

Route 60 Vernon to Enderby carries less than 8,000 passengers per year and makes up two per cent of total ridership. The UBCO Vernon to Kelowna connector Route 90 is the system's third busiest route carrying approximately 60,000 passengers per year and making up twelve per cent of the total North Okanagan conventional transit system ridership.

Table 11: Conventional Transit System Ridership

Vernon/ Coldstream Urban Routes	Average Daily Annual Ridership	% of total Conventional System ridership	Boardings Per Trip	Boardings Per Service Hour
1- Coldstream	115	7.4	11.5	17.1
2-Pleasant Valley	197	12.6	10.3	14.8
3- Alexis Park	441	28.23	23	30.6
4- East Hill	81	5.1	7.4	14.5
5- South Vernon	186	11.9	9.7	16.8
6-College	118	7.5	6.4	11.2
7- Okanagan Landing	152	9.7	16.5	21.7
8-Bella Vista	48	3.1	4.8	7.3
Regional & Interregional Routes	**Average Daily Annual Ridership**	**% of total Conventional System ridership**	**Boardings Per Trip**	**Boardings Per Service Hour**
60- Enderby-Armstrong-Vernon	144	7.2	5.6	8.3
61 Vernon-Lumby				
90- North Okanagan Connector	232	12.0	29.1	30.4

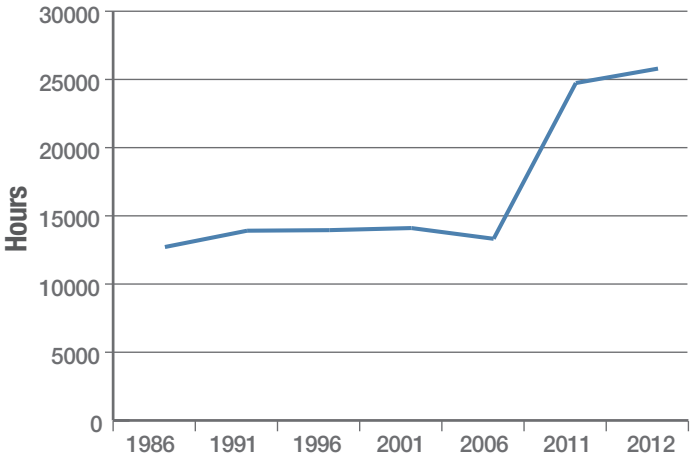
History

In February 1981, the Vernon Coldstream urban conventional transit system evolved from a privately operated, one bus system into the present system. Service hours have increased from 12,715 in 1986 to 25,795 in 2012/2013, a 25-year increase of 95 per cent.

There was limited growth in the system between 1986 and 2002. Aggressive expansion of the system began in 2006 when the City of Vernon began to make transit improvements a priority and when provincial funding for transit expansions was restored in 2008. See Figure 15.

While several changes have been made to routes, schedules, and hours of operation over the past three decades, the system's overall concept has remained basically the unchanged.

Figure 15: Historical Service Hours Vernon



The most recent changes occurred in 2011 with a review of the system that led to the expansion of the conventional service in the evenings. In addition, route 7 Okanagan Landing was separated into two routes (creating route 8 Bella Vista) and Sunday routing was made consistent with Monday to Saturday routing to deliver an easier to use system. April 2012 saw the completion of the new downtown transit exchange with all routing adjusted, and services were expanded to operate on Canada Day and Remembrance Day.

The Regional transit system between Vernon, Armstrong and Enderby and between Vernon Lavington and Whitevale/Lumby began in 1995 as a fixed route service also providing flexibility for door to door service.

The Interregional UBCO connector route 90 has been a success since its introduction in July 2008. The initial service of four return trips per day was doubled to eight in September 2010, with further service increases in February 2013 bringing the total number of weekday trips to ten. Service on the UBCO connector route 90 is reduced to four trips per day when school is out for holidays in summer and over the Christmas period.

Benchmarking

The Vernon/Coldstream urban conventional system performance measures are compared with peer communities in British Columbia for 2012/13. Benchmarking helps to inform the setting of Network Design Standards and Performance Guidelines established in the Service Monitoring section of this report. Table 12 provides a summary of the key points for the Vernon/Coldstream urban conventional network:

- Total passenger trips are 445,330 in 2012/13, significantly less than average ridership among peer communities
- 25,917 service hours were offered which is twenty three per cent less than the average in peer communities
- Cost per ride is $6.62, which is approximately $2.11 higher per ride than the average among peer communities
- Rides per capita are 9 which are 55 per cent lower than the average among peer communities

Table 12: Summary of Conventional System Performance in Peer Communities, 2012

Regional System	Approx. Service Area Population	Annual Service Hours	# Fixed Routes	Annual Ridership	Boarding per service Hour	Cost Recovery (%)	Boarding per Capita ($)	Cost per Passenger Trip ($)
Vernon/Coldstream Urban Conventional	51,600*	25,917	8	445,330	17	22	9	6.62
Brandon, Man	53,000	60,951	20	1,100,000	18	22	20	4.60
Fredericton, NB	56,000	46,060	8	1,350,000	30	39	24	2.99
Comox Valley, BC	45,700	26,907	12	544,172	20	22	12	5.05
Prince George , BC	60,100	64,793	16	2,000,000	31	30	10	3.31
Average	53,280	31,933	15	1.0m	24	27%	15	4.51

**Includes the population of Vernon and Coldstream areas. Source 2011 BC Stats*

The North Okanagan Regional network is compared to similar sized communities that also provide a transit route structure that provides limited daily connections to neighbouring urban centers as well as some level of local service within the immediate communities. Table 13 provides a summary of the comparative transit performance data. Key points of difference include:

- 14, 533 annual passenger trips were recorded for 2012/13. This is significantly higher than the average among peer communities
- Cost recovery is 12.7 per cent, which is approximately 10 per cent lower than the average among peer communities
- Rides per capita are 2.75 which are over 100 per cent lower than the average among peer communities.

Table 13: 2012 Regional Peer BC Transit System Comparison

System	Population	Annual Service hours	Vehicles	Cost Per Passenger Trip	Cost Recovery	Rides per capita	Rides per hour
Agassiz Harrison	5,664	5,404	4	$9.77	24%	7	7.3
Pemberton Valley	3,675	1,953	2	$8.85	29.2%	15.6	13.2
Osoyoos	4,845	1,454	1	$14.84	34.8%	1.2	4.0
Okanagan Similkameen	1,647	1,707	1	$16.10	11.5%	5.1	5.4
Vernon Lumby – Enderby	14,533*	4,140	2	$13.34	12.7%	2.75	8.3
Average	6,073	2,932	2	$12.58	22%	6	7.6

** Includes the population totals for Lumby, Enderby, Spallumcheen and Armstrong areas only*

The North Okanagan Interregional network is compared to similar networks that operate in the province including the Cowichan Valley Commuter (CVC) and the recently discontinued Sea to Sky route between Whistler and Squamish. A key difference between these interregional systems is the majority of ridership on the North Okanagan Interregional network is students either accessing Kelowna or Okanagan College. In comparison, both the CVC connector and the Sea to Sky route are primarily used as journey to work commuter services. Rides per service hour are significantly higher than the average with cost recovery more than 10 per cent below the averaged communities.

Table 14: 2012 Interregional Peer BC Transit System Comparison

System	Population	Annual Service hours	Vehicles	Cost Per Passenger Trip	Cost Recovery	Rides per capita	Rides per hour
North Okanagan Connector*	81,000	3,775	3	$6.39	16.5%	1.2	25.8
Cowichan Valley Commuter*	80,000	4,320	8	$12.11	43.9%	1.0	18.1
Sea to Sky **	15,200	4,389	4	$19.45	20.1%	3.5	12.2
Average	58,700	4,161	5	$12.65	27%	1.9	18.7

**Source 2013/14 IPS Budget ** Source 2010/2011 IPS Budget*

Conventional Transit Challenges

Network governance

The current conventional transit system and the administrative separation of the Urban, Regional and Interregional networks does not allow for the efficient coordination and the development of the three networks as a system. Means to strengthen the regional transit governance and decision making should be examined.

Increase the efficiency of the transit network

The current conventional transit system is inefficient with low-rides per hour, high-cost per ride and high-cost per hour. Altering the transit service by increasing service hours and improving transit routes will increase ridership and allow the service to become more efficient. In addition the true cost of service provision with a balanced cost apportionment with all jurisdictions involved needs to be achieved in the short term for greater efficiency.

Balancing the conflicting goals of increasing ridership and fare revenue

Service changes to encourage ridership growth and increase mode share requires substantial increased annual transit investment by the administrative authorities. Raising fare revenue through increased fares could help to offset increased expenditure for the local municipalities however fare increases can often result in a drop in ridership. The challenge is to provide an equitable fare system while increasing ridership. Any changes to fares on the Vernon/Coldstream urban conventional network should coincide with service improvements. Fare increases on the UBCO connector Route 90 will need to be reviewed and increased in the short term to increase affordability and efficiency of this network for continued sustained operation.

Fleet optimization strategies

The shared governance and administrative structure limits opportunities for fleet optimization. Future operation of the network as one transit system could create efficiencies in operation.

Increasing demand for Interregional services

Anecdotal evidence suggesting travel demand for more connections and services between Kelowna and Vernon will require joint governance and funding arrangements between the Vernon and Kelowna transit systems.

Custom Transit System

Service Description

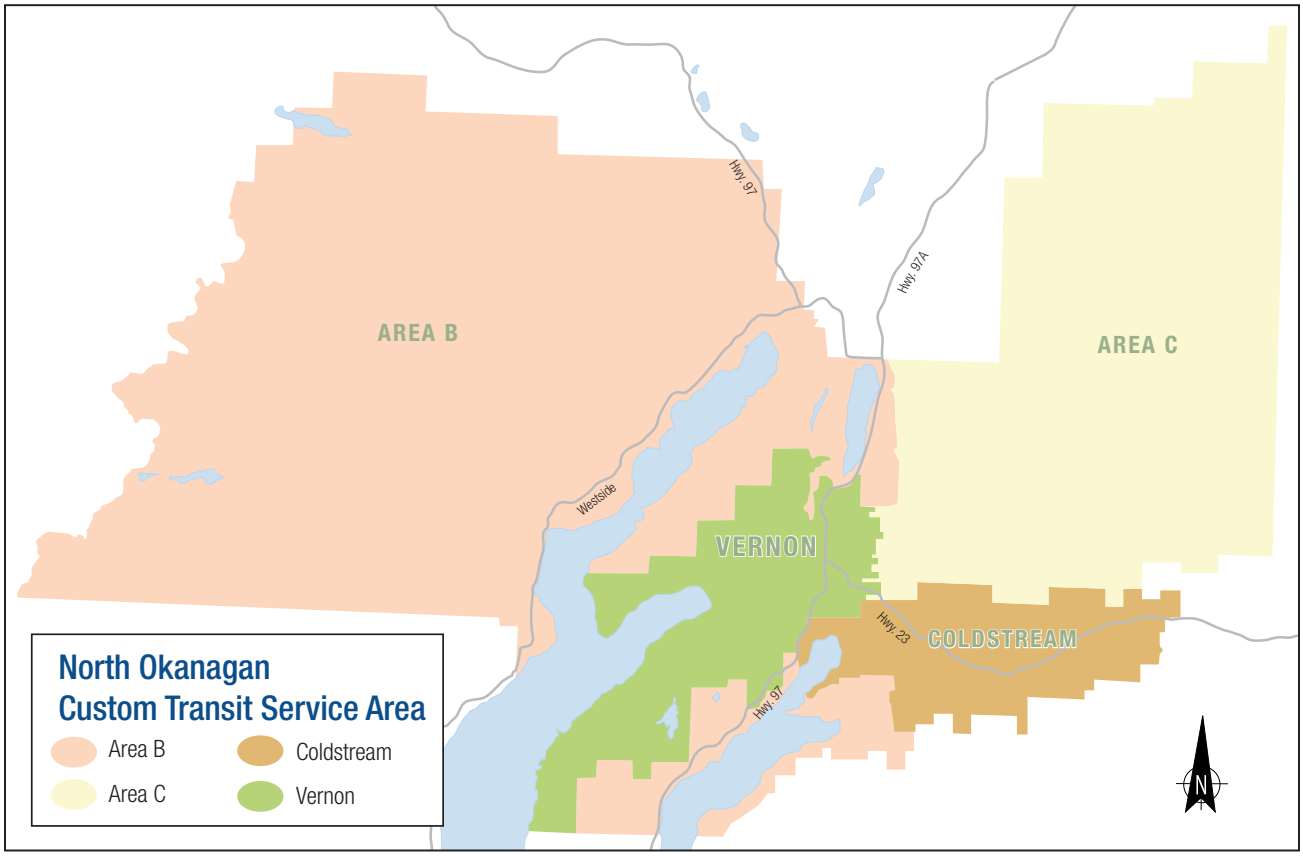
The Custom Transit service operates in the City of Vernon, the District of Coldstream and Electoral Areas B and C. See Map 3.

Custom Transit consists of handyDart service administered by the City Of Vernon through a fixed cost sharing arrangement between the City of Vernon, the District of Coldstream and Electoral Areas B and C and operated through First Canada ULC.

The fixed cost sharing percentages do not necessarily reflect the actual usage of the system with the City of Vernon at 71 per cent, the District of Coldstream at 25 per cent and Electoral areas B and C combined at 4 per cent.

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 register with the handyDART office before using the service, however, registration is free.

Map 3: North Okanagan Custom Transit Service Area



There are two types of services:

- Regular subscription trips once a week or more often (generally these are for health appointments); and
- One-time trips for purposes such as health services, shopping, social visits or recreational activities.

BC Transit also offers a Taxi Supplement, which enables the handyDART dispatcher to dispatch some handyDART trips to taxi when the handyDART vehicle is unable to perform a trip. The system also provides Taxi Savers, a program providing subsidized taxi rides to eligible registered hadyDART users.

Service Delivery

The Custom service is provided with a fleet of nine vehicles and 13,500 annual service hours. The handyDART hours of operation are more limited than conventional transit, operating from 8:00am to 4:30pm from Monday-Friday and Saturdays from 10:30am-5:00pm. No service is offered on Sundays and holidays.

Travel Patterns and Destinations

A large percentage of Custom Transit clients go to medical appointments, including treatments at the Vernon Jubilee Hospital. Aside from hospital and medical and dental appointments the most common destinations include the shopping malls, Senior and Recreation centres, Shubert Centre, Okanagan Regional Library, Lake City Casino, local banks, churches and lawyers offices.

During severe winter weather there can be a noticeable spike in handyDart service requests as more ambulatory seniors have difficulty accessing the conventional service where access to sidewalks and bus stops is hindered by the buildup of snow.

Ridership and Customer Profile

In 2012/13, there were 66,646 total Custom Transit passenger trips. In 2012/13, twelve per cent of handyDART riders were in wheelchairs and 88 per cent were ambulatory. In the same time period there were 1,780 Taxi Supplement rides and 6,334 Taxi Saver rides.

Cost Per Ride

In 2012/13, Custom Transit cost an average of $16.06 per ride, which is comparable to other custom transit services in British Columbia. When compared however to the average cost of providing a ride on the fully accessible conventional services at $6.62 the custom ride is expensive, meaning that there is value in ensuring handyDart service is preserved for those who need it most.

Benchmarking

Custom system performance measures are compared to other similar British Columbia communities Table 15. Below is a summary of key points:

- Total number of passenger trips is 66,646, which is seventeen per cent lower than the average of passenger trips taken by peer communities
- Rides per hour are 4.3, which is 25 per cent more than the average in peer communities
- 13,500 service hours are offered annually which is 26 per cent less than the average in peer communities

Table 15: Comparison of BC Custom Transit Peer Performance 2012/2013

System	Population	Annual Service hours	Vehicles	Annual Ridership	Boarding per service hour	Cost per ride ($)
Vernon /Coldstream	**58,985***	**13,500**	**9**	**66,646**	**4.3**	**16.06**
Prince George	72,000	17,095	8	98,097	4.3	14.05
Comox Valley	65,538	11,622	8	38,426	2.3	22.00
Kamloops	85,000	25,833	19	110,428	3.6	19.60
Average	**70,380**	**17,012**	**11**	**78,399**	**3.3**	**17.92**

**The Custom Transit population figure is the sum of Vernon, Coldstream and Electoral Areas B and C, 2011 statistics*

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 City of Vernon, 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 during winter snow conditions.

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.

Achieving an equitable balance in the administration and funding for Custom Transit between the North Okanagan jurisdictions

The aging population and the insistence on people wanting to age in place will continue to increase the demand and expansion of coverage for handDART services. Future cost sharing arrangements will need to reflect the actual usage by registered users across all North Okanagan jurisdictions.

Transit Infrastructure

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.

Bus Stops

For routes in the Vernon/Coldstream urban conventional network there are a total of 256 bus stops, with a small percentage of these having transit shelters. 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, passenger amenities at bus stops are essential. There are a total of 71 bus stops for routes 60, 61 and 90. Of those bus stops, 65 of them are wheelchair accessible.

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 existing exchange is located in Downtown Vernon on 31st Avenue between 30th and 31st Street. It was built in 2012 as a replacement to the former exchange on Coldstream Avenue at 35th Street, and has seven transit bays, six shelters and two temporary layover stalls.

There are secondary exchanges located at Okanagan College, Village Green Centre and the Waterfront Neighbourhood Centre. The Okanagan College exchange has one bus stop with shelter and is owned by Okanagan College. The Village Green Centre exchange has one bus stop pullout with steps into Village Green Centre Food Court entrance. Waterfront Neighbourhood Centre has roadside bus stops on Lakeshore Road and Okanagan Landing Road.

Park & Rides

Park & Rides provide a facility for transit riders without service in their community to drive their vehicle to a Park & Ride facility in order to access transit. Park & Rides are valuable in rural areas where it is unfeasible to provide extensive transit service. Park & Rides should be conveniently located for commuters to access, free of charge, and there should be few transfers.

Two Park & Rides and four "Kiss & Rides" support transit service in the North Okanagan. Kiss & Rides are where others drop off transit passengers at the transit terminus in cars. The City of Vernon has a Park & Ride, which provides carpooling parking for permit holders up to 36 vehicles on north side of College Way. Armstrong has a Park & Ride, which consists of roadside areas near bus stops.

A Kiss & Ride is located near the Downtown Vernon exchange and within the parking lot of the Okanagan College (this is an unregulated use of Okanagan College parking lot). Polson Mall has a bus stop on Kalamalka Lake Road, where passengers are dropped off for access to transit services.

Operations & Maintenance Facility

The Operations and Maintenance Facility was built in 2011 and consists of an administration and maintenance building, wash bay, covered diesel fuelling station, outdoor covered storage area and parking. It is located at 43rd Street and 25th Avenue, and is expected to serve the system for the next 25 years. The facility consists of 32 conventional bus parking spaces, 22 handyDART parking spaces, four bus bays and a washing station.

Custom Transit 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.

Standardised 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.

Vision, Goals and Targets

Vision Statement

"The North Okanagan System connects people and communities through cost effective, convenient, safe and accessible services"

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 North Okanagan Regional Growth Strategy and suite of Official Community Plans throughout the region.

Goals

Five 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 aim to get more people on the bus and make the experience convenient and enjoyable so that they continue to choose transit as their preferred travel mode.

1. The transit system is an attractive alternative to the private vehicle

- Fast and direct
- Convenient and reliable
- Easy to use
- Comfortable
- Accessible to everyone

2. The transit system complements the goal of compact and complete communities

- Aligns with local and regional land use plans
- Focused on most built up neighborhoods
- Links key neighbourhood centres

3. The transit system aids in reducing environmental impacts

- Supports a sustainable urban form
- Supports a sustainable transportation network
- Investigates new vehicle technologies
- Attracts riders away from single occupancy vehicles

4. The transit system is efficient

- Maximizes ridership for the amount of resources available
- Matches travel service levels to demand
- Matches transit vehicles to demand

5. The transit system is integrated with other land use and transportation plans

- Integrates with all other forms of active transit such as cycling and walking.
- Complements land use and road upgrades
- Transit is taken into consideration when making infrastructure upgrades and improvements in the region

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 plans. Achieving the target is dependent on a number of factors such as transit system growth and investment and transit supportive land use.

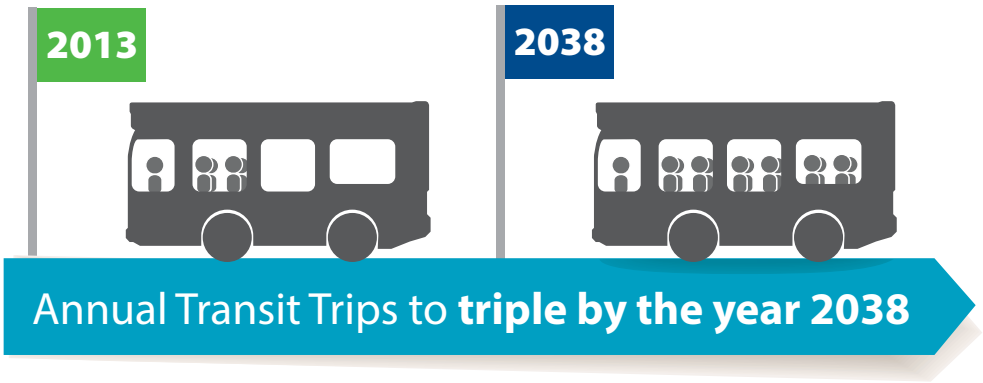
Transit in the North Okanagan has only begun developing in recent years and is starting at a very low base with the majority of trips within the Region by automobile with the number of trips taken by transit estimated to be approximately 1.2 per cent.

The Transit Future Plan sets a transit mode share target of 2.5 per cent for all urban trips within the Vernon and Coldstream conventional urban network by the year 2038. This will require the transit ridership to more than triple from 445,330 annual transit trips in the year 2012/13 to 1.4 million transit trips by the year 2038[4].

Ridership and mode share targets for the Regional and Interregional connections have not been set in recognition that transit in these areas provides regional connections as opposed to high capacity internal travel to services. The goal is to appropriately respond to transport demand in networks as warranted ensuring appropriate transit opportunity exists for these communities.

The Provincial mode share target is an average of all regional centres within 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 North Okanagan Transit Future Plan mode share target of 2.5 per cent for the Vernon Coldstream conventional network when considered as part of all regional areas is therefore proportionally consistent with the provincial mode share targets.

A mode share targets of 2.5 per cent for the North Okanagan 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.

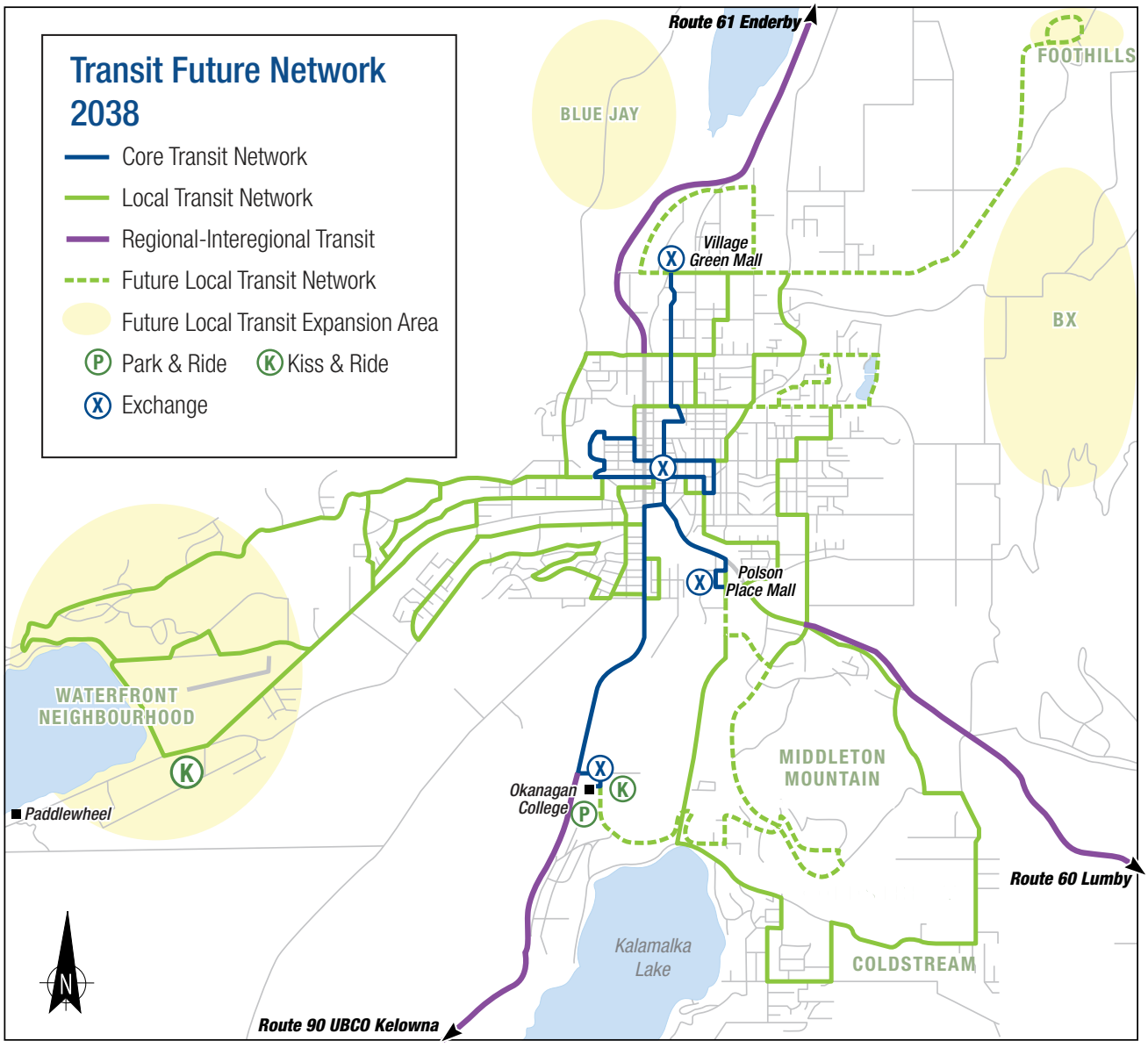


[4] *Estimation of population for Vernon and Coldstream in 2038 using 2011 BC census data and a growth projection of 1.01. Estimated transit ridership calculated as 2.5 per cent of all expected transport trips in 2038 (total population in 2038 multiplied by 2.9 transit trips multiplied by 301 days multiplied by 2.5%)*

The Network

Transit Future Network

The North Okanagan Transit Future Plan network includes three distinct layers of transit service including the urban conventional service in Vernon and Coldstream, the regional connections between the towns of Armstrong, Spallumcheen, Enderby and Lumby and the interregional connection between Vernon and Kelowna. The network is designed to be more competitive with automobile travel by improving the directness, reliability and frequency of the transit system.



Service Layers

The Transit Future Plan network includes three distinct layers of transit service to better match transit service to demand. The network is designed to be more competitive with automobile travel by improving the directness, reliability and frequency of the transit system. The network focuses on services between neighbourhoods and community centres, connecting these centres and to downtown Vernon.

Core Transit Network (CTN)

The Core Transit Network (CTN) is Vernon's Frequent Transit Network (FTN) and provides medium to high-density mixed land use corridors with a convenient, reliable and frequent 15-20 minutes transit service on weekdays between 7 a.m. and 10 p.m. The goal of the CTN is to allow customers to spontaneously travel without having to consult a transit schedule. The CTN 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, right-of-way improvements and transit priority measures.

Local Transit Network (LTN)

The Local Transit Network (LTN) is designed to connect neighbourhoods to local destinations and to the CTN. LTN services allow customers to plan a trip to work, school, and the local shopping centres by transit. Frequency and vehicle types are selected based on demand. The introduction of the CTN will see route changes within the existing system to remove overlap.

Targeted Services

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

- Regional and Interregional: provides connections outside of the local transit service area (e.g. Kelowna, Vernon, Lumby, Spallumcheen, Armstrong and Enderby
- Custom/handyDART: door-to-door services for customers unable to use the conventional service

Benefits of the Transit Future Network

Attracts New Riders & Increases Ridership

- Increased frequency on the CTN will reduce the wait time for transit riders moving from the key destinations of Village Green Centre and Polson Mall, the Vernon Jubilee Hospital and the North Okanagan College to the Vernon downtown core
- Increased frequency on the LTN will encourage an increase in ridership by making transit more convenient and improving the ability to connect to other areas of the region
- Improved transit routes making the existing Route 2, 3 and 4 more direct and reducing overlap will make the transit system easier to use
- The CTN will provide the capacity to move high volumes of people by transit on a more direct route, thereby reducing the number of single-occupancy vehicles on the road

Supports & Aligns with Sustainable Development

- The CTN can help shape and support land uses that lend themselves to an increase in the use of transit and active modes of transportation (e.g. increased densities and mixed-use development)
- Introduction of services to Silver Star/Foothills, Blue Jay and Waterfront neighbourhoods as appropriate transit density and development occurs helps to directs sustainable urban form
- Utilizing different transit vehicles with varying capacities to better match demand can reduce costs and GHG emissions
- The use of new, greener transit vehicle technologies will further reduce environmental impacts

Integrated

- New Park & Ride facilities will provide customers with more choice in accessing transit in rural areas
- Improved transit connections and increased span and frequency on Regional and Interregional routes will provide greater transit opportunity for communities long distances from the key areas of commerce
- Introduction of the new Coldstream route (Middleton Mountain) will provide transfer options for Coldstream residents at Okanagan College and Polson Mall

Efficient & Cost Effective

- Transit priority measures and shorter transit routes will improve on-time performance
- Focusing LTN service on local destinations and local transit hubs will create a more efficient and direct transit network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Resources

To meet the mode share and ridership targets set out in the Transit Future Plan requires investments in transit operating and capital resources. This section of the Transit Future Plan outlines the estimated service hour, vehicle and infrastructure required to develop the 25 year transit plan.

Service Hours and Vehicles

Future Service Hours

Future service hours are forecast to the year 2038 for each of the proposed new service routes. 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 16 below compares the existing Urban, Regional, Interregional and Custom service hours projecting service hours for the years 2018 and 2038.It is estimated that ridership will increase by over 200,000 trips on the Vernon, Coldstream urban conventional system with the implementation of the short term strategies.

Table 16: Existing and Projected Annual Service hours – North Okanagan Transit Network

	Vernon Coldstream Urban Conventional Service Hours	North Okanagan Regional and Interregional Service Hours	Custom Service Hours	Total Service Hours	Total Ridership
***Actual 2012/13**	25,917	8,237	13,500	47,654	606,190*
****Projected 2018**	51,208	9,747	15,492	76,447	900,000**
*****Projected 2038**	57,849	24,590	23,000	105,439	1.8m ***

**2012/13 Actual Service Hours and Ridership Source 12/13 IPS Actuals BC Transit*

*** Based on BC Transit 13/14 AOA cost estimations for Transit Future Plan short term service changes and expected ridership*

****Total ridership based on estimations for the Vernon Coldstream Mode Share target of 2.5% (1.4m trips) and estimations of increased ridership for the for the Custom, Regional and Interregional Networks*

Future Fleet Requirements

The Transit Future Plan also estimates fleet requirements for the conventional transit network over the next 25 years. The North Okanagan fleet is estimated to increase from the existing 24 vehicles to 48 vehicles by the year 2038.

The forecasted fleet requirements were calculated for each future transit route by determining the number of vehicles required to operate the service during peak hours. The formula used was peak service frequency (or headway) divided by cycle time [5].The required spare vehicles were also considered in calculating the vehicle totals.

Fleet Composition

Various routes and demographics have diversified fleet requirements. For example Route 90 – UBCO requires a vehicle better suited to the long stretches of limited stop highway driving. Similarly, smaller mid-sized vehicles have a place in the network in routes with lower ridership such as East Hill and some of the regional connections. All vehicles will be fully accessible. Fleet composition requirements will continue to change as the system develops and ridership increases.

Table 17: Existing and Projected Conventional and Custom Fleet Requirements *

Transit Network	Fleet # Vehicles 2013	Fleet # Vehicles 2018	Fleet # Vehicles 2038**
Vernon/Coldstream Urban Conventional	10	20	23
Regional	2	3	10
Interregional	3	3	6
Custom	9	9	9
Total	**24**	**35**	**48**

** Vehicle projections based on BC Transit 2013 Fleet Usage Guidelines of 70,000km and 2,500hrs annually per bus as well as location and service-specific spare vehicle requirements.*

*** Fleet estimations for 2038 based on estimated annual service hours and kilometers required to deliver all implementation priorities.*

[5] *Cycle Time is the time to run the trip plus additional time added for recovery*

Benchmarking the Transit Future System

The North Okanagan Transit Future plan projections were compared to other similar communities in Canada operating in 2012. Table 18 and 19 provide a forecast of the Vernon/Coldstream Urban Conventional and the Custom Transit 2038 systems against peer communities. The Vernon/Coldstream Urban network will provide the bulk of the increased ridership over the next 25 years, with the Custom network required to expand to accommodate the expected increase in demand as the senior population increases significantly over this time period.

The benchmarking exercise displays that the ridership target, future service hours and vehicle requirements in the urban conventional network and the Custom network are comparable statistically with similarly sized communities. The existing transit system performs well, but will need to perform at an even higher level to attain the ridership target in the plan. To meet the ridership target,the plan must be supported by transportation demand management strategies that encourage a multi-modal approach to travel across all key urban centres in the North Okanagan. In addition, transit oriented development needs to be maximized within growth areas as outlined by the OCPs and the North Okanagan Regional Growth Strategy.

Table 18: Forecast 2038 Conventional Transit System- Future Service Level Comparison

System	Population	Annual Service hours	Vehicles	Annual Ridership	Hours per capita	Rides per capita	Rides per hour
Vernon/Coldstream Urban Conventional – Forecast 2038	71,000*	57,800	23	1.4m	0.9	20	24
Fredericton, NB – Year 2012	56,000	36,000	25	1.3m	0.64	23	36
Brandon , Man – Year 2012	53,000	60,751	21	1.1m	1.14	21	17
Prince George, BC – Year 2012	57,448	64,793	27	2.0m	1.08	35	31
Average	**57,612**	**54,836**	**24**	**1.45m**	**1.0**	**25**	**27**

** This is the estimated 2038 future population for the Vernon and Coldstream areas only. Source is the North Okanagan Regional growth strategy*

Table 19: Forecast 2038 Custom Transit – Future Service level Comparison

System	Population	Annual Service hours	Vehicles	Annual Ridership	Hours per capita	Rides per capita	Rides per hour
Vernon Custom Transit – Year 2038	79760*	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
Comox Valley – Year 2012	65,538	11,622	8	38,426	0.17	1.7	2.3
Prince George – Year 2012	72,000	17,095	8	98,097	0.32	1.12	4.3

** This is the estimated 2038 future population for the Custom Service areas only including Vernon, Coldstream and Electoral Areas B&C. Source is the North Okanagan Regional Growth Strategy*

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 to allow their development. Similarly when infill development and or greenfield development occurs it is recommended that each jurisdiction 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, village 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 or terminals as identified in Table 20 which provides summary of existing and future infrastructure capacity requirements.

Primary Exchange

The main exchange on 31st Avenue and 30th Street was purpose built to accommodate the changing regional transit needs. It consists of 7 dedicated bays and has capacity for three additional on street bays and layover areas on the northern side of 31 Avenue adjacent to the old Coldstream Hotel site. It is essential that the additional on street bay space is protected for future expansion and that it is identified within the City of Vernon planning documents. The primary exchange was officially opened in 2012 and acts as the start and finish point for all routes in the current system. As the plan takes shape secondary exchanges will take on a more significant role with some routes starting and finishing at them. For example the planned Polson Mall and Middleton Mountain (Coldstream) routing will start and finish at the proposed Polson Mall secondary exchange.

Secondary Exchanges

Key transfer points such as the identified secondary exchanges at Village Green Centre, Polson Mall and Okanagan College require priority infrastructure and investment in terms of marketing and communications. Listed schedules and route maps should be available at each of these locations. There are existing basic transfer facilities at both Village Green Centre and Okanagan College 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 Polson Mall may need to be positioned outside of the Polson Mall parking lot in a facility located in 26 Street as part of planned new road connections. A priority here would be to provide safe and user friendly pedestrian access around the centre particularly to the mall and at the exchange.

Park & Ride

Low population densities in rural communities leads to transit services in these areas often being less convenient with fewer services and long walking distances to bus stops. The Transit Future Plan identifies two Park & Ride facilities in the region 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 underutilised parking in areas in churches and municipal sporting facilities. Given the existing land use, any Park & Ride facility near Okanagan College would need to be purpose built while there is potential to work towards gaining access to existing Church and community facilities in Armstrong.

The Okanagan College Park & Ride would act as a small secondary exchange allowing for transfers to and from the existing Route 6 and the proposed new Middleton Mountain (Coldstream) routing. The Armstrong Park & Ride would not act in the role of transfer point but would provide access to the existing Vernon-Enderby Regional route.

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 20 for details.

Table 20 North Okanagan Transit Future Infrastructure

Location	Type	Current Capacity	Future Capacity Requirements	Priority
Downtown Vernon	Terminus	7 bus stops in pullouts with shelters in 31 Avenue (31 to 30 Street) and 2 temporary recovery/ layover stalls in 32 Avenue.	7 pullouts bus stops in pullouts with shelters in 31 Avenue (31 to 30 Street) and 3 permanent recovery / layover stalls in 31 Avenue (30 to 29 Street)	Medium Term
Downtown Vernon	Kiss and Ride	None	3 dedicated short stay parking stalls	Short term
Okanagan College	Secondary Exchange	One bus stop with shelter owned by Okanagan College in their parking lot.	4 bus stops in pullouts with shelters.	Short Term
Okanagan College	Park & Ride	Carpooling parking for permit holders for 36 vehicles on north side of College Way, Vernon demand exceeds supply.	100 – 150 car spaces for drivers to park for the day and take transit to Vernon or Kelowna. 50 Spaces for carpooling. Total = 200 stalls.	Medium Term
Okanagan College	Kiss and Ride	Unregulated use of Okanagan College parking lot.	4 short stay dedicated parking stalls close to bus stops.	Short Term
Village Green Centre	Secondary Exchange	1 bus stop in pullout with steps into Village Green Centre Food Court entrance.	4 bus stops in pullouts with shelters	Short Term
Polson Mall	Secondary Exchange	None. After alterations in 2008 to parking lot transit could no longer access.	3 bus stops in pullouts with shelters in 26 Street when the road is constructed with future development.	Short Term
Polson Mall	Kiss and Ride	Bus stop on Kalamalka Lake road.	3 short stay dedicated parking stalls for a Kiss and Ride.	Short Term
Armstrong	Park & Ride	Roadside bus stops	30 – 50 parking stalls.	Long Term
Armstrong	Kiss and Ride	Roadside bus stops	4 short stay parking stalls.	Long Term
Okanagan Landing at Waterfront Neighbourhood Centre	Secondary Exchange	Roadside bus stops on Lakeshore Road and Okanagan Landing Road	2 bus stops in Marshall Road on north side with pullouts and one shelter to be built as neighbourhood plan matures	Long Term

Transit Operations and Maintenance Facility

Existing Operations and Maintenance Centre

The Vernon Regional Transit System has one combined conventional and custom transit operations and maintenance facility that accommodates the existing fleet of conventional buses and handyDART buses. The existing purpose built facility was opened in 2012 with the ability to accommodate up to 32 conventional 40-foot buses and 22 handyDART buses in dedicated parking stalls. The current capacity of the Vernon facility can sufficiently meet the future fleet size required by 2038.

Transit Priority Measures

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

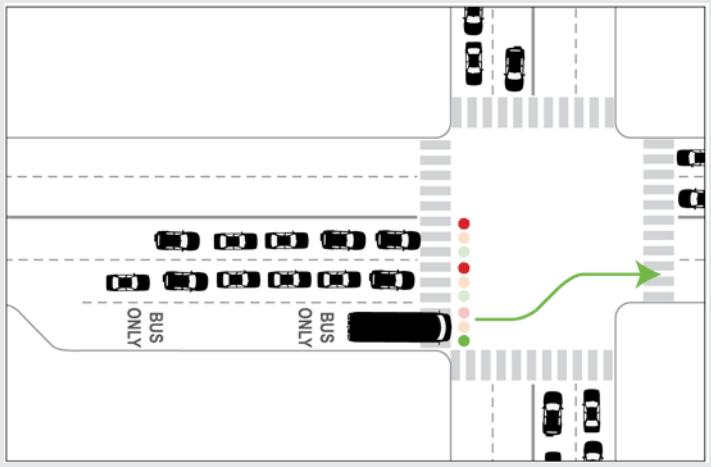
- Regulatory, such as "Yield to the Bus" regulations and signage
- Operational, such as retiming traffic signals to respect the large number of passengers on transit vehicles compared to private vehicles and
- Physical, such as exclusive transit ways, intersection queue jumpers, bus bulges, and transit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

BC Transit and the City of Vernon should examine opportunities along the future CTN corridor to implement priority measures to reduce existing or potential delays to bus services. These transit priority measures will improve transit service, often at the expense of vehicle traffic. Although many of these measures can negatively impact vehicles, they reflect the value of transit to North Okanagan and represent a high quality service. This prioritization can attract riders and support long-term transit use.

Table 21: Transit Priority Measures

Signal Priority Measures	Lane Priority Measures
	
Transit is given signal priority along the corridor at the majority of intersections	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



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, City of Vernon, District of Coldstream and Regional District of North Okanagan staff, and the stakeholder advisory group during the planning process.

The implementation strategy informs the BC Transit three year service strategy, capturing the short term implementation priorities.

Service standards and route performance guidelines (described in the Service Monitoring section) 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 RDNO.

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 governing jurisdictions.

Short-term Implementation Priorities (1–5yrs)

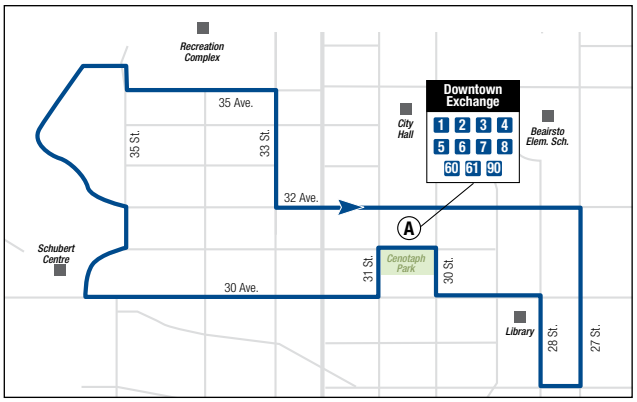
Short-term Service Improvements

1. Introduce Inner City Loop Service for Core Transit Network (CTN)

This core transit route will provide a convenient frequent loop service to the key travel destinations in the center of downtown Vernon.

The service will operate Monday to Friday on a 15 minute frequency

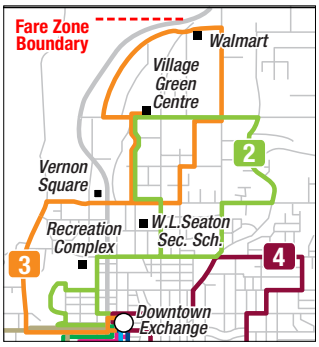
Resources: 2,000 annual service hours, 1 Vehicle



2. Realignment of existing route 2 Pleasant Valley and route 3 Alexis park, to compliment the CTN

Short term service changes can begin to develop the CTN spine. Realignment of these routes will avoid overlapping of services once full CTN spine is operational

Resources: Service hours and vehicle requirements unlikely to change.



3. Begin to develop the Core Transit Network (CTN) spine

Phase 1: Introduce frequent service between the downtown exchange and Village Green Centre

Weekday services 7am -10pm, 20 minute frequency (peak), 30 minute other times
Saturday services 8am-10pm, 30/60 minute frequency
Sunday Services 9am- 6pm, 30/60 minute frequency

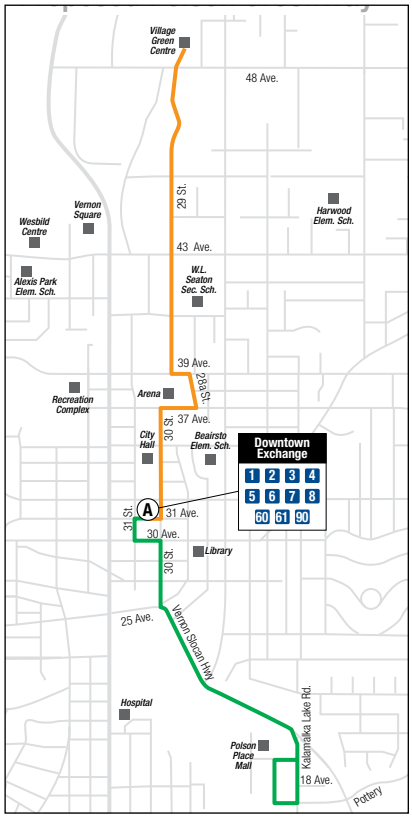
Resources: 2 vehicles and 6,770 annual hours

Phase 2: Introduce frequent service between the downtown exchange and Polson Mall

The span and frequency of service would be similar to that introduced in phase 1 above.

The CTN will align with the City of Vernon's transport initiative to develop the 2.3km Polson Greenway, a major connecting link north to south for pedestrians, cyclists and transit users to travel safely and efficiently from Vernon City Centre.

Resources: 2 vehicles and an increase of 3,270 hours to phase 1



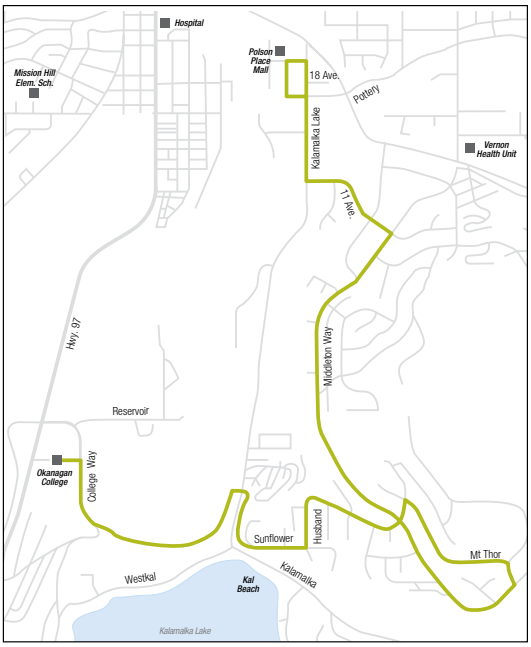
4. Coldstream – Introduce new LTN Service to Middleton Mountain

This will be the introduction of a new Local Transit Route

This new weekday service will operate between 6am and 8pm with 60 minute frequency

Introduction of this new LTN route is contingent on the development of the new Polson Place Mall secondary exchange

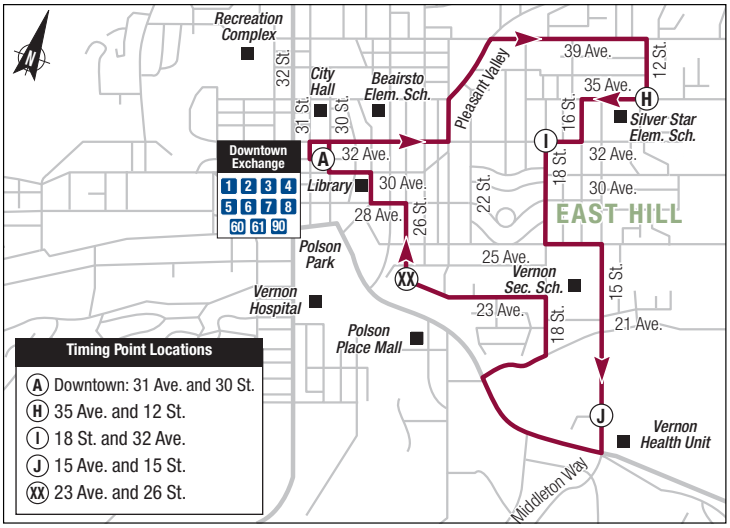
Resources: 5,110 annual service hours, 2 vehicles



5. Improve frequency and structure to East Hill, Route 4

Weekday services would then provide, 30 minute frequency , operating between 6am and 8pm

Resources: Service hours and vehicle requirements unlikely to change



6. Enhancement of all Urban weekday services:

- Increase span of hours to 6am – 10pm
- Increase span and frequency of weekend services
- Increase statutory holiday services

Resources: 5,040 annual service hours for extension of weekday services. 1,500- 3,000 annual service hours for weekend & statutory holidays.

Details: Additional vehicle requirements will be based on annual service hours adopted.

7. Coordinate schedule alignment of Enderby service route 60 with Salmon Arm service route 11

Resources: Completed December 2013

Short-term Infrastructure Improvement

1. **Examine Kiss & Ride Stations at Downtown Vernon exchange and Okanagan College**
   - Short term option: Convert three metered stalls on the east side of 31st Street to 15 minute maximum stay to provide Kiss & Ride
   - Long term option: 31st Street to provide Kiss & Ride and handyDART transfer location
   - Four short stay dedicated car spaces close to bus stops
2. **Examine secondary exchange improvement possibilities at Village Green Centre, Polson Mall and Okanagan College**
   - Village Green Centre requires an exchange that can accommodate four bus pull outs complete with shelters and customer amenities. Ideally, the exchange would be situated within the mall parking lot requiring formalised pedestrian and parking lot movements, however alternate on road at a key access point can also be considered
   - Polson Mall future capacity requirements include: three bus stops in pullouts with shelters. These are proposed to be located in the newly constructed road (26th Street being constructed as part of future development)
   - Okanagan College requires an exchange that can accommodate four bus stops. Ideally this would be situated in the College parking lot requiring the removal of parking stalls. However the location of the exchange could also be situated in conjunction with the Park & Ride to be located in Vernon near the college
3. **Continue to improve transit customer facilities**

   Continued improvement and maintenance of transit facilitates and on-street customer amenities are important for the continued operation and future growth of the transit system. Some improvements that have been identified are to:
   - Consider amending regional bylaws to include transit stop improvements as part of required works and services. For example Vernon City Council has Transportation Development Cost Charges (DCC) which includes capacity improvements to all nodes including transit facilities
   - 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 and pedestrian-oriented lighting at transit stops
   - Improve universal accessibility of transit stops

4. Improve customer information

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

- Additional transit information at the stop level
- Provide trip planning tools (i.e. Google transit)

Medium-term Implementation Priorities (5–10+ years)

Medium-term Service Improvements

1. Finalise the development of the Core Transit Network ▶

Phase 3 realignment of Route 6 along Highway 97 to provide faster more direct service to the Hospital and College:

- Weekday services 6am–10pm, 20 minute frequency (peak), 30 minute frequency all other times
- Saturday services 8am–10pm, 30/60 minute frequency
- Sunday Services 9am–6pm, 30/60 minute frequency
- Realignment of this route requires coordination with MoTI and Vernon Jubilee Hospital to install appropriate bus stops and safe pedestrian connections to the hospital across the highway

2. Improve Regional Connections to Kelowna

Expand service to offer:

- Hourly trips between 7am and 7pm, Monday to Friday

3. Improve Regional connections to better meet Interregional transfers

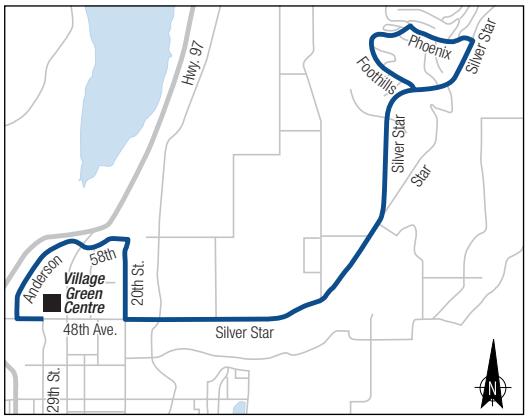
- Route 60: expansion of service Monday to Friday, between 7am and 7pm
- Route 61: expansion of weekday trips between 7am and 7pm

4. Introduce New Local Transit Network (LTN) Route

- Waterfront Neighbourhood Centre hourly service Monday to Friday

5. Introduce New Local Transit Network (LTN) Route ▶

- Foothills to Village Green Centre
- Hourly service, Monday to Friday



6. Introduce New Local Transit Network (LTN) Route

- Blue Jay
- BX & Paddlewheel
- 3-5 trips per day, Monday to Friday

Medium-term Infrastructure Improvements

1. Examine construction of Kiss & Ride stations at Foothills and Waterfront Neighborhood Centre
2. Identify and develop formalized Park & Ride site near Okanagan College

Long-term Implementation Priorities (15-25+ years)

Long-term Service Improvements

1. Examine weekend services between Vernon and Kelowna UBCO Connector route 90
2. Expand evening and weekend services on routes 60 between Vernon and Lumby and route 61 between Vernon and Enderby

Long-term Infrastructure Improvements

3. Further examine transfer points/ secondary exchange possibilities at Okanagan Landing and Waterfront Neighbourhood Centre
4. Identify and develop formalized Park & Ride facilities at Armstrong and Swan Lake

Custom Transit Service & Transit Accessibility

Improvements to accessibility and custom transit services will make the transit system more accessible for people of all ages and abilities. The plan has established no forecasts for custom fleet growth or service hours however projected increases in the senior population will require added investments to operate custom transit services by 2038.

With support from the North Okanagan's local Councils, 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.

The revised process is expected to provide the following benefits:

- Riders will have access and knowledge about the transit service that is tailored to their individual abilities
- More accurate and standardized registration process
- Chance for registrants to ask questions and learn about all transit options, including low-floor bus
- Increased handyDART capacity for those who have no other transit options
- Revised process in accordance with industry standards
- Introduction of an appeal process
- Better matches needs to services

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 and
- 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. **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 Holidays
   - Weekday service at peak times
   - Expanded hours of service on weekdays and weekends

   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% 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

Selecting a Path to Implementation of the Transit Future Plan

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 City of Vernon, District of Coldstream and the Regional District of North Okanagan for approval on an annual basis for implementation each year.

Ongoing Improvement Initiatives

The following initiatives are aspects of the Transit Future Plan that require continuous effort throughout the life of the plan. For this reason, they do not fit within the Network Priorities section of this Implementation Strategy.

Make transit more accessible

The North Okanagan 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 medium and long-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 bike 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 CTN 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 medium duty 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 to reduce transit operating costs and greenhouse gas emissions.

Enhancement of interregional services and continuing growth in demand offers the opportunities and challenges for the Regional District of North Okanagan to consider the introduction of high capacity vehicles (double deckers). These high capacity vehicles would allow for greater capacity in the peak providing possible fleet optimization opportunities across the entire network.

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

Implement transit priority measures

To ensure the continued success of transit corridors with high ridership, investments in transit priority measures (e.g., transit lanes, queue-jumper lanes and signal priority for transit vehicles, etc.) may be required.

Endeavours to investigate and implement transit priority measures will be done jointly between the City of Vernon, District of Coldstream, Regional District of North Okanagan, the Minister of Transport and Infrastructure (MoTI) and BC Transit. Transit priority investigations will take into consideration the timing of local road projects, regional priorities, and passenger demand on

each corridor, major congestion points, average transit speeds and resulting traffic impacts. Particular attention should be given to the investigation and implementation of transit priority measures on the CTN.

Cost of Short-term Implementation Priorities

Preliminary costs have been developed for the priorities identified in the short-term implementation section of the Transit Future Plan. See Table 22 and 23. Cost and revenue projections are based on the existing 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.

Table 22: Short Term Conventional Implementation Priorities & Preliminary Cost Estimates*

Service Option	Buses**	Additional km	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs***	BC Transit Share of Costs****
Introduce Inner City Loop	1	52,600	2,020	19,400	$18,400	$204,600	$108,900	$77,300
Phase 1 CTN	2	176,100	6,770	64,900	$61,400	$632,900	$312,500	$259,000
Phase 2 CTN	4	85,000	3,270	31,400	$29,800	$346,000	$191,000	$125,200
Middleton Mountain LTN	1	132,900	5,110	49,000	$46,400	$457,800	$215,900	$195,500
Expansion Urban Weekday services 6am-10pm	2	131,100	5,040	20,200	$19,100	$491,100	$279,200	$192,800
Expansion Urban Weekend and Statutory Holidays	1	78,600	3,020	12,100	$11,500	$349,400	$193,000	$144,900
Total	9	656,300	25,230	197,000	$186,600	$2,132,400	$1,300,500	$994,700

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

Table 23:Short-term Custom Service Implementation Priorities & Preliminary Cost Estimates*

Service Option	Buses**	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs***	BC Transit Share of Costs
Statutory Holiday Service	0	100	300	$400	$8,000	$2,300	$5,300
Additional Weekday Peak Service	0	890	3,800	$5,200	$55,800	$13,400	$37,200
Expanded Weekend Service	0	580	1,800	$2,500	$46,300	$30,900	$30,900
Total	0	1570	5,900	$8,100	$110,100	$28,600	$73,400

** 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 revenue*

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 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 City of Vernon, District of Coldstream and the Regional District of North Okanagan.

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 and
- 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.

North Okanagan Transit System Standards

Network Design Principles

- Transit service should be focused on major activity centres and residential areas within the urban areas.
- 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, and custom transit services.
- Transit service should be operated on the arterial and collector road network and have limited operations on the local road network. Future arterial and collector roads should be designed to accommodate transit stops and transit priority measures.
- Transit service coverage – Transit routes and bus stops should be within:
  - » 400 m walking distance of 90 percent of the residences
  - » 250 m of all future medium and high-density residential developments
  - » 250-300 m for stops on a route with greater than 10% grade and
  - » 150 m 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 City of Vernon, District of Coldstream and the Regional District of North Okanagan to develop a comprehensive branding package in the future. Specific issues to be addressed include:
  - » Information and branding for the CTN, 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 LTN 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 24 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 24: North Okanagan Types of Transit Service

Type	Service Description	Existing (Bus Route #)	Short-term (Bus Route #)	Medium to Long-term (Bus Route #)
Core Transit	Frequent routes that operate at a 15-20 minute frequency between 7am-7pm. Routes generally operate on arterial roads and serve corridors with mixed land use and provide connections between urban centres	N/A	CTN	CTN
Local Transit	These routes generally serve less densely populated areas with a focus on connections to local centres and more frequent transit routes	1, 2, 3, 4, 5, 6, 7, 8	1, 2, 3, 4, 5, 6, 7, 8, Middleton	1, 2, 3, 4, 5, 6, 7, 8, Middleton, Foothills, Waterfront, BX, Blue Jay, Paddlewheel
Targeted Transit	Targeted routes are created to provide service to specific areas such as Regional and Interregional locations, universities, or for limited, on-demand service or seasonal service	60,61,90	Regional, Interregional	Regional, Interregional
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	handyDART	handyDART

Span of Service

Span of service defines the operating hours for each service type, as described in Table 25. In general most routes operate from 6:00 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.

Table 25: North Okanagan Span of Service

Type	Period	Existing	Short-term	Medium to Long-term
Core 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 6:30 am to 9:00 pm	6:00 am to 10:00 pm	6:00 am to 11:00 pm
	Saturday	Varies 8:00 am to 9:00 pm	7:00 am to 10:00 pm	7:00 am to 10:00 pm
	Sunday & Holidays	Varies 10:00 am to 4:00 pm	7:00 am to 10:00 pm	7:00 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	Varies depending on service	Varies depending on service	Varies depending on service
Custom Transit	Weekday	8:30 am to 4:30 pm	7:00 am to 7:00 pm	6:00 am to 11:00 pm
	Saturday	10:30 am to 5:00 pm	8:00 am to 6:00 pm	6:00 am to 11:00 pm
	Sunday	None	8:00 am to 6:00 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 26.

Table 26: Transit System Standard – Service Frequency

Type	Period	Existing	Short-term	Medium to Long-term
Core Transit	Weekday	N/A	30 min (20min)	Varies depending on service. Max frequency: 20 – 30 min (10-15min)
	Saturday	N/A	60 min (30 min)	Varies depending on service. Max frequency: 20 – 30 min
	Sunday	N/A	60 min (30 min)	Varies depending on service. Max frequency: 20 – 30 min
Local Transit	Weekday	Varies depending on service. Generally 30 min – 60min	60 min (30 min)	60 min (30 min)
	Saturday	Varies depending on service. Generally 30 min – 60min	60 min (60 min)	60 min (60 min)
	Sunday	Varies depending on service. Generally 60 min – 120min	60 min (60 min)	60 min (60 min)
Targeted Transit	Weekday	Varies depending on service. Generally 60 min – 120min	60 min(60min)	60 min(60min)
	Saturday	N/A	N/A	60 min(60min)
	Sunday	N/A	N/A	60 min(60min)
Custom Transit	Weekday	N/A	N/A	N/A
	Saturday	N/A	N/A	N/A
	Sunday	N/A	N/A	N/A

Vehicle Type

Vehicle Type Classification

Table 27 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 27: 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 time 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 28 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 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 and Medium Duty Vehicles
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. They should also include on-street passenger facilities such as benches, shelters, lighting, waste receptacles, and route/schedule information. Priority should be given for snow clearing at transit stops and the pedestrian connections to them.

Direct pedestrian connections should be provided to bus stops via sidewalks, pathways and crosswalks, with curb ramps and barrier-free access. Bus stops should be located on the far side of crosswalks, or at least 10 m in advance of a crosswalk. Buses may stop in the traffic lane (with a bus bulge where on-street parking is provided), at curbside out of the traffic lane, or in a dedicated bus bay. 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 29 describes what transit stop amenities should be associated with each type of service.

Table 29: Transit Service Type and Associated Stop Amenities

Facility	Short-term	Medium-term	Long-term
 Transit Exchanges	• None	• Transit shelters • Bike storage • Quality customer information (such as transit schedule and map information) • Universally accessible	• Premium transit shelters • Elevated boarding platform • Off-board fare payment • Real time schedule information • Bike storage • Customer wayfinding information • Universally accessible • May include Park & Ride facilities
 Core Transit	• Universally accessible • Bench	• Transit Shelter • Universally accessible • Bench	• Transit shelters • Bike storage • Quality customer information (such as transit schedule and map information) • Universally accessible • May include 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 30 provides the appropriate standard for each service type.

Table 30: 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, village 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 and
- 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 and
  - » 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 CTN to improve travel time and reliability as required. These measures include signal timing optimization, transit signal priority, regulatory signage such as yield to buses, and geometric measures such as queue jumper lanes and transit only lanes as outlined in Table 31 and 32.

Table 31: Transit Priority Measures

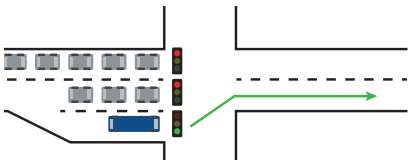
Signal Priority Measures		• Transit is given signal priority along the corridor at the majority of intersections
Lane Priority Measures		• Bus only lanes for part or all of the route corridor, or bus queue-jumper lanes at key areas of congestion
		• Queue-jumper lanes at key areas of congestion

Table 32: 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	Possibility of transit queue jumps , dependent on congestion issues
Local Transit	Signal	None	Only if part of the CTN	Only if part of the CTN	Only if part of the CTN
	Lane	None	Not required	Not required	Not required
Targeted Transit	Signal	None	Not required	Not required	Only if part of the CTN
	Lane	None	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) and
- Road and pedestrian access that provides for safe access and efficient operation of transit service.

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 City of Vernon, District of Coldstream and the NORD 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 boardings 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 boardings per service hour** – Measures the total volume of ridership as compared to the supply of transit service
- **Average boardings 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

Tables 34, 35, 36 and 37 outline the performance targets set for the North Okanagan Transit System at a system level 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 per cent) 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 per cent variance will be candidates for corrective action and routes that fall above the 25 per cent 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 Vernon/ Coldstream Urban system (comprising the CTN and Local Transit routes) and the North Okanagan Regional and Interregional transit systems (comprising the Targeted Transit routes) 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 core transit network.

Table 33: Vernon /Coldstream Urban System Level Performance Guidelines (CTN and LTN Routes)

System Measure	Target	Baseline 2013	Benchmark*
Boarding per service hour	**25**	17	24
Cost per passenger trip	**$5.00**	$6.62	$4.51
Cost recovery	**25%**	22%	27%
Passenger trips per capita**	**15**	9	15

**Benchmark is the average measure developed as comparisons of peer transit systems both within BC and Canada*

*** Vernon/Coldstream population actuals and projections used for this calculation*

Table 34: North Okanagan Regional System Level Performance Guidelines Targeted Transit Routes (Vernon to Lumby and Vernon to Enderby)

System Measure	Target	Baseline 2013	Benchmark
Boarding per service hour	**9**	8.3	7.6
Cost per passenger trip	**$13.00**	$13.34	$12.58
Cost recovery	**13%**	12.7%	22
Passenger trips per capita*	**3**	2.75*	6

** Population for Enderby Armstrong, Spallumcheen and Lumby used for this estimation*

Table 35: North Okanagan Interregional System Level Performance Guidelines (North Okanagan Connector)

System Measure	Target	Baseline 2013	Benchmark
Boarding per service hour	30	25.8	18.7
Cost per passenger trip	$6.00	$6.39	$12.65
Cost recovery	20%	16.5%	27%
Passenger trips per capita**	2	1.2**	1.9

*** Total North Okanagan Regional Population used for this estimation*

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 36: Route Level Performance Guidelines

System	Boardings per Trip	Boardings per Service Hour
Core Transit	18	30
Local Transit	12	20
Regional Targeted Transit	10	15
Interregional Targeted Transit	30	32

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 service hours across all four networks including Custom Transit that are projected to increase from the existing 47,654 hours to approximately 105,439 hours. The plan also calls for capital investments that include:

- Expanding the urban, regional, interregional and custom transit fleet from the existing 24 vehicles to 48 vehicles
- New transit exchanges at Village Green Centre, Polson Mall and North Okanagan College
- New Park & Ride facilities at North Okanagan College and Armstrong
- 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.

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

Figures 16, 17 and 18 outline the 2013/14 funding split for transit services in the Regional District of North Okanagan.

Figure 16: Vernon Coldstream Urban Conventional Transit System Funding Split

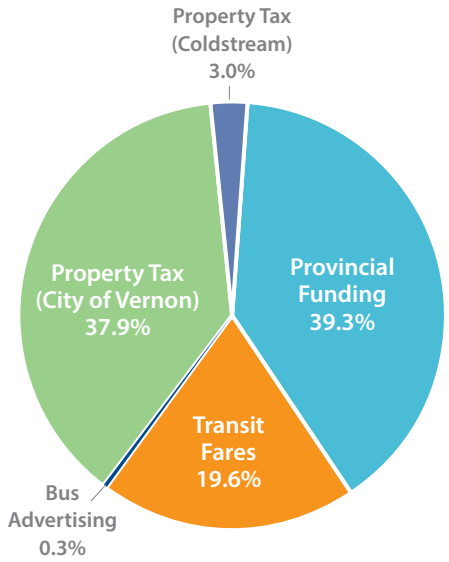


Figure 17: Vernon Custom Transit System Funding Split

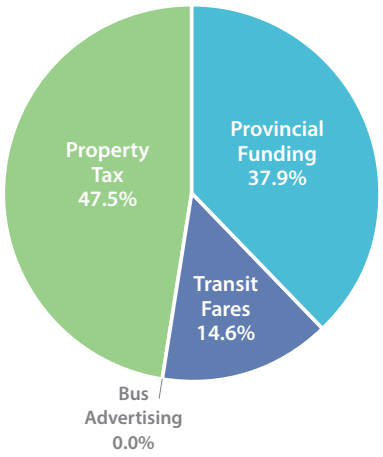
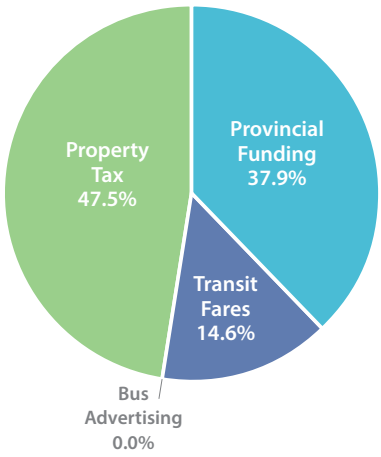


Figure 18: North Okanagan Regional & Interregional Transit System Funding Split



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 and,
- 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 and,
- 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) and,
- Continue to support local governments to offset costs from identifying and creating local transit funding partnerships with other agencies.

Alternative Local Funding Options

BC Transit has heard from local government that continuously increasing property tax to fund the local share of transit projects and operations, particularly for major capital investments, is a challenge. Reducing the local share funded through property taxes might be achievable through alternative funding sources. BC Transit 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 North Okanagan 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.

Budget Development Process

The 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. Supporting annual plans and three year service budget and initiative letters will provide the operational and budget details necessary to implement service changes.

Once the Transit Future Plan is approved it will act as a source of initiatives that drive BC Transit's operational and capital expansion process. This in turn guides budget development for BC Transit and the North Okanagan, as well as BC Transit's provincial budget submission.

Since provincial funding for transit is confirmed on an annual basis, implementation of any option requiring expansion is dependent on BC Transit's fiscal year budget, normally confirmed in mid-February each year. Implementation of specific service options and packages is also dependent on allocation of available provincial transit expansion funding between transit systems as determined through BC Transit's Transit Improvement Program (TIP).

Once local government has approved a service option or combination of options for implementation – and local and provincial funding has been approved, if required – 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. Once signed, changes to scope may change timelines. Detailed costing will be confirmed throughout implementation.

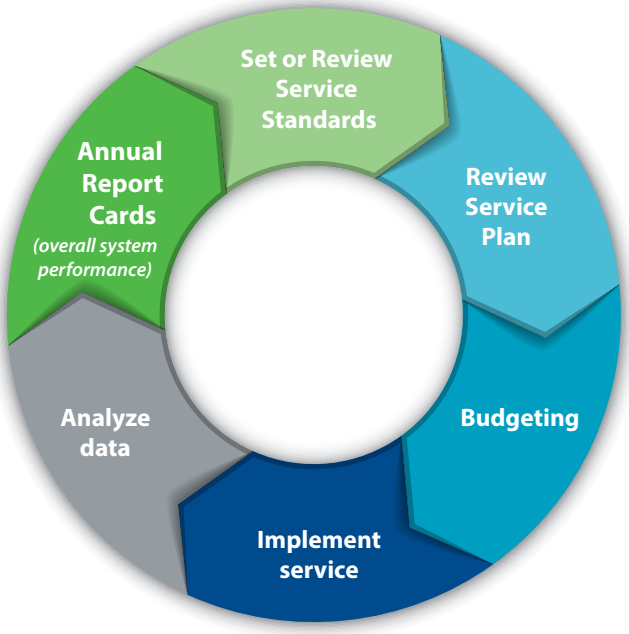
Keys to Success

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

The Transit Future Plan builds upon previous plans (the Official Community Plan, Neighbourhood/Local Area Plans, and the Master Transportation Plan) and will be used to communicate the vision and direction for transit in the North Okanagan.

The City of Vernon has already taken the step of integrating a transit system policy and other transit supportive policies within the Official Community Plan. 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 17: Service Planning, Implementation and Evaluation Cycle



BC Transit will work with the City of Vernon 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 and,
- Transportation policy and funding availability

How will BC Transit and North Okanagan 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 and
- To respond to planning and development proposals.

What actions does BC Transit need from our municipal 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 and
- 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.
handyDART	The BC Transit custom transit program.
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.
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. Exchanges do not act as an origin or destination for traffic in the network, but only collect and redirect the traffic among local exchanges.
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 pass for post-secondary students that all students pay for through student fees. A student population typically approves the U-Pass by referendum.

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